THE PUNJAB FACTORY RULES, 1952

Contents

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CHAPTER 1

PRELIMINARY RULE

1. Short title extent and commencement

1 (1) These rules may be [1][called] cited as the Punjab Factory Rules, 1952.

2 (2) [2][They shall extend to the territories which immediately before the IST November, 1956, were comprised in the State of Punjab and Patiala and East Punjab States Union.]

3 (3) Except as hereunder provided with respect to certain rues these rules shall come into force at once:

Rules 31 to 35 (Artificial lighting)	Six months after the enforcement of these Rules.
Rule 55 (Safety precautions)	Six months after the enforcement of these Rules.
Rule 68 (Washing facilities)	Three months after the enforcement of these Rules.
Rule 70 (Ambulance room)	Three months after the enforcement of these Rules.
Rule 71 to 77 (Canteens)	Nine months after the enforcement of these Rules.
Rule 78 (Shelters, etc.)	Six months after the enforcement of these Rules.
Rule 79-82 (Crèches)	Nine months after the enforcement of these Rules.
Rule 102 (Special provision for dangerous operations)	Six months after the enforcement of these Rules.

2. Definitions

In these Rules unless there is anything repugnant in the subject or context:

(a) "Act" means the Factories Act, 1948.

(b) "Appendix" means an appendix appended to these Rules.

(c) "Artificial humidification" means the introduction of moisture into the air of a room by any artificial means whatsoever, except the unavoidable escape of steam of water vapour into the atmosphere directly due to a manufacturing process:

Provided that the introduction of air directly from outside through moistened mats or screens placed in openings at times when the temperature of the room is

80 degrees [3][26 degrees] or more, shall not be deemed to be artificial humidification.
(d) "Belt" includes any driving strap or rope.
(e) "Degrees of temperature" means degrees on the Fahrenheit [4][Celsius] scale.

(ee) [5]["first employment" means first employment in any manufacturing process to which the relevant Schedule applies and shall also include re-employment in the manufacturing process following and cessation of employment for a continuous period exceeding three calendar months.]
(f) "Fume" includes gas or vapour.
(g) "Form" means form appended to these rules.
(h) "Health Officer" means the Municipal Health Officer or District Health Officer or such other official as may be appointed by the State Government in that behalf.
(i) "Hygrometer" means an accurate wet and dry bulb hygrometer conforming to the prescribed conditions as regards construction and maintenance.
(j) [Omitted vide Punjab Government No. G.S.R.94/C.A.-63/48/S.112/Amd. 20/84, dated 31-10-1984.]
(k) "Maintained" means maintained in an efficient state, in efficient working order and in good repair.
(l) "Manager" means the person responsible to the occupier for the working of the factory for the purposes of the Act.
(m) "Family" means the wife, son, daughter, father, mother, brother and sister of the owner of any place wherein a manufacturing process is carried on who lives with or is dependent on such owner.
(n) [6][recognized university or institution means:
(i) any university incorporated by law in any of the states of India; or
(ii) in the case of a degree or diploma obtained as a result of examination held before the 15th August, 1947, the Punjab, Sind or Dacca University; or
(iii) any other university or institution which is declared by the Government to be a recognized university or institution for the purposes of these rules.]

2-A. 7[Competent person

1 (1) The Chief Inspector sections may recognize any person as `competent person' within such area and for such period as may be specified for the purposes of carrying out tests, examination, inspection and certification for such buildings, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, pressure plant, confined space, ventilation system and such other process of plant and equipment located in a factory as stipulated in the Act and the rules made there under, if such person possesses the qualifications, experience and other requirements specified in the Schedule appended to this rule:

Provided that the Chief Inspector may relax the requirements of qualifications in respect of competent person if such a person is exceptionally experience and knowledgeable;

Provided further that where it is proposed to recognise a person employed under the Chief Inspector as a competent person, concurrence of the State Government shall be obtained and such a person after being so recognised, shall not have the powers of an Inspector;
Provided further that the competent person recognise under this rule shall not be above the age of sixty-two years and shall be physically fit for the purpose of carrying out the requisite tests, examination and inspection.
1 (2) The Chief Inspector may recognise an institution of repute, having persons possessing qualification and experience as specified in the Schedule appended to this rule, and issue a certificate of competency in Form I-B for the purposes of carrying out tests, examinations, inspections and certification buildings, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, pressure plant confined space, ventilation system and such other processes of plant and equipment, as are stipulated in the Act and the rules made thereunder, a competent person within such area and for such period as may be specified.
2 (3) The Chief Inspector on receipt of an application in Form 1-A from a person or an institution as the case may be, intending to be recognised as a competent person for the purposes of the Act and the rules made thereunder, shall register such application and after satisfying himself as regards competence and facilities available at the disposal of the applicant may recognise the applicant as a competent person. Such application shall be disposed of either by issuing a certificate of competency in Form I-B or by rejecting the same specifying reasons thereof, within a period of sixty days.
3 (4) The Chief Inspector of Factories, if he has reason to believe that a competent person:
4 (a) has violated any condition stipulated in the certificate of competency; or
5 (b) has carried out a test, examination and inspection or has acted in a manner inconsistent with the intent or the purpose of the Act or the rules made thereunder, or has omitted to act as required under the Act or the rules made thereunder; or
6 (c) for any other reason to be recorded in writing; may revoke the certificate or competency after giving an opportunity to the competent person for being heard.

Explanation: For the purpose of this rule, an institution includes an organisation.
1 (5) The Chief Inspector of Factories may, for reasons to be recorded in writing, require recertification of lifting machines, lifting tackles, pressure plant or ventilation system, as the case may be, which has been certified by a competent person outside the State:

1 (6) 8[Following leading technical Institutions in the State of Punjab and Chandigarh having Civil or Structural Engineering courses shall be the competent person for the purpose of clause (a) of sub-section (1) of section 6 of the Act, namely:-
2 (1) Punjab Engineering College (deemed to be University), Sector-12, Chandigarh;
3 (2) Chandigarh College of Engineering and Technology, Sector-26, Chandigarh;
4 (3) Thapar Institute of Engineering and Technology, Patiala;
5 (4) Guru Nanak Dev Engineering College, Ludhiana;
6 (5) Dr. B.R. Ambedkar National Institute of Technology, Jalandhar;
7 (6) Giani Zail Singh Campus College of Engineering and Technology, Maharaja Ranjit Singh Punjab Technical University, Bathinda;
8 (7) Indian Institute of Technology, Ropar;

(8) Punjabi University, Patiala;

(9) Shaheed Bhagat Singh State Technical Campus, Ferozepur; and

(10) any other institute, as may be notified by the State Government.

(7) The certification done by the institutions referred in sub-rule (6) shall be accepted only when such certification is signed by the Head of the Civil or Structural Engineering Department and Head of the Institution.]

SCHEDULE

[Rule 2A (1) and (2)]

Sr. No	**Sections or Rules under**	**Qualifications**	**Experience for the purpose**	**Facilities at his Disposal**
1	**2**	**3**	**4**	**5**
1 **1.**	Rules made under Section 6 and section 112 certificate of stability for buildings	Bachelor's Degree in Civil or structural Engineering or its equivalent from a recognised university	(i) An experience of working for a minimum period of 10 years in design or construction or testing or repair of structures. (ii) Knowledge of non-destructive testing various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the building; and (iii) an ability to arrive at a reliable conclusion with regard to the safety of the structure or the building.	
1 **2.**	Rules made under Section 21(2) "Dangerous machines".	Bachelor's Degree in Electrical or Mechanical or Textile Engineering or its equivalent from a recognised University	(i) An experience of working for minimum period of 7 years in, (a) design, operation or maintenance; or (b) testing, examination & inspection of relevant machinery, their guards, Safety	Gauges for measurement, instruments for measurement of speed and any other equipment or device to determine the safety in the use of the dangerous machine.

			devices and appliances (ii) Should,	

(a) Be conversant with safety devices and their proper functioning; (b) Be able to identify defects and any Other cause leading to the failure; and (c) have ability to arrive at a reliable conclusion with regard to the proper functioning of Safety devices and appliances and machine guards.					
1	**3.**	Section 28 lifts and Hoists	A Bachelor's degree in Electrical and/or Mechanical or Textile Engineering or its equivalent from a recognised University	(i) An experience of working for minimum period of 7 years in, (a) design or erection or maintenance; or (b) Inspection and test procedure of hoists and lifts. ii) Should be – (a) conversant with the current and relevant codes of practices and test procedures; (b) conversant with other statutory requirements covering the safety of hoists and lifts; and	Facilities for load testing, tensile testing gauges, equipment or gadgets for measurement and any other equipment required for determining the safe working conditions of hoists and lifts.

			(c) able to identify defects and arrive at a reliable conclusion and with regard to safety of hoist & lifts	

1	**4.**	Section 29-Lifting Machines, chains, ropes and lifting tackles	Bachelor's Degree in Electrical or Mechanical or Metallurgical Engineering or its equivalent from a recognised University.	(i) An experience of working for minimum period of 7 years in, (a) design or erection or maintenance; or (b) Testing, examination and inspection of lifting machinery, chains, ropes and lifting tackles (ii) Should be conversant with (a) Current and relevant codes of practice and test procedures (b) fracture mechanics and metallurgy of the material of construction; and (c) Heat-treatment/ stress relieving techniques as applicable to stress bearing components and parts of lifting machinery and lifting tackles. (d) capable of identifying defects and arriving at a reliable conclusion with regard to safety of lifting machinery, chains, ropes and lifting tackles.	Facilities for load testing, tensile testing heat-treatment equipment or gadgets for measurement, gauges and any such other equipment required for determining the safe working conditions of the lifting machines and tackles.

1	**5.**	Section 31-Pressure plant	Bachelor's Degree in chemical or Electrical or Mechanical or Metallurgical Engineering or its equivalent from a recognised University.	(i) An experience of for a minimum experience of 10 years in, (a) design or erection or maintenance; (b) testing, examination and inspection of plants	Facilities for carrying hydraulic tests, gauge, equipment or gadget for measurement and any other equipment or gauges to determine the
(ii)Should be- (A) conversant with and relevant codes of practice and test procedures relating to pressure vessels; (B) conversant with other Statutory requirements concerning the safety of unfired pressure vessels and equipment's operating under pressure. (C) conversant with non-destructive testing techniques as are applicable to pressure vessels; (D) able to identifying defects and arriving at a reliable conclusion and with regard to safety of pressure plants.				safety in the use of pressure vessels.	
1	**6.**	(i) Section 36 Precautions against fumes, (ii) Rules made Section 41 and 112 concerning shipbuilding and ship repairs.	Master's degree in chemistry or a Bachelor's degree in Chemical Engineering from a recognised University.	i (i) an experience of working for a minimum period of 10 years' in collection and analysis of environmental samples and calibration of monitoring equipment's, ii (ii) Should	meters, instruments & devices duly calibrated and certified for carrying out the tests and certification of safety in working in confined spaces.

			(a) Be conversant with the hazardous preparation of chemicals and their permissible limit values; (b) Be conversant with current techniques of sampling and analysis of environmental contaminants; and	

(c) able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out hot work				
1 **7.**	Ventilation system as required under various schedules framed under section 87 such as schedule on (i) grinding or glazing metals and processes incidental thereto (ii) cleaning or smoothing, roughening etc. of articles by jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam.	degree in mechanical or electrical engineering or equivalent	(i) an experience of working for a minimum period of seven years' in the design, fabrication, testing of ventilation system and system used for extraction and collection of dust, fumes and vapours and other ancillary equipment. (ii) should be conversant with the current and relevant codes of practice and test procedures in respect of ventilation and extraction system for fumes and	facilities for testing the ventilating system instruments and gauges for testing Effectiveness of extraction system for dusts, vapours & fumes and any other equipment needed for determining the efficiency and adequacy of these systems. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of system"

	(iii) handling and processing of Asbestos (iv) manufacture of Rayon by Viscose Process (v) Foundry operations]		i (iii) be able to arrive at a reliable conclusion with regard to effectiveness of the system	

3. 9[Submission of plans

The State Government or the Chief Inspector may require for the purposes of the Act, submission of plans of any factory which was either in existence on the date of the commencement of the Act or which had been constructed or extended since then. Such plans shall be drawn to scale showing:

(a) the site of the factory and immediate surrounding including adjacent buildings and other structures, Roads, drains, etc.

(b) the plan, elevation and necessary cross-sections of the factory buildings indicating all relevant details relating to natural lighting, ventilation and means of escape in case of fire, and the position of the plant and machinery, aisles and passage-ways; and

(c) such other particulars as the State Government or the Chief Inspector, as the case may be, may require.]

3-A. [10]Approval of Plans

1 (1) No building shall be constructed or used as factory unless plans in respect of such building are approved by the Chief Inspector.

2 (2) [11][No additions, alterations or extensions in the existing factory shall be made, except those specified in the Schedule given below, unless such additions, alterations or extensions are accepted by the Chief Inspector

SCHEDULE	
Serial No.	**Type of additions, alterations or extensions**
1.	Boundary Wall upto height of 6 Feet.
2.	Rooms or cabins be used for clerical or managerial or pantry purposes.
3.	Security pickets or guard rooms
4.	Electricity meter rooms
5.	Sheds for vehicle parking
6.	Canopies for generator sheds
7.	Store where non-combustible or non-inflammable or non-toxic material to be stored.
8.	Balcony or chajjas
9.	Toilets or urinals.
10.	Demolition of any part of factory building.
11.	Addition of machinery which does not result in any change in process or end product or by product.
12.	Changes in outer gates.
13.	Additional stair cases or ramps.

14.	Rooms to be used for residential purposes"; and]

1 (3) Application for approval of the plans shall be made in Form no. 1 along with the following plans and documents in triplicate to the Inspector of the area:

2 (a) [12][for the words, figure, signs and letter "Application for submission the plans shall be made by the competent person, in Form No. 1-C along with the following plans and documents in duplicate (In duplicate duly countersigned by the Occupier or Manager as the case may be), to the Chief Inspector", the words, brackets and signs " Application for submission of the plans shall be uploaded by the Occupier or Manager along with the following plans and documents on the portal (pblabour.gov.in) of the Chief Inspector.]

3 (b) Form No. 1-A and replies to questionnaire annexed thereto;

4 (c) Flow chart of the manufacturing process giving a brief description of the process in its various stages;

5 (d) Site plan drawn to a minimum scale of 1 cm. = 12 m. showing the exact location of the factory with respect to surrounding buildings, roads, drains, etc.:

6 (e) Plans elevations, cross-sections drawn to a minimum scale of 1 cm. = 1.2 m. showing means of lighting, ventilation, fire escapes, position of plant and machinery, direction of opening of doors, drinking water points, roof materials, details of urinals latrines washing places, facilities for storing and drying of workers clothing, rest-room and lunch-room canteen and ambulance room; and

7 (f)

8 (i) [13][the occupier or manager of the factory shall appoint a competent person for certification of Building Plans and Stability Certificate; and

9 (ii) the competent person shall make an application of self-certification to the effect that the building plans and stability certificate being certified are as per the Act and rules made thereunder. The occupier or manager of the factory shall submit such certified application through his user name on the portal "pblabour.gov.in" of the Chief Inspector for acceptance.]

10 (4) If the Inspector is satisfied that the plans and documents are in accordance with the requirements of the Act and the rules, he shall forward the plans and documents to the Chief Inspector for approval. The Chief Inspector after being similarly satisfied shall approve the plans and send one copy of each such plan and document to the applicant for his record;

Provided that where the plans and documents fall short of the requirements of the Act and these rules, the Inspector or the Chief Inspector as the case may be, may return them to the applicant for modifications and corrections as suggested therein:
Provided further that the plans shall not be deemed to have been submitted till such time as they are resubmitted duly modified and amended.

Explanation: The plans referred to in sub-rules (1), (2) and (3) shall be certified by a person possessing qualifications prescribed for the grant of certificate of stability and shall be signed by the applicant.

4. 14[Certificate of stability

No manufacturing process shall be carried on in any building or part of a building whether newly constructed, re-constructed or extended, or in any building which has been taken into use as a factory or part of a factory until a certificate of stability in respect thereof, in Form 1-F signed by a competent person has been sent by the occupier or manager of the factory to the Chief Inspector and accepted by him. Neither any new plant nor machinery shall be added to any building of a factory nor brought into use after such addition until a certificate of stability in Form 1-F signed by a competent person in respect thereof has been sent by the occupier or manager of the factory to the Chief Inspector and accepted by him.]

5. Authority to sign certificate of stability

No person except in the case of building owned by any Government shall be authorised to sign a certificate of stability or to certify plans and specifications who is in the employment of the owner or builder of the building in respect of which the certificate is given.

6. Internal height of work-rooms

i (i) The internal height of a workroom shall be not less than 4.25 m. measured from the floor level to the lowest part of the roof and if the roof is of corrugated iron which is neither covered with tiles nor has an inner ceiling of lining of heat-resisting material with an air space of

at least 10 cm. Between it and the corrugated iron, the internal height shall be not less than 5 m:

Provided that in the case of building having a brick or concrete roof, or a combination of the two, the minimum height may be 3.75 m. if approved by the Chief Inspector of Factories:
Provided further that in case of factories employing less than 50 workers, the Chief Inspector may, where he is satisfied that the conditions of work are reasonably good., exempt such factories from the provisions of this sub-rule.

i (ii) There shall be provided at all times for each person employed in any room of a factory where mechanical or electrical power is used, at least 36 square feet (3.35 square meter) of floor space exclusive of that occupied by machinery and a breathings space of at least 500 cubic feet (14 cubic meter).

ii (iii) Particulars of each workroom of the factory [15](except the factories declared and defined as such under Section 85 of the Act) in which persons are regularly employed shall be entered in Form 1-D which shall be shown to the Inspector when required.

The provisions of sub-rule (i) of rule 6 shall not apply to rooms intended for storage, go downs and like purposes and also rooms intended solely for office purposes where only clerical work is done,

7. Application for registration and grant of licenses

1 (1) The occupier of every factory shall submit to the Chief Inspector an application in Form No. 2 [16][in triplicate] for the registration of the factory and for the grant of license [17][****].

2 (2) The responsibility under this rule shall entirely lie with the occupier himself of the factory.

8. 18[Grant of licence

1 (1) A licence for a factory shall be granted by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government in Form No. 4 prescribed for the purpose for a period of [19][one year or further period up to ten years] as may be requested in the application for registration and grant of licence and on payment of the fees specified in sub-rule (2).

2 (2) The fees for grant of licence for one year shall be as specified in the Schedule given below. In case an application for licence has been made for a period of [20][more than one year], the licence fees shall be [21][multiplied by the number of years] the fees payable for grant of licence for one year, as specified in the said Schedule:

[22][SCHEDULE

Fees for the grant of licence for a factory for one year

Quantity kilo watt installed [Max kilo watt]						Maximum number of workers to be employed on any day during the year
Up to 20	From 21 to 50	From 51 to 100	From 101 to 250	From 251 to 500	From 501 to 1000	Above 1000
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Up to 20	450	750	1500	3000	4500	7500	10,500
21 up to 50	675	1500	2250	4500	7500	10,500	15,000
51 up to 100	1500	2250	3000	7500	10500	15000	18000
101 up to 250	2250	3000	6000	105000	15000	18000	22500
251 up to 500	3000	4500	7500	12000	18000	22500	30000
501 up to 1000	4500	6000	10500	15000	22500	30000	37500
Above 1000	6000	10500	15000	22500	30000	37500	45000]

1 (3) A licence granted under this rule may be at the request of licensee, be renewed for [23][one year, or any number or any number of years up to ten years], as the case may be, in accordance with the provisions of rule 10.

2 (4) Every licence granted or renewed shall remain in force upto the 31st December of the year for which the licence is granted or upto the period for which it is renewed.]

9. [24]Amendment of Licence

1 (1) A licence granted under rule 8 may be amended by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government.

2 (2) No licensee shall:

3 (i) change the name of his factory; or

4 (ii) employ persons in excess of the number as specified in the licence; or

5 (iii) use motive power in excess of the limits of horse power specified in the licence;

without getting his licence amended.

1 (3) A licensee who desires to have his licence amended, shall submit it to the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, an application stating the nature of the amendment and reasons therefore.

2 (4) The fee for the amendment of a licence shall be twenty-five rupees plus the amount, if any, by which the fee which would have been payable for issuing the licence in amended form originally.]

10. 25Renewal of licence

1 (1) A licence shall be renewed by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government.

2 (2) Every application for the renewal of the licence shall be made in triplicate, in Form No. 2 together with the receipt of the payment of fees for a period of 26[one year, or any number of years up to ten years] as the case may be, and shall be submitted not less than thirty days before the date on which the licence expires. If the application, complete in all respects, is so made, the premises shall be held to be duly licensed until such date as the Chief Inspector or as the case may be the officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, renews the licence.

3 (3) The fees for renewal of licence for one year shall be the same as for the grant thereof. In case an application for renewal has been made for a period of five years, the renewal fees shall be five times the fees payable for renewal of licence for one year, as specified in the Schedule given below sub-rule (2) of rule 8:

Provided that if the application for renewal, compete in all respects, is not received with in the time specified in sub-rule (2), the licence shall be renewed only on payment of a fee twenty five percent in excess of the fees ordinarily payable for the renewal of a licence for one year or five year, for which the application has been received late.]

10-A. 27[Automatic Renewal of License

1 (1) A license shall be renewed for one year digitally through automatic mode if there is no change in particulars of license from the previous granted or renewed license and other conditions required by Government.

1 (2) For the purposes of sub-rule (1), every application for the renewal of license shall be made in Form 2-B together with the fees for a period of one year, and shall be submitted on departmental portal “pblabour.gov.in” not less than thirty days before the date on which the license is to expire.

2 (3) The fees for renewal of license for one year shall be as specified in the Schedule given under sub-rule (2) of rule 8:

Provided that if the application for renewal, complete in all respects, is not submitted on the portal within the time specified in sub-rule (2), a late fee of twenty-five percent of the fees payable for the renewal of a license for one year shall be chargeable.

1 (4) The license generated under this rule shall have the same sanctity as renewed under rule 10.]

11. 28Transfer of licence

1 (1) the holder of a licence may, at any time before the expiry of the licence, apply for permission to transfer his licence to another person.
2 (2) Such application shall be made to the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, who shall, if he approves of the transfer, enter upon the licence under his signature, and endorsement to the effect that the licence has been transferred to the person named in the application.
3 (3) A fee of twenty-five rupees shall be charged on each such application.]

12. Procedure on death or disability of licensee

If a licensee dies or becomes insolvent, the person carrying on the business of such licensee shall not be liable to any penalty under these rules for exercising the powers granted to the licensee by the licence during such time as may reasonably be required to allow him to make an application for the amendment of the licence under Rule 9 in his own name for the unexpired portion of the original licence.

13. 29Loss of Licence

Where a licence granted under these Rules is lost or accidentally destroyed, a duplicate may be granted on payment of a fee of twenty-five rupees.]

14. 30Payment of Fees

1 (1) Every application under these rules shall be accompanied by a treasury receipt showing that the appropriate fee has been paid into the authorised branch of the State Bank of India under the head of account, affixed by the office of Chief Inspector.
2 (2) If an application for the grant, renewal or amendment of licence is rejected, the fee paid shall be refunded to the applicant.]

14-A. 31Prohibition running of a factory without a valid licence

An occupier shall not use any premises as a factory or carry on any manufacturing process in a factory, unless a licence has been issued in respect of such premises and is force for the time being:

Provided that if a valid application for grant of a licence or renewal of a licence has been submitted and the required fee has been paid, the premises shall be deemed to be fully licensed until such date as the Chief Inspector or as the case may be, any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government grants or renews the licence or refuses in writing, with reasons, to grant of renew licence:
Provided further that if the Chief Inspector or as the case may be, any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government fails to grant or renew the licence or fails to refuse to do so, for reasons to be communicated in writing, to the applicant, within sixty days from the date of the application, the licence shall be deemed to have been granted or renewed.]

15. Notice of occupation

The notice of occupation required to be given to the Chief Inspector under sub-section (1) of Section 7, shall be in 32[Form No. 2] 33[and shall be submitted in triplicate.]

15-A. Notice of change of Manager

The notice of charge of Manager referred to be given under sub-section (4) of Section 7 of the Act shall be in Form No. 2-A.

15-B. 34Guidelines instructions and records

1 (1) Without prejudice to the general responsibility of the occupier to comply with the provisions of section 7-A, the Chief Inspector of Factories may, from time to time, issue guidelines and instructions regarding the general duties of the occupier relating to health, safety and welfare of all workers while they are at work in the factory.

2 (2) The occupier shall maintain such records, as may be specified by the Chief Inspector of Factories in respect of monitoring of working environment in the factory.]

CHAPTER II

THE INSPECTING STAFF

16. 35Qualifications of Inspector of Factories

No person shall be appointed as an Inspector of Factories for the purpose of the Act, unless he possesses the qualifications specified for an Inspector of Factories in the Punjab Labour (Class II) Service Rules, 1982 as amended from time to time.

16-A. 36Powers of Inspectors

An Inspector shall, for the purpose of the execution of the powers assigned to him under the Act within the local limits of his jurisdiction have power to do all or any of the following things, that is to say:

(a) to photograph any worker, to inspect, examine, measure, copy, photograph, sketch or test, as the case may be, any building or room, any plant, machinery, appliance or apparatus any register or document or anything provided for the

purpose of securing the health, safety or welfare of the worker employed in a factory;

(b) in the case of an Inspector who is a duly qualified medical practitioner, to carry out such medical examinations as may be necessary for the purposes of his duties under the Act

(c) to prosecute, conduct or defend before a Court any complaint or other proceeding arising under the Act or in discharge of his duties as an Inspector:

Provided that the powers of the district magistrates and such other public officers as are appointed to be Additional Inspectors shall be limited to the inspection of factories for the purposes notified under sub-section (5) of Section 8.

17. Duties of Certifying Surgeon

1 (1) For purposes of the examination and certification of young persons who wish to obtain certificate of fitness, the Certifying Surgeon shall arrange a suitable time and place for the attendance of such persons, and shall give previous notice in writing of such arrangements to the managers of factories situated within the local limits assigned to him. He may also arrange where possible to get the women workers examined by a Lady Doctor.

2 (2)

3 (a) The Certifying Surgeon shall issue his certificates in Form No. 5. The foil and counterfoil shall be filled in and the left thumb mark of the person in whose name the certificate is granted shall be taken on them. On being satisfied as to the correctness of the

entries made therein and of the fitness of the person examined, he shall sign the foil and initial the counter-foil and shall deliver the foil to the person in whose name the certificate of fitness granted under section 69 of the Act. All counterfoils shall be kept by the Certificate Surgeon for a period of at least 2 years after the issue of the certificate.

4 (b) On the request of an Inspector, Certifying Surgeon or medical practitioner authorised under Section 10(2) of the Act shall examine any person produced before him and issue certificate regarding his age and fitness. No fee shall be charged for such examination or for the grant of certificate in pursuance thereof.

5 (c) A Certifying Surgeon revoking a certificate under sub-section (4) of Section 69 of the Act, shall stamp the work "Revoked" in red ink on the foil and counterfoil.

6 (d) If a Certifying Surgeon refuses to grant to any person a certificate under the rule, no fresh application for certificate shall be made on behalf of that person until a period of three months has elapsed, unless the Certifying Surgeon when he refuses to grant the certificate, gives permission in writing, for an application to be made at an earlier date.

7 (e) Every practitioner authorised under sub-section (2) of Section 10 of the Act to exercise provisionally the powers of a Certifying Surgeon shall grant certificates in the manner provided under this rule, Certificates issued by him shall be valid for a period of 6 months unless countersigned by the

Certifying Surgeon. The word "Provisional" shall be printed or stamped in red ink at the top of each foil and counterfoil.

(f) When a person to whom a certificate under Section 62(2) has been granted loses such certificate, he may apply to the Certifying Surgeon for a copy of the certificate, and the Certifying Surgeon, after making such enquiry from his employer or if he is unemployed from his last employer and from such other sources as he deems fit, may grant a duplicate thereof. The word "Duplicate" shall be clearly written in red ink across such certificate and initialled by the Certifying Surgeon. The counterfoil in the bound book of forms shall be similarly marked "Duplicate" and initialled

(g) For every copy of a certificate granted under clause (f) of this rule a fee of anna four [37][25 paise] which shall be credited to Government, shall be charged. The Certifying Surgeon shall maintain a register of all fees paid for this issue of copies of certificate and shall initial each entry made therein.

(h) No duplicate of a certificate granted under Section 69 of the Act shall be granted to any person otherwise than in accordance with the provisions of this rule.

(i) No child, adolescent or a young person shall be certified as fit to work in a factory unless he or she:

(i) is free from organic disease:

(ii) has a good physique;

(iii) is capable of enduring of the kind of work that has to be performed in the factory;

(iv) is mentally sound; and

(v) is protected against small-pox by vaccination.

(j) The examination of children and adolescents under the Act shall be carried out by the Certifying Surgeon free of charge in cases where such examination is required either by the

Factory Inspector or by the manager or occupier of the factory where the candidate concerned is either already employed or accepted for employment:

Provided that usual fees shall be charged from candidates brought for examination for purposes of the Act by the candidate's guardians or from candidates appearing on their own.
1 (3) The Certifying Surgeon shall, upon request by the Chief Inspector, carry out such examination and furnish him with such report as he may indicate, for any factory or class or description of factories where:
2 (a) cases of illness have occurred which is reasonable to believe are due to the nature of the manufacturing process carried on or other conditions of work prevailing therein, or
3 (b) by reason of any change in the manufacturing process carried on, or in the substances used therein, or by reason of the adoption of any new manufacturing process or of any new substance for use in a manufacturing

process, there is likelihood of injury to the health of workers employed in that manufacturing process, or
(c) young person who are, or are about to be, employed in any work which is likely to cause injury to their health.
(4) For the purpose of the examination of persons employed in processes covered by the rules relating to dangerous operations, the Certifying Surgeon shall visit the factories within the local limits assigned to him at such intervals as are prescribed by the rules relating to such dangerous operations.
(5) 38[At such visits, the Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form No. 32 and the record of examination and re-examinations carried out shall be kept in custody of the Manager of the factory and the record of each examination carried out under sub-rules (1), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form No. 17.]
(6) If the Certifying Surgeon finds as a result of his examination that any person employed in such process is no longer fit for medical reasons to work in that process, he shall suspend such person from working in that process, for such time as he may think fit and no person after suspension shall be employed in that process without the written sanction of the Certifying Surgeon in the Health Register.
(7) The manager of a factory shall afford to the Certifying Surgeon facilities to inspect any process in which any person is employed or is likely to be employed.
(8) The manager of a factory shall provide for the purpose of any medical examination which the Certifying Surgeon wishes to conduct at the factory (for his exclusive use on the occasion of an examination) a room which shall be properly cleaned and adequately ventilated and lighted and furnished with a screen, a table (with writing materials) and chairs.

CHAPTER III
HEALTH
18. Record of whitewashing etc.
The record of dates on which whitewashing, colour-washing, varnishing, etc., are carried out shall be entered in a register maintained in Form No. 7.

19. 39[Disposal of trade wastes and effluents

The arrangements made in every factory for the disposal of wastes and effluents due to the manufacturing processes carried on therein shall be in accordance with those approved by the Punjab State Board for the Prevention and Control of Water and Air Pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and control of Pollution) Act, 1981 and other appropriate authorities.]

19-A.

1 (1) Limits of temperature and air movements

In any factory the maximum wet-bulb temperature of air in a workroom at a height of 1.5 meter (5 feet) above the floor level shall not exceed 30 degrees C (86 degrees F) and adequate air movement of at least 30 meters per minute (100 feet per minute) shall be provided; and in relation to dry bulb temperature the wet bulb temperature in the work-room at the said height shall not exceed that shown in intermediate between the two dry bulb readings (that) specified in relation to the higher of these two dry-bulb readings:

SCHEDULE

Dry-bulb	Temperature	Wet-bulb	Temperature
oC	(oF)	oC	(oF)
30	(86)	29.0	(84.2)
31	(87.8)	28.9	(84.0)
32	(89.6)	28.8	(83.8)
33	(91.4)	28.7	(83.6)
34	(93.2)	28.6	(83.5)
35	(95)	28.5	(83.4)
36	(96.8)	28.4	(83.2)
37	(98.6)	28.3	(83.0)
38	(100.4)	28.2	(82.7)
39	(102.2)	28.1	(82.6)
40	(104)	28.0	(82.5)
41	(105.8)	27.9	(82.3)
42	(107.6)	27.8	(82.1)
43	(109.4)	27.7	(81.9)
44	(111.2)	27.6	(81.7)
45	(113)	27.5	(81.5)
46	(114.8)	27.4	(81.3)

47	(116.6)	27.3	(81.1)

Provided that if the temperature measured with a thermometer inserted in a hollow globe of 15 cm (6 in.) dia-coated mat block outside and kept in the environment for not less than 20 minutes exceeds the dry bulb temperature of air, the temperature so recorded by the globe thermometer shall be taken in place of the dry bulb temperature:
Provided further that when the reading of the wet-bulb temperature out-side in the shade exceeds 27 ^{o}C (80.6 ^{o}F) the value of the wet-bulb temperature allowed in the schedule for a given dry-bulb temperature may be correspondingly exceeded to the same extent:

Provided further that this requirement shall not apply to the factories covered by section 15 and to factories where the nature of work carried on involves production of excessively high temperature referred to in clause (ii) of sub-section (1) of section 13 to which workers are exposed for short periods of time not exceeding one hour followed by an interval of sufficient duration in thermal environments not exceeding those otherwise laid down in this rule;
Provided further that the Chief Inspector, having due regard to the health of the workers, may in special and exceptional circumstances by an order in writing exempt any factory from the foregoing requirement, in so far as restricting the thermal conditions within the limits laid down in the Schedule are concerned, to the extent that he may consider necessary, subject to such conditions as he may specify.

1 (2) Provision of Thermometers

2 (a) If it appears to the Inspector that in any factory, the temperature of air in a workroom is sufficiently high and is likely to exceed the limits prescribed in rule 19 A, he may serve on the manager of the factory an order requiring him to provide sufficient number of whirling hygrometers or any other type of hygrometers and direct that the dry-bulb and wet-bulb readings in each such a work-room shall be recorded at such positions as approved by the Inspector twice during each working shift by a person especially nominated for the purpose by the manager and approved by the Inspector.

3 (b) If the Inspector has reason to believe that a substantial amount of heat is added inside the environment of a work-room by radiation from walls, roof or other solid surroundings, he may serve on the manager of the factory an order requiring him to provide one or more globe thermometers referred to in the first proviso in rule 19-A and further requiring him to place the globe thermometers at places specified by him and keep a record of the temperatures in a suitable register.

4 (3) Ventilation

5 (a) In every factory, the amount of ventilating opening in a workroom below the eyes shall, except where mechanical means of ventilation as required by sub-rule (2) are provided, be of an aggregate area of not less than 15 per cent of the floor area and so located as to afford a continued supply of fresh air:

Provided that the Chief Inspector may relax the requirements regarding the amount of ventilating openings if he is satisfied that having regard to the location of the factory, orientation of the workroom, prevailing winds, roofs height and the nature of manufacturing

process carried on, sufficient supply of fresh air into the workroom is afforded during most part of the working time:
Provided further that these requirements shall not apply in respect of workrooms of factories:
i (i) covered by section 15; or
ii (ii) in which temperature and humidity are controlled by refrigeration.

(b) Where in any factory, owing to special circumstances such a situation with respect to adjacent buildings and the height of the building with respect to floor space, the requirements of ventilation openings under sub-rule (1) cannot be complied with or in the opinion of the Inspector the temperature of air in a workroom is sufficient high and is likely to exceed the limits prescribed in rule 1 he may serve on the manager of the factory an order requiring him to provide additional ventilation either by means of roof ventilators or by mechanical means.
(c) The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the cubic capacity of the workroom and shall be distributed evenly throughout the work-room without air-pockets or undue draughts caused by high inlet velocities.
(d) In regions where in summer (15th March---15th July) dry-bulb temperatures of outside air in the shade during most part of the day exceed 35 degrees (95 degrees) and simultaneous wet bulb temperatures are 25 degrees (67 degrees) are below and in the opinion of the Inspector the manufacturing process carried on in the workroom of a factory permits thermal environments with relative humidity of 50 per cent or more the Inspector may serve on the manager of the factory an order to have sufficient supply of outside air for ventilation cooled by passing it through water sprays either by means of unit type of evaporative air coolers (desert coolers) or, where supply of outside air is provided by mechanical means through ducts in a plenum system by means of central air washing plants.]

20. When artificial humidification not allowed
There shall be no artificial humidification in any room of a cotton spinning or weaving factory:
(a) by the use of steam during any period when the dry bulb temperature of that room exceeds 85 degrees.
(b) at any time when the wet bulb reading of the hygrometer is higher than that specified in the following Schedule annexed hereto in relation to the dry bulb reading of the hygrometer at the time; or as regards a dry bulb reading intermediate between any two dry bulb readings indicated consecutively in the Schedule when the dry bulb reading does not exceed the wet bulb reading to the extent indicated in relation to the lower of these two dry bulb readings.

SCHEDULE

Dry bulb	Wet bulb	Dry bulb	Wet bulb	Dry bulb	Wet bulb
60.0	58.0	77.0	75.0	94.0	86.0
61.0	59.0	78.0	76.0	95.0	87.0
62.0	60.0	79.0	77.0	96.0	87.5

63.0	61.0	80.0	78.0	97.0	88.0
64.0	62.0	81.0	79.0	98.0	88.5

65.0	63.0	82.0	80.0	99.0	89.0
66.0	64.0	83.0	80.5	100.0	89.5
67.0	65.0	84.0	81.0	101.0	90.0
68.0	66.0	85.0	82.0	102.0	90.0
69.0	67.0	86.0	82.5	103.0	90.5
70.0	68.0	87.0	83.0	104.0	90.5
71.0	69.0	88.0	83.5	105.0	91.0
72.0	70.0	89.0	84.0	106.0	91.0
73.0	71.0	90.0	84.5	107.0	91.5
74.0	72.0	91.0	85.0	108.0	91.5
75.0	73.0	92.0	85.5	109.0	92.0
76.0	74.0	93.0	86.0	110.0	92.0

Provided, however, that clause (b) shall not apply when the difference between the wet bulb temperature as indicated by the hygrometer in the department concerned and the wet bulb temperature taken with a hygrometer outside in the shade is less than 3.5 degrees.

21. Provision of Hygrometer

In all departments of cotton spinning and weaving mills wherein artificial humidification is adopted, hygrometers shall be provided and maintained in such positions as are approved by the Inspector. The number of hygrometer shall be regulated according to the following scale:
(a) Weaving Department - One hygrometer for departments with less than 500 looms, and one additional hygrometer for every 500 or part of 500 looms in excess of 500.
(b) Other Departments - One hygrometer for departments with less than 8400 cubic meter capacity and one extra hygrometer for each 5600-cubic meter or part thereof, in excess of this.
(c) One additional hygrometer shall be provided and maintained outside each cotton spinning and weaving factory wherein artificial humidification is adopted and in a position approved by the Inspector for taking hygrometer for each 5600-cubic meter or part thereof hygrometer shade readings.

22. Exemption from maintenance of hygrometers

When the Inspector is satisfied that the limits of humidity allowed by the Schedule to rule 21 [Rule 20 for Haryana] are never exceeded, he may, for any department other than the weaving

department, grant exemption from the maintenance of the hygrometer. The Inspector shall record such exemption in writing.

23. Copy of Schedule to rule 18 to be affixed near every hygrometer

A legible copy of the schedule to Rule 18 [Rule 20 for Haryana] shall be affixed near each hygrometer.

24. Temperature to be recorded at each hygrometer

At each hygrometer maintained in accordance with Rule 22, [Rule 21 for Haryana] correct wet and dry bulb temperatures shall be recorded thrice daily during each working day by competent persons nominated by the manager and approved by the Inspector. The temperature shall be taken between 7a.m. and 9 a.m., between 11 a.m. and 2 p.m. (but not in the rest interval) and between 4 p.m. and 5.30 p.m. in exceptional circumstances, such additional readings and between such hours, as the Inspector may specify, shall be taken. The temperatures shall be entered in a Humidity Register in the prescribed Form No. 6, maintained in the factory. At the end of each month, the persons who have taken the readings shall sign the register and certify the correctness of the entries. The register shall always be available for inspection by the Inspector.

25. Specifications of hygrometer

1 (1) Each hygrometer shall comprise two mercurial thermometers of wet bulb and dry bulb of similar construction, and equal in dimensions, scale and divisions of scale. They shall be mounted on a frame with a suitable reservoir containing water.

2 (2) Two wet bulbs shall be closely covered with a single layer of muslin, kept by means of a wick attached to it and dropping into the water in the reservoir. The muslin covering and the wick shall be suitable for the purpose, clean and free from size of grease.

3 (3) No part of the wet bulb shall be within 7.62 cm. from the dry bulb or less than 2.54 cm. from the surface of the water in the reservoir and the water reservoir shall be below it, of the side of it away from the dry bulb.

4 (4) The bulb shall be spherical and of suitable dimensions and shall be freely exposed on all sides to the air of the room.

5 (5) The bores of the stems shall be such that the position of the top of the mercury column shall be readily distinguishable at a distance of 0.6 m.

6 (6) Each thermometer shall be graduated so that accurate readings may be taken between 50 and 120 degrees.

7 (7) Every degree from 50 degrees up to 120 degrees shall be clearly marked by horizontal lines on the stem, each fifth and tenth degree shall be marked by longer marks than the intermediate degrees and the temperature marked opposite each tenth degree, i.e. 50, 60, 70, 80, 90, 100, 110 and 120.

8 (8) The markings as above shall be accurate, that is to say, at no temperature between 50 and 120 degrees shall be indicated readings be in error by more than two-tenths of a degree.

9 (9) A distinctive number shall be indelibly marked upon the thermometer.

10 (10) The accuracy of each thermometer shall be certified by the National Physical Laboratory, London, or some competent authority appointed by the Chief Inspector and such certificate shall be attached to the Humidity Register.

26. Thermometers to be maintained in efficient order

Each thermometer shall be maintained at all times during the period of employment in efficient working order so as to give accurate indications and in particular:

(a) the wick and the muslin covering of the wet bulb shall be renewed once a week;
(b) the reservoir shall be filled with water which shall be completely renewed once a day. The Chief Inspector may direct the use of distilled water or pure rain water in any particular mill or mills in certain localities;
(c) no water shall be applied directly to the wick or covering during the period of employment.

27. An inaccurate thermometer not to be used without fresh certificate

If an Inspector gives notice in writing that a thermometer is not accurate it shall not, after one month from the date of such notice, be deemed to be accurate unless and until it has been re-examined as prescribed and a fresh certificate obtained which certificate shall be kept attached to the Humidity Register.

28. Hygrometer not to be affixed to wall, etc. unless protected by wood

1 (1) No hygrometer shall be affixed to a wall pillar, or other surface unless protected there from by wood or other non-conducting material at least half an inch in thickness and distant at least 2.5 cm from the bulb of each thermometer.

2 (2) No hygrometer shall be fixed at a height of more than 1.65 m from the floor to the top of thermometer stem or in the direct draughts from a fan, window, or ventilating opening.

29. No reading to be taken within 15 minutes of renewal of water

No reading shall be taken for record on any hygrometer within 15 minutes of the renewal of water in the reservoir.

30. How to introduce steam for humidification

In any room in which stem pipes are used for the introduction of steam for the purpose of artificial humidification of the air, the following provisions shall apply:
(a) The diameter of such pipe shall not exceed two inches and in the case of pipes are installed after 1st day of January, 1949, the diameter shall not exceed 2.5 centimeter.
(b) Such pipes shall be as short as is reasonably practicable.
(c) All hangers supporting such pipes shall be separated from the bare pipes by an efficient insulator not less than (12 mm) in thickness.
(d) No uncovered jet from such pipe shall project more than (11.25 cm) beyond the outer surface of any cover.
(e) The steam pressure shall be as low as practicable and shall not exceed 4.9 kg. per square centimeter.
(f) The pipe employed for the introduction of steam into the air in a department shall be effectively covered with such non-conducting material, as may be approved by the Inspector in order to minimise, the amount of heat radiated by them into the department.

31.

[Rule 31 omitted vide Punjab Govt. Gazette Legislature Supplement Part III dated 19.3.1991.]

32. Lighting of interior parts

1 (1) The general illumination over these interior parts of a factory where persons are regularly employed shall be not less than [40][six feet candles] measured in the horizontal plane at a level of 90 cm. above the floor:

Provided that in any such parts in which the mounting height of the light source for general illumination necessarily exceeds 7.5 m. measured from the floor or where the structure of the room or the position or construction of the fixed machinery or plant prevents the uniform attainment of this standard, the general illumination at the said level shall be not less than [41][two feet candles] and where work is actually being done the illumination shall be not less than [42][six feet candles].

1 (2) The illumination over all other interior parts of the factory over which persons employed pass shall when and where a person is passing, be not less than 0.5 foot candles at floor level.

2 (3) The standard specified in this rule shall be without prejudice to the provision of any additional illumination required to render the lighting sufficient and suitable for the nature of the work.

33. Prevention of glare

1 (1) Where any source of artificial light in the factory is less than 480 cm above floor level, no part of the light source or of the lighting fitting having a brightness greater than 10 candles per square centimeter shall be visible to persons whilst normally employed within 33 meter of the source or part of the fitting as the case may be exceeds 20 degrees.

2 (2) Any local light, that is to say, an artificial light designed to illuminate particularly the area or part of the area of work of a single operative or small group of operatives working near each other, shall be provided with a suitable shade of opaque material to prevent glare or with other effective means by which the light source is completely screened from the eyes of every person employed at a normal working place, or shall be so placed that no such person is exposed to glare there from.

34. Power of Chief Inspector to exempt

Where the Chief Inspector is satisfied in respect of any particular factory or part thereof or in respect of any description of workroom or process that any requirement of the foregoing rules for suitable lighting is inappropriate or is not reasonably practicable, he may be order in writing, exempt the factory or part thereof, or description or workroom or process from such requirement to such extent and subject to such conditions as he may specify.

35.

[Rule 35 and Schedule omitted by Punjab Govt. Gazette L.S.P. III dated 19.3.1991.]

36. Quantity of drinking water

The quantity of drinking water to be provided for the workers in every factory shall be a minimum of 5 litres per worker per day and shall be readily available at all times during working

hours. The Chief Inspector may, however, allow variation in the quantity of drinking water if local conditions so warrant.

37. Source of supply

The water provided for drinking shall be supplied:

(a) [43][from a public water supply system; or]

(b) from any other source approved in writing by the Health Officer.

38. [Means of supply

If drinking water is not supplied directly from public water supply system or water supply system of the factory approved by the Health Officer, it shall be kept in suitable vessels, receptacles or tanks fitted with taps and having dust proof covers placed on raised stands or platforms in shade and having suitable arrangement of drainage to carry away the spilt water. Such vessels or receptacles and tanks shall be kept clean and the water shall be replaced at least once every day. All practicable measures shall be taken to ensure that the water is not contaminated.][44]

39. Cleanliness of well or reservoir

1 (1) Drinking water shall not be supplied from any open well or reservoir unless it is so constructed, situated, protected and maintained as to be free from the possibility of pollution by chemical or bacterial and extraneous impurities.

2 (2) Where drinking water is supplied from such well or reservoir the water in it shall be sterilized once a week or more frequently if the Inspector, by written order, so requires, and the date of which sterilizing is carried out shall be recorded:

Provided that this requirement shall not apply to any such well or reservoir if the water therein is filtered and treated to the satisfaction of the Health Officer before it is supplied for consumption.

40. Report from Health Officer

The Inspector may be order in writing, direct the Manager to obtain, at such time or at such intervals as he may direct, a report from the Health Officer as to the fitness for human consumption of the water supplied to the workers, and in every case to submit to the Inspector a copy of such report as soon as it is received from the Health Officer.

41. Cooling of water

In every factory wherein more than two hundred and fifty workers are ordinarily employed:

(a) the drinking water supplied to the workers shall from the 1st May to the 30th September in every year be cooled, so that the temperature of drinking water is below 80 degrees F:

Provided that, if ice is placed in the drinking water, the ice shall be clean and wholesome and shall be obtained only from a source approved in writing by the Health Officer;

(b) the cooled drinking water shall be supplied in every canteen, lunch-room and rest-room and also at conveniently accessible points throughout the factory which for the purpose of these rules shall be called "Water Centres";

(c) the water centres shall be sheltered from the weather and adequately drained;

(d) the number of water centres to be provided shall be one "centre" for every 150 persons employed at any one time in the factory:

Provided that in the case of a factory where the number of persons employed exceeds 500, it shall be sufficient if there is one such "centre" as aforesaid for every 150 persons upto the first 500 and one for every 500 persons thereafter;
[45][Provided further that the distance between the place of work and the water centre shall not be more than fifty metres or the distance as may be specified by the Inspector].
(e) every "water centre" shall be maintained in a clean and orderly condition.
(f) [the means of supply of cold drinking water shall be either directly through taps connected to water coolers or any other system for cooling the water, or by means of vessels, receptacles or tanks fitted with taps and having dust proof covers and placed on raised stand or platform in shade, and having suitable arrangement of drainage to carry away the spilt water and the vessels, receptacles or tanks shall be kept clean and water shall be replaced at least once every day][46].

Clause (f) shall not apply to any factory in which suitable mechanically-operated drinking water refrigerating units are installed to the satisfaction of the Chief Inspector.

42. Latrine Accommodation

Latrine accommodation shall be provided in every factory on the following scale:
(a) Where females are employed, there shall be at least one latrine seat for every 25 females.
(b) Where males are employed, there shall be at least one latrine seat for every 25 males; provided that, where the number of males employed exceeds 100, it shall be sufficient if there is one latrine for every 25 males up to the first 100 and one for every 50 thereafter.

In calculating the number of latrines required under this rule, any odd number of workers less than 25 or 50, as the case may be, shall be reckoned as 25 or 50 and the number of workers to be considered shall be maximum number employed at any time during the day.

43. Latrines to conform to public health requirements

Latrines other than those connected with an efficient water-borne sewerage system shall comply with the standard laid down by the Public Health Authorities with respect of the designs, air- space and fixations, and use of disinfectants.

44. Privacy of latrines

Every latrine shall be under cover and to partitioned off as to secure privacy, and shall have a proper door and of the design approved by the Chief Inspector.

45. Signboards to be displayed

Where workers of both sexes are employed there shall be displayed outside each latrine-block a notice in the language understood by the majority of the workers 'For Men only" or "For Women only", as the case may be. The notice shall also bear the figure of a man or of a woman, as the case may be.

46. Urinal accommodation

Urinal accommodation shall be provided for the use of workers and shall not be less than 0.6 metre in length for every 50 males; provided that, where the number of males employed

exceeds 500, it shall be sufficient if there is one urinal for every 50 males upto the first 500 employed and one for every 100 thereafter.
Where women are employed, separate urinal accommodation shall be provided for them on the same scale as mentioned above.
In calculating the urinal accommodation required under this rule any odd number of workers less than 50 or 100, as the case may be, shall be reckoned as 50 or 100 and the number of workers to be considered shall be the maximum number employed at any time during the day.

47. Urinals to conform to public health requirements

Urinals, other than those connected with an efficient water-borne sewerage system, and urinals in a factory wherein more than two hundred and fifty workers are ordinarily employed, shall comply with the standard laid down by the Public Health Authorities with respect to designs, and use of water and disinfectants for flushings.

48. Certain latrines and urinals to be connected to sewage system

(a) When any general system of underground sewerage with an assured water-supply for any particular locality is provided in a municipality all latrines and urinals of factory situated in such locality shall, if the factory is situated within 33 metres of an existing sewer, be connected with that Sewerage system.
(b) When no underground sewerage system exists, the design of latrines and urinals will take into account the problem of disposal either by way of sewerage pits or by sanitary receptacles contents of which can be disposed of without causing any insanitary of unhygienic condition in the locality.

49. White-washing and colour washing of latrines and urinals

The walls, ceilings and partitions of every latrine and urinal shall be white-washed and the whitewashing shall be repeated at least once in every period of four months. The dates on which the white-washing is carried out shall be entered in the prescribed register Form No. 7:
Provided that this rule shall not apply to latrines and urinals, the walls, ceiling, or partitions of which are laid in glazed tiles or otherwise finished to provide a smooth polished impervious surface and that they are washed with suitable detergents and disinfectants at least once in every period of four months.

50. Construction and maintenance of drains

All drains carrying waste or sullage water shall be constructed with impermeable materials suitably surfaced to ensure smoothness and resistance to wearing away and shall be regularly flushed and the effluent disposed of by connecting such draining with a suitable drainage line without causing in sanitary or unhygienic condition in the locality:
Provided that where there is no such drainage line the effluent shall be deodorized and rendered innocuous and then disposed of in suitable manner to the satisfaction of the Health Officer.

51. Water taps in latrines

1 (1) Where piped water-supply is available a sufficient number of water taps conveniently accessible shall be provided in or near such latrine accommodation.
2 (2) If piped water supply is not available, sufficient quantity of water shall be kept stored in suitable receptacles near the latrines.

52. Number and location of spittoons

The spittoons in each factory shall be located in a manner that would not violate with sanitary requirements and their number will be according to such standard laid down for the locality and nature of industry as the Health Officer may determine for each factory.

53. Type of spittoons

The spittoons shall be of the approved designs and either of the following types:

(a) a galvanized iron container with a conical funnel-shaped cover, A layer of suitable disinfectant liquid shall always be maintained in the container;

(b) a container filled with dry, clean sand and covered with a layer of suitable thickness of lime or bleaching powder;

(c) any other type approved by Health Officer.

54. Cleaning of spittoons

The spittoons mentioned in clause (a) of rule 53 shall be emptied, cleaned and disinfected at least once every day, and the spittoon mentioned in clause (b) of rule 53 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER IV

SAFETY

55. Further safety precautions

1 (1) Without prejudice to the provisions of sub-section (1) of section 21 in regard to the fencing of machines, the further precautions specified in Schedules [47][I to VII][48] annexed hereto shall apply to the machines noted in each Schedule.

SCHEDULE I

(TEXTILE MACHINERY EXCEPT MACHINERY USE IN JUTE MILLS)

1 1. Application: This Schedule shall apply to the machinery in factories engaged in manufacturing or processing of textiles other than jute textiles excluding the machinery in factories engaged exclusively in the manufacture of synthetic fibres.

2 2. Definitions: For the purposes of this Schedule,

3 (a) “Calendar” means a set of heavy roller mounted on vertical side frames and arranged to pass cloth between them which may have two to ten rollers or bowls some of which may be heated;

4 (b) “Card” means a machine consisting of cylinders’ various sizes and includes flats. covered with card clothing and set in relation to each so that fibres in; staple form may be Separated into individual relationship

5 (c) “Card clothing” means the material with which the surfaces of the cylinder, Doffer flats, etc. of a card are covered and consists of a thick foundation material made of either textile fabrics, through which many fine closely spaced specially bent wires or mounted saw toothed wires are passed;

6 (d) “Comber” means a machine for combing fibres of cotton. wool etc. the essential parts whereof are device for feeding forward a fringe of fibres at regular intervals and an

arrangement of combs or pins, which at the right time, pass through the fringe and by which tangled fibres. Short fibres, and nips are removed and the long fibres are laid parallel;
7 (e) “Combing machinery” means a general classification of machinery, including combers, silver lap machines. Ribbon lap machines and gill boxes, but excluding cards;
8 (f) “Continuous bleaching range” means a machine used for bleaching of cloth in rope or open-width form;

Explanation: (1) The cloth after wetting out, passes through a squeeze roll into a saturator, containing a solution of caustic soda and then to an enclosed J. Box. A V- shaped arrangement is attached to the front part of J. Box uniform and rapid saturation of the cloth, with steam before it is packed down in the J. Box; the cloth, in a single strand rope form passes over a guide roll down the first arm of the “V” at the upper end of the second arm so that the cloth is rapidly saturated with steam at this point; the J. Box capacity is such that cloth wiI remain hot for a sufficient time to complete the scouring action; it then passes through a series of washers with a squeeze roll in between; the cloth then passes through a second set of saturator, J-Box and washer, where it is treated with the peroxide solution;
Explanation:(2) by slight modification of the form of the unit, the same process as is explained in Explanation (1), can be applied to open-width cloth;
(g) “embossing calendar” means a calendar with two or more rolls, one of which is engaged for producing figure effects of various kinds on a fabric;
(h) “garnet machine” means any number of types of machines for opening hard twisted waste of wool, cotton, silk, etc., essentially consisting of a locker- in-

one or more cylinders each having a complement worker and stringer rolls, and a fency roll and doffer.

Explanation: - The action of such machines is somewhat like that of a wool card, but it is much more severe in that the various rolls are covered with granett wire instead of card clothing;
(i) “gill box” means a machine used in the worsted system of manufacturing yarns which functions to arrange it in a parallel order and essentially, it consists of a pair of feed rolls and a series of follower where the followers move at a faster surface speed and perform as combine action;
(j) “in-running rolls” means any pair of rolls or drums between which there is a ‘nip’;
(k) “Inter-locking arrangement” means a device that prevents the setting in motion of a dangerous part of a machine or the machine itself while the guard, cover or door provided to safe- guard against danger is open or un-locked, and which will also hold the guard, cover or door closed and locked- while the machine or the dangerous part thereof is in motion;
(l) “Kier” means large metal vat, usually a pressure type in which fabrics may be boiled out, bleached etc.
(m) “loom” means a machine for effecting the interlocking of two series of yarns crossing one another at right angles by which the warp yarns are wound on a warp beam and pass through headless and reads and the filling is shot across in a shuttle and settled in place by read and slay, and the fabric is wound on a cloth beam;

(n) “mule” means a type of spinning frame having a head stock and a carriage as its two main sections, the head stock is stationery and the carriage is movable and its carries the spindles which draft and spin the roving into yarn and extends over the whole of the machine, moves slowly toward and away from the head stock during the spinning operation;
(o) “mercerizing range” means a 3-bowl mangle, a tenter frame, and a number of boxes for washing and scouring, the whole set up where of is in a straight line and all parts operate continuously;

Note: The combination is used to saturate the cloth with sodium hydroxide, stretch it while saturated and washing out most of the caustic before releasing tension;
(p) ‘Nip” means the danger zone between two rolls or drums, which by virtue of their positioning and movement create a nipping hazard;
(q) “Openers and pickers” means a general classification of machinery, which includes breaker pickers, intermediate pickers, finisher pickers, single process pickers, willow machines, card and picker waste cleaners, thread extractors shredding machines, roving waste openers, shoddy pickers, bale breakers, feeders, vertical openers, lattice cleaners horizontal cleaners and any similar machinery equipped with either cylinders, screen section

calendar section, rollers or beaters used for the preparation of stock for further processing;
(r) “paddler” means a trough for a solution and two or more squeeze rolls between which cloth passes after being passed through a mordent or dye bath;
(s) “Plating machine” means a machine used to lay cloth into folds of regular length for convenience of subsequent process or use;
(t) “ribbon lapper” means a machine or a part of a machine used to prepare laps for feeding a cotton comb the purpose of which is to provide a uniform lap in which the fibers have been straightened as much as possible;
(u) “rotary staple cutter” means a machine consisting of one or more rotary blades used for the purpose of cutting textile fibres into staple lengths;
(v) “roller printing machine” means a machine used for printing fabrics and consisting of a large central cylinder, or pressure bowl around the lower part of the perimeter of which is placed a series of engraved color rollers (each having a color trough), a furnisher roller, doctor blades, etc.;
(w) “silver lapper” means a machine or a part of a machine in which a number of parallel card silvers are drafted slightly, laid side by side in a compact sheet and wound into a cylindrical package;
(x) “starch mangle” means a mangle which is use specifically for starching cotton goods, and generally consists of two large rolls and a shallow open vat with several immersion rolls;
(y) “sanforizing machine” means a machine consisting of a large steam-heated cylinder and endless, thick woollen felt blanket which is in close contact with the cylinder for most of its perimeter and an electrically heated shoe which presses the cloth against the blanket while the later is in a stretched condition as it curves around feed-in roll;
(z) “shearing machine” means a machine used for shearing cloth in which cutting action is provided by a number of steel blades spirally mounted on a roller which rotates in close contact with a fixed edge blade.

(aa) “singeing machine” means a machine which comprises of a heated roller a plate, or an open gas flame by which the cloth or yarn is rapidly passed over the roller or the plate or through the open gas flame to remove fuzz of hairiness by burning;
(bb) “slasher” means a machine used for applying a size mixture to warp yarns which essentially consists of a stand for holding section beams a size box, one or more cylindrical dryers or an enclosed hot air dryer, and a beaming end for winding the yarn on the loom beams;
(cc) “tenter frame” means a machine for drying cloth under tension which essentially consists of a pair of endless traveling chains fitted with clips of fine pins and carried on tracks and the cloth is firmly held at the selvages by

the two chains which diverge as they move forward so that the cloth is brought to the desired width;
(dd) “warper” means a machine for preparing and arranging the yarn intended for the warp of fabric, specifically a beam warper; and
(ee) “Water mangle” means a calendar having two or more rolls used for squeezing water form fabrics before drying or for the finishing of various fabrics.
3. General safety requirements
(1) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machines and the belt shifter on machines driven by belts and shafting should be provided with a belt shifter lock or an equivalent positive locking device.
(2) Stopping and starting handles or other controls shall be of such design and so positioned as to prevent the operator’s hand or fingers from striking against any moving part or any other part of the machine.
(3) All belts, pulleys, gears, chains, sprockets wheel and other dangerous moving parts of machinery which either form part of the machinery or are used in association with it, shall be securely guarded.
4. Openers and pickers
(1) In all operating or picker machinery:
(i) Beaters and other dangerous parts shall be securely fenced by guards so as to prevent contact with them; and
(ii) Guards and doors or covers of openings giving access to any dangerous part of the machinery shall be provided with inter-locking arrangement:

Provided that in the case of doors or covers of openings giving access to any dangerous part, other than beater covers, instead of the inter, locking arrangement. such openings may be so fenced by guards which prevent access to any such dangerous part and which is either kept positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.
1 (2) The feed rolls on all opening and picking machinery shall be covered with a guard designed to prevent the Operator from reaching the nip while the machinery is in operation.
2 (3) The lap forming rollers shall be fitted with a guard or cover which shall prevent access to the nip at the intake of the lap roller and fluted roller as long as the weighted rack is down and the guard or cover shall be so locked that it cannot be raised until the machine is stopped, and machine cannot be started until the Cover of guard is closed:

Provided that the foregoing provision shall not apply to the machines equipped with automatic lap forming devices:

Provided further that any such machine equipped with automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.

1 5. Cotton Cards

2 (1) All cylinder doors shall be secured by an interlocking arrangement which shall prevent the door being opened until the cylinder has ceased to revolve and shall render it impossible to restart the machine until the door has been closed:

Provided that the latter requirement in respect of the automatic locking device shall not apply while stripping or grinding operations are carried out:

Provided further that stripping or grinding operation shall be carried out only by specially trained adult workers wearing tight “fitting clothing, whose names have been recorded in the register specified in sub-section (1) of section 22 of the Act.

1 (2) The licker-in shall be guarded so as to prevent access to the dangerous parts.

2 (3) Every card shall be equipped with an arrangement that would enable the card cylinder to be driven by power during stripping or grinding operations without having to either shift the main belt to the fast pulley of the machine or dismantle the interlocking mechanism and such an arrangement shall be used only for strip or grinding operations.

3 6. Garnett Machines

4 (1) Garnett licker-ins shall be enclosed and the garnet fancy rolls shall be enclosed by guards and shall be installed in a way that keeps work rolls reasonably accessible for removal or adjustment.

5 (2) The underside of the garnet shall be guarded by a screen mess or other form of enclosures to prevent access.

6 7. Gill boxes

7 (1) The feed and shall be guarded so as to prevent fingers being caught in the pins of the intersecting fillers.

8 (2) All nips of in-running rolls shall be guarded by Suitable nip guards conforming to the following specifications:

Any opening which the guard may permit when fitted in position shall be so restricted with respect to the distance of the opening from any nip point through that opening from any nip point through that the maximum width of the opening shall not exceed the following:

Distance of opening from nip point	Maximum width of opening
0 to 38 mm	6 mm
39 to 63 mm	10 mm
64 to 88 mm	13 mm
89 to 140 mm	15 mm

141 to 165 mm	19 mm
166 to 190 mm	22 mm
191 to 215 mm	32 mm

1 8. Silver aid ribbon lappers (cotton): The cylinder drums and the laps pool shall be provided with a guard to prevent access to the nip between the in-running rolls.
2 9. Speed frame: Jack Box wheels at the head stock shall band guard shall have interlocking arrangement.
3 10. Spinning Mules: Wheels on spinning mule carriages shall be provided with substantial wheel guards, extending to within 6 mm of the rails.
4 11. Warpers: Swiveled double-bar gates shall be installed on all warpers operating in excess of 410 meters minimum and shall have interlocking arrangements, except for the purpose of inching or jogging.

Provided that top and bottom bars of gates shall be at least 1.05 and 0.53 meters high from the floor or working plate form, and gate shall be locked 38 mm from vertical tangement to the bean head.
1 12. Slashers
2 (1) Cylinder dryers:
3 (a) All open nips of in running rolls shall be guarded by nip guards conforming to the requirements in clause 7.
4 (b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170mm above the floor to control the operation from any point.
5 (c) Slashers operated by such button control shall have stop and start buttons located at each end of the machine, and additional buttons located on both sides of the machine at the size box and the delivery end and if calendar rolls are used, additional buttons shall be provided at both sides of machines at points near the nips, except when slashers are equipped with an enclosed dryer as in such clause (b).
6 (2) Enclosed hot air dryer
7 (a) All open nips of the top squeezing rollers shall be guarded by nip guards conforming to the requirement specified in sub-clause (2) of clause 7.
8 (b) When slashers are operated by control layers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point.
9 (c) Slashers operated by push-button control shall have stop and start buttons located at each end of the machine and additional stop and start buttons located on both sides of the machine at intervals spaced not more than 1.83 meters on centres.

1 13. Looms

2 (1) Each loom shall be equipped with suitable guards designed to minimize the danger from flying shuttles.
3 (2) Beam weights for tension in beam shall be of such construction so as prevent it from falling during its adjustment.
4 14. Valves of Kiers, tanks, and other containers
5 (1) Each valve controlling the flow of steam injurious gases or liquids into a kier or any other tank or container into which a person is likely to enter in connection with a process, operation, maintenance or for any other purpose, shall be provided with a suitable lock the valve securely in the closed position and retain the key with him before entering the kier tank or container.
6 (2) Wherever boiling tanks, caustic tanks and any other containers from which liquids, which are hot, corrosive or toxic, may overflow or splash, are so located that the operator cannot see the contents from the floor or working areas, emergency shut off valves which can be controlled from a point not subject to danger of splash shall be provided to prevent danger.
7 15. Shearing machines: All revolving blades on shearing machines shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.
8 16. Continuous bleaching range (cotton and rayon): The nip of all in running rolls on open-width bleaching machine rolls shall be protected with a guard to prevent the worker from being caught at the nip and the guard shall extend across the entire length of the nip.
9 17. Mercerizing range (piece goods)
10 (1) A stopping device shall be provided at each end of the machine.
11 (2) A guard shall be provided at each end of the frame between the in- running chain and the clip opener.
12 (3) A nip guard shall be provided for the in-running rolls of the mangle and washers and the guard shall conform to the requirements specified in sub-clause (2) of clause 7.
13 18. Tender frames
14 (1) A stopping device shall be provided at each end of the machine.
15 (2) A guard shall be provided at each end of the machine frame at the in- running chain and clip opener.
16 19. Paddlers: Suitable nip guards conforming to the requirements specified in sub clause (2) of clause 7 shall be provided to all dangerous in-running rolls.
17 20. Centrifugal extractors
18 (1) Each extractor shall be provided with a guard for the basket, and the guard shall have interlocking arrangement.

1 (2) Each extractor shall be equipped with a mechanically or electrically operated brake to quickly stop the basket when the power driving the basket is shut off.
2 21. Squeezer of wringer extractor, water mangle, starch mangle, back washer (worsted yarn) crabbing machines and decanting machine: All in-running rolls shall be guarded with nip guards conforming to the requirements specified in sub-clause (2) of clause 7.
3 22. Sanforizing and palmer machine
4 (1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements specified in sub-clause (2) of clause 7.

(2) Access from the sides to the nips of running rolls should be fenced by suitable side guards.

(3) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the face of the cylinder, which operate readily whether pushed or pulled and the safety trip shall not be more than 170 cm. above the level at which the operation stands and shall be readily accessible.

23. Rope washers

(1) Splash guards shall be installed in all rope washers unless the machine is so designed as to prevent the water or liquid from splashing the operator, the floor or working surface.

(2) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all rope was hers extending the length of the face of the washer which shall operate readily whether pushed or pulled and the safety trip shall be not more than 170 cm. above the level on which the operator stands and shall be readily accessible.

24. Laundry washer tumbler or shaker

(1) Each drying tumbler, each double cylinder shaker or clothes tumbler, and each washing machine shall be equipped with an interlocking arrangement which will prevent the power operation of the inside cylinder when the outer door on the case or shall is open, and which will also prevent the outer door in the case or shall from being opened without shutting off the power and the cylinder coming to a stop but which should not prevent the movement of the inner-cylinder by means of a hand operated mechanism or an inching device.

(2) Each closed barrel shall also be equipped with adequate means for holding open the doors or covers of the inner and outer cylinders, of shells while it is being loaded or unloaded.

25. Printing machine (roller type):

(1) Everything in-running rolls shall be guarded by nip guards conforming to the requirements specified in sub-clause (2) of clause 7.

(2) The engraved roller gears and the large crown wheel shall be guarded.

26. Calendars: The Nip at the in-running side of the rolls shall be provided with a guard extending across the entire length of the nip and arranged to prevent the fingers of the workers from being pulled in between the rolls or between the guard and the rolls, and so contracted that the cloth can be fed into the rolls safely.

27. Rotary staple cutters: The cutter shall be protected by a guard to prevent hands reaching the cutting zone.

28. Plating machines: Access to the trap between the knife and card bar shall be prevented by a guard.

29. Hand baling machine: An angle iron handle-stop guard shall be installed at right angle to the frame of the machine, the stop guard of which shall be so designed and so located that it will prevent the handle from traveling beyond the vertical position should be handle slips from the operator's hand when the pawl has been released from the teeth of the take-up gear.

30. Flat-Work ironer: Each flat-work or collar ironer shall be equipped with a safety bar or other guard across the entire from of the feed or first pressure rolls, so arranged that the striking of the bar or guard by the hand of the operator or other person will stop the machine. The guard shall be such that the operator or other person cannot reach into the rolls without removing the guard. This may be either a vertical guard on all sides or a complete cover. If a

vertical guard is used, the distance from the floor or working platform to the top of guard shall not be less than 1.83 meters."

SCHEDULE II
(COTTON GINNING)

Line shaft: The line shaft or second motion in cotton ginning factories, when below floor level shall be completely enclosed by a continuous wall or unclimbable fencing with only so many openings as are necessary for access to the shaft for removing cotton seed, cleaning and oiling and such openings shall be provided with gates or doors which, shall be kept closed and locked.

SCHEDULE III
(WOODWORKING MACHINERY)

1 1. Definitions: For the purposes of this Schedule,

2 (a) Woodworking machine means a circular saw, band saw, planning machine, chain mortising machine or vertical spindle moulding machine, operating on wood or cork.

3 (b) Circular saw means a circular saw working in a bench (including rack bench) but does not include a pendulum or similar saw which is moved towards the wood for the purpose of cutting operation.

4 (c) Band saw means a band saw, the cutting portion of which runs in vertical direction but does not include a log saw or band resaving machine.

5 (d) Planning machine means a machine for overhand planning or thickening or for both operations.

1 2. Stopping and starting device: An efficient stopping and starting device shall be provided on every woodworking machine. The control of this device shall be in such a position as to be readily and conveniently operated by the person in charge of the machine.

2 3. Space around machine: The space surrounding every woodworking machine in motion shall be kept free from obstruction.

3 4. Floors: The floor surrounding every woodworking machine shall be maintained in good and level condition, and shall not be allowed to become slippery, and as far as practicable shall be kept free from chips or other loose material,

4 5. Training and Supervision

5 (1) No person shall be employed at a woodworking machine unless he has been sufficiently trained to under the adequate supervision of a person who has a thorough knowledge of the working of the machine.

6 (2) A person who is being, trained to work woodworking machine shall be fully and carefully and the precautions to be observed to secure safe working of the machine.

7 6. Circular Saws: Every circular saw shall be fenced as follows:

8 (a) Behind and in direct line with the saw there shall be a riving knife, which shall have a smooth Surface, shall be strong, rigid and easily adjustable and shall also conform to the following conditions:

9 (i) The edge of the knife nearer the saw shall form as are of a circle having a radius of not exceeding the radius of largest saw used on bench.

10 (ii) The Knife shall be maintained as close as practicable to the saw, having regard to the nature of the work being done at the time and at the level of the bench table the distance between the front edge of the knife and the teeth of the saw shall not exceed 12 mm.
11 (iii) For a saw of a diameter of less than 0.6 meter, the knife extends upwards from the bench t able to within 25 mm3 of the top of the saw, and for a saw of a diameter of 0.6 meter or over shall extend upwards from the bench teeth of the saw shall not exceed 12 mm.
12 (b) The top of the saw shall be covered by a strong and easily adjustable guard with a flange at the side of the saw farthest from the fence. The guard shall be kept so adjusted that the said flange shall extend below the roots of the teeth of the saw. The guard shall extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.
13 (c) The part of the saw below the bench table shall be protected by two plates of metal or other Suitable material one on each side of the saw; such plates shall not be more than 15 cm apart, and shall extend from the axis of the outwards to a distance of not less then.5cm. Beyond the teeth of the saw- Metal plates, if not headed, shall be of a thickness of at least .25 cm. or if headed be of a thickness of at least.125 centimetres.

1 7. Push Sticks: A push stick or other suitable appliance shall be provided for use at every circular saw and at every vertical spindle moulding machine to enable the work to be done without unnecessary risk.
2 8. Band Saws: Every band saw shall be guarded as follows:
3 (a) Both sides of the bottom pulley shall be completely encased by sheet or expanded metal or other suitable material.
4 (b) The front of the top pulley shall be covered with sheet or expanded metal or other suitable material.
5 (c) All portions of the blade shall be enclosed or otherwise securely guarded except the portion of the blade between the bench table and the top- guide.
6 9. Planning Machines
7 (1) A planning machine (other than a planning machine which is mechanically fed) shall not be used for overhand planning unless it is fitted with a cylindrical cutter block.
8 (2) Every planning machine used for over hand planning shall be provided with a “bride” guard capable of covering the full length and breadth of the cutting slot in the bench, and so constructed as to be easily adjusted both in a vertical and horizontal director.
9 (3) The feed roller of every planting machine used for thicknessing except the combined machine for overhand planning and thicknessing, shall be provided with an efficient guard.
10 10. Vertical spindle moulding machines
11 (1) The cutter of every vertical spindle moulding machine shall be guarded by the most efficient guard having regard to the nature of the work being performed.
12 (2) The wood being moulded at vertical spindle moulding shall. If practicable be held in a jig or holder of such construction as to reduce as for as possible the risk of accident to the worker.
13 11. Chain mortising machines: The chain of every chain mortising machine shall be provided with a guard which shall enclose the cutters as far as practicable.
14 12. Adjustment and maintenance of guards: The guards and other appliances required under this Schedule shall be:

15 (a) maintained in an efficient state.
16 (b) Constantly kept in position while the machinery in motion, and
17 (c) So, adjusted as to enable the work to be done without unnecessary risk.
18 13. Exemption: Paragraphs 6,8,9, and 10 shall not apply to an woodworking machine in respect of which it can be proved that other safeguards are provided, maintained and used which render the machine as safe as it would be if guarded in the manner prescribed in this Schedule.

SCHEDULE IV
(RUBBER MILLS)

1 1. Installation of machines: Mills for breaking down, cracking, grating, mixing, refining and warming rubber or rubber compounds shall be so installed that the top of the front roll is not less than 85cm. above the floor or working level. Provided that in existing installations where the top of the front roll is below this height a strong rigid distance bar shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the rolls.
2 2. Safety devices
3 (1) Rubber Mills shall be equipped with,
4 (a) Hoppers so constructed or guarded that it is impossible for the operator to come into contact in any manner with the nip of the rolls.
5 (b) Horizontal-safety trop rods or tight wire cables across both front and rear which will when pushed or pulled, operate instantly to disconnect the power and apply the brakes or to reverse the rolls.
6 (2) Safety trip rods or tight wire cables on rubber mills shall extend across the entire length of the face of the rolls and shall be located not more than 1.75 meter above the floor or working level.
7 (3) Safety-trip rods and tight wire cables on all rubber mills shall be examined and tested daily in the presence of the Manager or other responsible person and if any defect is disclosed by such examination and test the mill shall not be used until such defect has been remedied.

SCHEDULE V49
CENTRIFUGAL MACHINES

1 1. Definition: “Centrifugal Machines” includes centrifugal extractors, separators and driers.
2 2. Every part of a centrifugal machine shall be:
3 (a) of good design and construction and of adequate strength;
4 (b) properly maintained; and
5 (c) examined thoroughly by a competent person at regular intervals.
6 3. Interlocking guard for drum or basket
7 (1) The cage housing, the rotating drum or basket of every centrifugal machine shall be provided with a strong lid. The design, construction of the cage as well as the lid should be such that no access is possible to the drum or basket when the lid is closed.
8 (2) Every centrifugal machine shall be provided with an efficient interlocking device that will effectively prevent the lid referred to in sub-paragraph (1) from being opened while the

drum or basket is in motion and prevent the drum or basket being set in motion while the lid is in the open position.

1 4. Braking arrangement: Every centrifugal machine shall be provided with an effective arrangement capable of bringing the drum or basket to rest within as short a period of time as reasonable practicable after the power is cut off.
2 5. Operating speed: No centrifugal machine shall be operated at a speed in excess of the manufacturers rating which shall be legibly stamped at easily visible places both on the outside of the machine casing.
3 6. Exceptions: Sub-paragraph (2) of paragraph 3, paragraphs 4 and 5 shall not apply in case of top lung machines or similar machines used in the sugar manufacturing industry.

SCHEDULE VI50
(POWERS PRESSES)
1 1. Application: This Schedule shall apply to all types of power presses including press brakes, except when used for working hot metal.
2 2. Definition

For the purpose of this Schedule,
(a) “approved” means approved by the Chief inspector;
(b) “fixed fencing” means fencing provided for the tools of a power press being fenced which has no moving part associated with or dependent upon the mechanism of a power and includes that part of a closed tool which acts as a guard;
(c) “power press” means a machine used in metal or other industries for moulding, pressing, blanking, raising, [drawing and similar other purposes;
(d) “safety device” means the fencing and any other safeguard provided for the tools of a power press.
3. Starting and stopping mechanism: The starting and stopping mechanism shall be provided with a safety stop so as to prevent over running of the press or descent of the ram during tool shutting. etc.
4. Protection of tool and die
(1) Each press shall be provided with a fixed guard with slip plate on the underside enclosing the front and all sides of the tool.
(2) Each die shall be provided with a fixed guard surrounding its front and sides, and extending to the back in the form of a tunnel through which the pressed article falls to the rear of the press.
(3) The design, construction and mutual position of the guards referred to in sub-Para-graphs (1) and (2) shall be such as to preclude the possibility of the worker’s hand or fingers reaching the danger zone.
(4) The machine shall be fed through a small aperture at the bottom of the dye guard, but a wider aperture may be permitted for second or subsequent operations if feeding is done through a chute.

1 (5) Notwithstanding anything contained in sub-paragraphs (1) and (2) an automatic or an interlocked guard may be used in place of a fixed guard, but where such guards are used they shall be maintained in an efficient working condition and if any guard develops a defect, the power shall not be operated unless the defect guard is removed.

2 5. Appointment of persons to prepare power presses for use,

3 (1) Except as provided in sub-paragraph (4) of paragraph 4, no person shall set, re-set, adjust or try out the tools on a power press or install or adjust any safety device thereon, being installation or adjustment preparatory to production of die proving, or carry out an inspection and test of any safety device thereon required by paragraph 8 unless he

4 (a) has attained the age of eighteen years;

5 (b) has been trained in accordance with the sub-paragraph (2); and

6 (c) has been appointed by the occupier of the factory to carry out those duties in respect of the class or description of power press or the class or description of safety device, as the case may be belongs; and the name of every such person shall be entered in a register in Form 7A.

7 (2) The training shall include suitable and sufficient practical instructions in the matter in relation to each type of power press and safety device in respect of which it is proposed to appoint the person being trained.

8 6. Examination and testing of power presses and safety devices

9 (1) No power press or safety device shall be taken into use in any factory for the first time in that factory or in case of a safety device for the first time on any power press, unless it has been thoroughly examined and tested, in the case of a power press, after installation in the factory or in the power press in connection with which it is to be used.

10 (2) No power press shall be used unless it has been thoroughly examined and tested by a competent person within the immediately preceding period of twelve months.

11 (3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding period of six months when in position on that power press, been thoroughly examined and tested by a competent person.

12 (4) The competent person carrying out an examination and test under the foregoing provision shall make a report of examination and test containing the following particulars and every such report shall be kept readily available for inspection;

13 (a) Name of the occupier of the factory;

14 (b) Address of the factory;

15 (c) Identification number or mark sufficient to identify the power press or the safety device, as the case may be;

(d) Date on which the power press or the safety device was first taken into use in the factory;
(e) The date of each periodical thorough examination carried out as per requirements of sub-paragraph (2) above;
(f) Particulars of any defects affecting the safe working of the power press or the safety device found during such thorough examinations and steps taken to remedy such defects.

1 7. Defect disclosed through examination and tests

2 (1) Where any defect is disclosed in any power press or in any safety device by any examination and test under paragraph 6 and in the opinion of the competent person carrying out the examination and test, either

3 (a) the said defect is a cause of danger to workers and in consequence the power press or safety device, as the case may be ought not to be used until the said defect has been remedied; or

4 (b) the said defect may become a cause of danger to workers and in consequence the power press or safety device as the case may be, ought not to be used after the expiration of a specified period unless the said defect has been remedied, such defect shall, as soon as possible after the completion of the examination and test, be notified in writing by the competent person to the occupier of the factory and in the case of a defect falling within clause (b) of this sub-paragraph, such notification shall include the period within which, in the opinion of the competent person, the defect ought to be remedied.

5 (2) In every case where notification has been notified under this paragraph, a copy of the report made under sub-paragraph, a copy of the report made under sub-paragraph (4) of paragraph 6 shall be sent by the competent person to the inspector of the concerned area within fourteen days of the completion of the examination and test.

6 (3) Where any such defect is notified to the occupier in accordance with the foregoing provisions of this paragraph, the power press or safety device as the case may be, having the said defect, shall not be used;

7 (a) in the case of a defect falling within clause (a) of sub-paragraph (1) until the said defect has been remedied; and

8 (b) in the case of defect falling within clause (b) of sub-paragraph (1) until the said defect has been remedied after the expiration of the specified period.

9 (4) As soon as is practicable, after any defect of which notification has been notified under sub-paragraph (1), has been remedied, a record shall be made by or on behalf of the occupier stating the measures by which and the date on which the defect was remedied.

10 8. Inspection and test of safety devices

1 (1) No power press shall be used after the setting, resetting or adjustment of the tools thereon unless a person appointed or authorized for the purpose under paragraph 5 has inspected and tested every safety device thereon while it is in position on the said power press and has certified it to in order:

Provided that no inspection, test and certificate shall be required where any adjustment of the tools has not caused or resulted in any alteration to or disturbance of any safety device on the power press, and, if after the adjustment of the tools, the safety device remain, in the opinion of the said person in efficient working order.

1 (2) Every power press and every safety devices thereon while it is in position on the said power press shall be inspected and tested by a trained person every day.

2 9. Defects disclosed during an inspection and test

3 (1) Where it appears to any person as a result of any inspection and test carried out by him under paragraph 8 that any necessary safety device is not in proper position on a power

press or that any safety device which is in position on a power press, is not in his opinion suitable he shall notify the same to the manager forthwith.

4 (2) Except as provided in sub-paragraph (3) where any defect is disclosed in a safety device any inspection and test under paragraph 8, the person carrying out the inspection and test shall notify the same to the manager forthwith.

5 (3) Where any defect in a safety device is the subject of a notification in writing under paragraph 7 by virtue of which the use of the safety device may be continued during the specified period without the said defect having been remedied, the requirement in sub-paragraph (2) of this paragraph shall not apply to the said defect until the said period has expired.

6 10. Identification of power presses and safety devices: For the purpose of identification every power press and every safety device provided for the same, shall be distinctively and plainly marked.

7 11. Training the instructions to operators: The operators shall be trained and instructed in the safe method of work before starting work on any power press.

8 12. Exemptions

9 (1) If in respect of any factory, the Chief Inspector of Factories is satisfied that owing to the circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule are not necessary for the protection of the workers employed on any power press or in the factory, the Chief Inspector of Factories may by a certificate in writing (which he may in his discretion revoke at any time), exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

10 (2) Where such exemption is granted, a legible copy of the certificate, showing the conditions if any, subject to which it has been granted, shall be kept

1 posted in the factory on a place where it may be conveniently read by the persons employed.

SCHEDULE VII51

SHEARS SLITTERS AND GUILLOTINE MACHINES

1 1. Definitions: For the purpose of this schedule

2 (a) “guillotine” means a machine ordinarily equipped with straight, bevel edged blade operating Vertically against a stationery resisting edge and used for cutting metallic or non-metallic or non-metallic substances;

3 (b) “Shears” or “shearing machine” means a machine ordinarily equipped with straight, bevel edged blades operating vertically against resisting edged, or with rotary, overlapping cutting wheels and used for shearing metals or non- metallic substances; and

4 (c) “Slitter” or slitting machine” means a machine ordinarily equipped with circular disc-type knives, and used for trimming or cutting into metal or non- metallic substances or for slitting them into narrow strips; for the purpose of this schedule, this term includes bread or other food slices equipped with rotary knives or cutting discs.

5 2. Guillotine and Shears

6 (1) Where practicable, a barrier metal guard of adequate strength shall be provided at the front of the knife, fastened to the machine frame and shall be so fixed as would prevent any

part of the operator's body to reach the descending blade from above, below or through the barrier guard or from the sides:

Provided that in case of machines used in the paper printing and allied industries, where a fixed barrier metal guard is not suitable on account of the height and volume of the material being bed, there shall be provided suitable staring devices which require simultaneous action of both the hands of the operator or an automatic device when will remove both the hands of the operator from the danger zone at every descent of the blade.

1 (2) At the back of such machines, an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as would prevent a person at the back from reaching the descending bladed

2 (3) Power-driven guillotine cutters, except continuous feed trimmers, shall be equipped with:

3 (a) starting devices which require the simultaneous action of both hands to start the cutting motion and of at least one hand control during the complete stroke of the knife: or

4 (b) an automatic guard will remove the hands of the operator from the danger zone at every decent of the blade, used in conjunction with one hand starting devices which require two distinct movements of the device to start the cutting motion, and so designed as to return

positively to the non-starting position after each complete cycle of the knife.

(4) Where two or more workers are employed at the same time on the same power driven guillotine cutter equipped with two-hand control, the device shall be so arranged that each worker shall be required to use both hands simultaneously on the safety trip to start the cutting motion, and at least one hand on a control to complete the cut.

(5) Power-driven guillotine cutters, other than continuous trimmer, shall be provided, in addition to the brake or other stopping mechanism, with an emergency device which will prevent the machine from operating in the event of failure of the brake when the starting mechanism is in the non-starting position.

3. Slitting Machine

(1) Circular disc type knives on machines for cutting metal and leather, paper, rubber, textile or other non-metallic substances shall, if within reach of operators standing on the floor of working level, be provided with guards enclosing the knife edges at all times as near as practicable to the surface of the material, and which may either

(a) automatically adjust themselves to the thickness of the material; or

(b) be fixed or manually adjusted so that the space between the bottom of the guard and the material will not exceed 6 mm (1/4inch) at any time.

(2) Portions of blades underneath the tables or benches of slitting machines shall be covered by guards.

4. Index cutters and Vertical Paper Slitters: Index cutter, and other machines for cutting strips from the ends of books, and for similar operations, shall be provided with fixed guards, so arranged the fingers of the operators cannot come between the blades and the tables.

5. Corner Cutters: Corner cutters used in the manufacture of paper boxes, shall be equipped with,

(a) suitable guard, fastened to the machines in front of the knives and provided with slots or perforations to afford visibility of the operations; or
(b) other guards equally efficient for the protection of the fingers of the workers.
6. Band Knives: Band Wheels on band knives, and all portions of the blades except the working side between the sliding guide and the table on vertical machines, or between the wheel guards on horizontal machines, shall be completely enclosed with hinged guards of sheet metal not less than 1 mm (0.04 inch) in think-ness or of other material of equal strength.

SCHEDULE VIII
Thermic fluid Heaters

1 (1) All heaters shall be of such construction that coils are removal for periodic cleaning, visual inspection and hydraulic test.
2 (2) Suitable arrangements shall be made for cooling the furnace effectively in case of power failure.
3 (3) Before restarting the furnace, it shall be effect purged.
4 (4) Velocity or flow of the thermic fluid shall not be allowed to fall below the minimum recommended by the manufactures while the heater is in operation.
5 (5) The thermic fluid shall be circulated in a closed-circuit formation with an expansion–cum-deaerator tank. This tank shall be located outside the shed where the heater is installed.
6 (6) Every heater shall be provided with a photo-resistor actuated auto-visual alarm to indicate flame failure and automatic burner cut.
7 (7) The stack temperature monitor-cum-controller with audio visual alarm shall be provided so as to warn operator in case the outlet temperature exceeds the specific minimum.
8 (8) Where inspection doors are provided on the furnace they shall be interlocked with the burner itself so that they cannot be opened until burner is shut off and furnace is cooled sufficiently.
9 (9) All heaters shall also be provided with the following safety devices:
10 (i) Level control in the expansion tank ;
11 (ii) temperature control of thermic fluid;
12 (iii) differential pressure switch on the outlet line of the heater tubes; and
13 (iv) temperature control device for the fuel oil supply to the burner.
14 (10) All devices specified in paragraph (9) shall have interlocking arrangement with burner so that in case of any predetermined limits being crossed, the supply of fuel and air shall automatically be cut-off.
15 (11) All safety interlock when operated shall be indicated on the control panel of the heater by a suitable audio visual alarm.
16 (12) Every heater unit shall be provided as a standard accessory an arrangement for shifting with low pressure steam or nitrogen for putting out the fire.
17 (13) Electoral panel for the heater shall be located near the heater but not so close as to be exposed to spilling or leaking oil.
18 (14) The heater shall be located in a place partitioned off with fire proof material from other manufacturing activities.
19 (15) Explosion vent shall be installed that release thanks place at safe location.

20 (16) The heater coil shall be subjected to pressure test by competent person once at least in every twelve months. The test pressure shall not be less than twice the operating pressure.
21 (17) If repairs are carried out to the coil, it shall be tested before taking it into use.

1 (18) The thermic fluid shall conform to the specifications specified by the manufacturers and shall be tested by competent person for suitability at least once in every three months' period. Such test shall include test for acidity, suspended matter, ash contents, viscosity and flash point.
2 (19) Cleaning of internal surface of the heater so at check-up of refractory surface on the inside shall be carried out every month or as often as required depending upon working conditions. The coils shall be removed and surface of the coils cleaned thoroughly once at least in a period of six months. The burner, nozzles, oil filters and pumps shall be cleaned once a week during the period of use.
3 (20) A separate register containing the following information shall be maintained:
4 (a) weekly checks carried out confirming the effectiveness of the interlock;
5 (b) weekly checks confirming that all accessories are in good state of repairs; and
6 (c) information regarding fuel, oil temperature, pressure, thermic fluid inlet/outlet pressure and temperature, fuel gas temperature, recorded at four hourly intervals.
7 (21) The heater when in operation shall always be kept in charges of a trained operator."

56. [Employment of Young Persons on dangerous machines
The machines specified in Sections 28, 29 and 30 and the machines mentioned below shall be deemed to be of such dangerous character that young persons shall not work at them unless the provisions of sub-section (1) of Section 23 are complied with:
1 1. Power presses other than hydraulic presses.
2 2. Milling machines used in the metal trades.
3 3. Circular saws.
4 4. Platen printing machines.
5 5. Guillotine machines.
6 6. Decorticator and oil expeller
7 7. Rubber mills.
8 8. Calendering machines.][52]

56-A. [53]Water-sealed Gasholder
1 (1) The expression "Gasholder" means a water-sealed gasholder which has a strange capacity of not less than 141.5 cubic meters (5,000 cft.)
2 (2) Every gasholder shall be of adequate material and strength, sound construction and properly maintained.
3 (3) Where there is more than one gasholder in the factory every gasholder shall be marked in a conspicuous position with a distinguishing number of better.
4 (4) Every gasholder shall be thoroughly examined externally by a competent person at least once in a period of 12 months.

1 (5) In the case of gasholder of which any lift has been in use for more than 10 years, the internal state of the sheeting shall, within one year of the coming into operation of these rules and thereafter at least every period of four years, be examined by a competent person by means of electronic or other accurate devices:

Provided that if the Chief Inspector is satisfied that such electronic or other accurate devices are not available, he may permit the cutting of samples from the crown and the sides of the holder:
Provided further, that if the above inspection raises a doubt, an internal visual examination shall be made.
1 (6) All possible steps shall be repaired or demolished except under the direct supervision of a person who by his training and experience and his knowledge of the necessary precautions against risks of explosion and of persons being overcome by gas is competent to supervise such work.
2 (7) No gasholder shall be repaired or demolished except under the direct supervision of a person who by his training and experience and his knowledge of the necessary precautions against risks of explosion and of persons being overcome by gas is competent to supervise such work.
3 (8)
4 (i) All samples discs cut under sub-rule (5) shall be kept readily available for inspection.
5 (ii) A permanent register duly signed by the occupier and manager shall be maintained in Form No. 33.
6 (iii) The result of examination by a competent person carried out under sub-rules (4) and (5) shall be in Form No. 33-A.
7 (iv) A copy of the report in Form No. 33-A shall be kept in the register in Form No. 33 and both the register and the report shall be readily available for inspection.
8 (9) [Omitted by Punjab Notification No. G.S.G. 74/C.A. 63/48/S-112/Amd. (II)/71, dated the 18.11.1971.]

57.
The following parts of machines will be deemed to be machinery guarded by the markers for the purpose of section 26(1) of the Act:
1 (1) Back gears, change wheels and cog driver of lathes.
2 (2) Back gear and level gearing of drilling machines.
3 (3) Gear wheels and level drives of planning, shaping, slotting and milling machines.
4 (4) All cog and level drives of oil expellers.
5 (5) 54[Beater and spikers of the as hers.
6 (6) Blades and gear and chaff cutters.
7 (7) Nips of rollers of rubber mixing machines.]

58. Register of specially trained adult workers
Registers of workers attending to machinery as provided in sub-section (1) of Section 22 of the Act shall be in Form 7'A'.

59. Belts, etc., to be regularly examined

All belts shall be regularly examined to ensure that the joints are safe and the belts at proper tension.

60.

1 (1) [55][Examination of hoists and lifts: A register shall be maintained to record particulars of examinations of hoists and lifts in Form 23.]

2 (2) Exemption of certain hoists and lifts: In pursuance of the provisions of sub-section (4) of Section 28 of the Act in respect of any class or description of hoists or lift specified in the first column of the Schedule annexed hereto, the requirements of this section as specified in the second column of the said Schedule and set opposite to that class or description of hoists or lift shall not apply:

SCHEDULE

I	II
Class or description Hoists or lift	Requirements which shall not apply
Hoist or lifts mainly used for raising material for charging blast furnaces or lime-kilns	sub-section 1(b) in so far as it requires a gate at the bottom landing sub-section (d), sub-section 1(e)
Hoist not connected with mechanical power and which are not used for carrying persons	Sub-section 1 (b) in so far as it requires the hoist way or lift-way enclosure to be so constructed as to prevent any person or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part, subsection 1(e).

60-A. [Lifting machine, chains, ropes, and lifting tackles

1 (1) No lifting machine and no chain, rope or lifting tackle, except fibre 'rope or a fibre rope sling, shall be taken into use in any factory unless it has been tested and all parts have been thoroughly examined by a competent person and certificate to that effect, specifying the safe working load or loads, has been obtained from that person and is kept available for inspection.

2 (2)

3 (a) Every jib-crane, which is so constructed that the safe working load varies with raising or lowering of the jib, shall have attached thereto either an automatic indicator of safe working loads or an automatic jib angle indicator and a table indicating the safe working loads at the corresponding inclinations of the jib, or corresponding radii of the load.

4 (b) A table showing the safe working loads of every kind and size of chain, rope or lifting tackle in use, and, in the case of a multiple sling, the safe working loads at different angles of the legs, shall be posted in the store-room of

place where, or in which, the chains, ropes or lifting tackles are kept, and in prominent positions, on the premises, and no rope, chain or lifting tackle, not shown in the table, shall be used:

Provided that the foregoing provisions of this paragraph shall not apply in respect of such lifting tackle in the safe working load thereof, or in the case of a multiple sling, the safe working load at different angles of the legs, is plainly marked upon it.

1 (3)

2 (a) the register to be maintained under sub-clause (iii) of the clause (a) of sub-section (1) of Section 29 of the Act shall contain the following particulars:

3 (i) Name of occupier of the factory.

4 (ii) Address of the factory.

5 (iii) Distinguishing number of mark, if any, and description sufficient to identify the lifting machine, chain, rope, or the lifting tackle.

6 (iv) Date when the lifting machine, chain, rope, or lifting tackle was first taken into use in the factory.

7 (v) Date and number of the certificate relating to any test and examination made under sub-rules (1) and (7) together with the name and address of the person who issued the certificate.

8 (vi) Date of each periodical thorough examination made under-clause (iii) of clause (a) of sub- section (1) of Section 29 of the Act and sub-rule (6) any by whim it was carried out.

9 (vii) Date of annealing or other heat treatment of the chain and other lifting tackle made under sub-rule (5) and by whom it was carried out.

10 (viii) Particulars of any defects affecting the safe working load found at any such thorough examination or after annealing and at the step taken to remedy such defects.

11 (b) The register shall be kept readily available for inspection.

12 (4) All rails on which a travelling crane moves and every track on which the carriage of a transporter or runway moves shall be of proper size and adequate strength and have an even running surface and every such rail or track shall be properly laid, adequately supported and properly maintained.

13 (5) All chains and lifting tackle except a rope sling shall, unless they have been subjected to such other heat treatment as may be approved by Chief Inspector of Factories, be effectively annealed under the supervision of a competent person at the following intervals:

14 (i) All chains, slings, rings, hooks, shackles and swivels used in connection with molten metal or molten slag or when they are made of half inch bar or smaller once at least in every six months.

15 (ii) All other chains, rings, hooks, shackles and swivels in general use once at least in every twelve months:

Provided that chains and lifting tackle not in frequent use shall, subject to the Chief Inspector's approval be annealed only when necessary. Particulars of such annealing shall be entered in a register prescribed under sub-rule (3).

1 (6) Nothing in the foregoing sub-rule (5) shall apply to the following classes of chains and lifting tackles:

2 (i) Chains made of malleable cast iron.
3 (ii) Plate link chains.
4 (iii) Chains, rings, hooks, shackles and swivels made of steel or of any non-ferrous metal.
5 (iv) Pitched chains, working on sprocket or pocketed wheels.
6 (v) Rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks or weighing machines.
7 (vi) Hooks and swivels having screw threaded parts or ball bearing or other case hardened parts.
8 (vii) Socket shackles secured to wire ropes by white metal capping.
9 (viii) Bordeaux connections.

Such chains and lifting tackle shall be thoroughly examined by a competent person once at least in every twelve months, and particulars entered in the register kept in accordance with sub-rule (3).
1 (7) Every lifting machine, chain, rope and lifting tackle, except a fibre rope, or fibre rope sling, which has been lengthened, altered or repaired by welding or otherwise shall before being again taken into use, be adequately re-tested and re-examined by a competent person and a certificate of such test and examination be obtained and particulars entered in the register kept in accordance with sub-rule (3).
2 (8) No person under eighteen years of age and no person who is not sufficiently competent and reliable shall be employed as driver of a lifting machine, whether driven by mechanical power or otherwise, or to give signals to a driver.

60-B. 56[Passageways for cranes
1 (1) To provide access to rail track of overhead travelling cranes suitable passageways of at least fifty centimetre (twenty inches) width with the board and double hand rails ninety centimetre (three feet) high shall be provided alongside, and clear of, the rail track of over-head travelling cranes, such that no moving part of the crane can strike persons on the ways, and the passageway shall be at a lower level than the crane track itself. Safe access ladders shall be provided at suitable intervals to afford access to these passageways, and form passageways to the rail tracks.]
2 (2) [The State Government may for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane form the operation of any, provision of sub-rule (1) subject to such conditions as it may specify.]57

1 (3) The State Government may for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane form the operation of any, provision of sub-rule (1) subject to such conditions as it may specify.

61. 58[Pressure plant
1 (1) Every plant or machinery other than the working cylinders of prime movers used in a factory and operated at a pressure greater than atmospheric pressure shall be:
2 (a) of good construction, sound material, adequate strength and free from any patent defect;
3 (b) properly maintained in a safe condition;
4 (c) Fitted with:
5 (i) a suitable safety valve or other effective device to ensure the maximum permissible working pressure of the vessel shall not be exceeded;
6 (ii) a suitable pressure gauge easily visible and designed to show, at all time, the correct internal pressure in kilogram per square centimetre and marked with a prominent red mark at the safe working pressure of the vessel;
7 (iii) a suitable stop valve or valves by which the vessel may be isolated from other vessels or source of supply of pressure; and

8 (iv) a suitable drain cock or valve at the lowest part of the vessel for the discharge of connected liquid;
9 (d) thoroughly examined by a competent person:
10 (i) externally, once in every period of six months, to ensure general condition of the vessel and the working of its fitting;
11 (ii) internally, once in every period of twelve months, to ensure condition of the walls, seams and ties both inside and outside of the vessel, soundless of the part of the vessel and the effects of corrosion. If by reason of construction of the vessel thorough internal examination is not possible this examination may be replaced by a hydraulic test which shall be carried out once in every two years; provided that for the vessels in continuous processes which cannot be frequently opened, the period of internal examination may be extended to four years; and
12 (iii) hydraulically tested at intervals of not more than four years; provided that in respect of pressure vessels with thin walls such as sizing cylinders made of copper or any other non- ferrous metal periodic hydraulic test may be dispensed with in the condition that the requirements laid down in clause (2) are fulfilled:

Provided further that it shall be sufficient for the purposes of clause (c) in the safety valve, pressure gauge and stop valve mounted on a pipeline immediately adjacent to the vessel and where there is a range

of two or more similar vessels in a place served by the same pressure load only one set of such mountings need be fitted provided they cannot be isolated.
1 (2)
2 (a) In respect of pressure vessels of thin walls such as sizing cylinders made of copper or any other non-ferrous metals, the safe working pressure shall be reduced at the rate of 5 per cent of the original working pressure for every year of its use after the first five years and no such cylinder shall be continued to be used for more than twenty years after it was first taken into use.
3 (b) If no information as to the date of construction thickness of walls and safe working pressure is available, the age of the sizing cylinder shall be determined by the competent person in consultation with the Chief Inspector form any other particulars available with the manager.
4 (c) Every new and second-hand cylinder of thin walls to which repairs, which may affect its working its safety have been carried out shall be tested before use to at least one and a half times its working pressure.
5 (3) Every vessel other than a part of a prime mover operated at a pressure greater than atmospheric pressure, and not so constructed as to withstand with safety the maximum permissible working pressure at the source of supply or the maximum pressure which can be obtained in the pipe connecting the vessel with any other source of supply fitted with a suitable reducing valve or other suitable automatic device to prevent the safe working pressure of the vessel being exceeded.
6 (4) In the cases where owing to the nature of the process or the action of the contents of the vessels, a pressure gauge or safety valve or both cannot work reliably a tested and reliable working thermometer with a sufficiently large scale, on which shall be clearly marked the maximum permissible temperature in the vessels or hygrometers or rupture disc in addition to the pressure gauge and safety valve, may be fitted as, may be directed by the Chief Inspector.
7 (5) If during through examination a doubt arises as to ability of vessel to work safety until the next examination provided for these rules when the competent person shall enter in the register prescribed a reasoned statement, to authorise the vessel for further work subject to a lowering of pressure or to more frequent inspection or subject to both of these requirements.
8 (6) No vessel which has undergone alteration or repairs shall be taken into use unless it is thoroughly examined by a competent person.
9 (7) A report of the result of every examination made shall be completed in Form No. 8 and signed by the person making the examination, and shall be kept available for perusal by the Inspector at any time while the vessel is in service.
10 (8) No vessel which has previously been used shall be taken into use in any factory for the first time until it has been examined and reported in accordance with the foregoing sub-rules and no new vessel shall be taken into use unless there has been obtained from the maker of the vessel, or from a competent person, a

1 certificate specifying the maximum permissible working pressure thereof, and stating the nature of the tests to which the vessel and its fitting (if any) has been subjected, and the certificate is kept available for perusal by an Inspector, and the vessel is so marked as to enable it to be identified as the vessel to which the certificate relates.
2 (9) Where the report of any examination under this rule specifies conditions for securing the safe working of a vessel, the vessel shall not be used except in accordance with these conditions.
3 (10) The competent person making the report of any examination under this rule shall within seven days of the completion of the examination, send to the Inspector a copy of the report in every case where the maximum permissible working pressure is reduced, or the report in every case where the maximum permissible working pressure is reduced, or the examination shows that the vessel cannot continue to be used with safety unless certain repairs are carried out immediately or within a specified time.
4 (11) The requirements of this rule shall be in addition to and not in derogation of the requirements of any other Act, rules or regulations.
5 (12) Nothing in this rule shall apply to:
6 (a) any vessel which comes within the scope of the Indian Boilers Act.
7 (b) metal bottles of cylinder used for the storage or transport of compressed gases or liquefied or dissolved gases under pressure.
8 (13) If the Chief Inspector of factories has reason to believe that the construction or use of pressure vessels is such that inspection is not necessary or practicable he may, subject to such conditions, if any, exempt such pressure vessels from any or all of the provisions of this rule.

Explanation: Competent person for the purpose of Sections 28 and 29 of the Act and rules 60, 61 and 67-A shall mean a person who is a degree holder or a diploma-holder in Mechanical Engineering of recognised university or institution and has at least two years practical experience in examining testing and safe working of hoists and lifts, lifting machines and pressure vessels, and belts.

62. Excessive weights

1 (1) No woman or young person shall unaided by another person, lift, carry or move by hand or on head, any material, article, tool or appliance exceeding the maximum limit in weight set out in Schedule annexed hereto.

SCHEDULE

Persons	Maximum weight or material article tool or appliance
(a) Adult female	29 Kilogram
(aa) Adult male	55 Kilogram
(b) Adolescent male	29 Kilogram
(c) Adolescent Female	20 Kilogram
(d) Male child	16 Kilogram
(e) Female child	13.5 Kilogram

1 (2) No woman or young person shall engage, in conjunction with others, in lifting carrying or moving by hand or on head, any material, article tool for appliance, if the weight thereof exceeds the lowest weight fixed by the Schedule to sub-rule (1) for any of the persons engaged, multiplied by the number of the persons engaged.

63. Protection of eyes

Effective screens or suitable goggles shall be provided for the protection of persons employed in or in the immediate vicinity of the following processes:

(a) The processes specified in Schedule 1 annexed hereto, being processes which involve risk of injury to the eyes from particles of fragments thrown off in the course of the process.

(b) The processes specified in Schedule II annexed hereto, being processes which involve risk of injury to the eyes by reason of exposure to excessive light (or infra-red or ultra-violet radiations.]

SCHEDULE I

Added by Punjab Government Notification No. G.S.R. 94/C.A.63/48/S/ 112/Amd. (20)/84, dated 31st October, 1984.

1 (1) [The breaking cutting dressing or carving of bricks, stone, concrete, slag or similar material by means of a hammer, a chisel, pick or similar hand tool, or by means of a portable tool driven by mechanical power and the dry grinding of surface of any such materials by means of a wheel or disc driven by mechanical power, where in any of the foregoing cases particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

2 (2) The dry grinding of surface of metal by applying them by hand to a wheel, disc or hand driven by means of a portable tool driven by mechanical power.

3 (3) The dividing into separate parts of metal, bricks, stone concrete or similar material by means of a high-speed saw driven by mechanical power or by means of an abrasive cutting off wheel or disc driven by mechanical power.
4 (4) The turning of metal, or articles of metals where particles of fragments are liable to be thrown off towards the face of the operator in the course of the process.
5 (5) Drilling by means of portable tools, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.
6 (6) The welding and cutting of metal by means of an electricity oxy-acetylene of similar process.
7 (7) The hot fettling of steel castings by means of a flux injected burner or air torch, and the deeming of metal.
8 (8) The fettling of metal casting involving the removal of metal, including runners, gates and risers and the removal of any other material during the course of such fettling.

1 (9) The chipping of metal, and the chipping, knocking out, cutting our or cutting off of cold rivets bolts, nuts lugs, pins, collars or similar articles from any structure or plant or from part of any structure or plant by means of a hammer chisel, punch, or similar hand tools, or by means of a portable tool driver by mechanical power.
2 (10) The chipping, or scuffing of paint, scale, slag, rust or other corrosion from the surface of metal and other hand materials by means of a hand tools, or by means of a portable tool driver by mechanical power.
3 (11) The breaking of scrap metal by means of a hammer or by means of a tool driven by mechanical power.
4 (12) The routing of metal, where particles of fragments are liable to be thrown off towards the face of the operator in the course of the process.
5 (13) Work with drop hammers and power hammers used in either case for the manufacture of forgings, and work by any person not working with such hammers whose work is carried on in such circumstances and in such a position that particles or fragments are liable to be thrown off towards his face during work by drop hammers or power hammers.
6 (14) Work at a furnace where there is a risk to the eyes from molten.
7 (15) Pouring or skimming of molten metal.
8 (16) Work involving risk to the eyes from hot sand being thrown off.
9 (17) Turning or dressing of an abrasive wheel.
10 (18) The handling in open vessel or manipulation of strong acids or dangerous corrosive liquids or materials and the operation, maintenance or dismantling of plant or any part of plant being plant or a part of plant which contains or has contained such acids, liquids or materials unless the plant or part of plant has been so prepared by isolation, reduction of pressure or otherwise, treated or designed or constructed so as to prevent risk or injury.
11 (19) Any other process wherein there is risk or injury to eyes from particles or fragments thrown off during the course of the process.]

SCHEDULE II
1 (1) Welding or cutting of metals by means of an electrical oxyacetylene or similar process.

2 (2) All work on furnaces where there is risk of exposure to excessive light or infrared radiations.
3 (3) Process such as rolling casting or forging of metals where there is risk of exposure to excessive light or infra-red radiations.
4 (4) Any other process wherein there is a risk of injury to eyes from exposure to excessive light or infrared ultraviolet radiations.

64. Minimum dimensions of manholes
Every chamber, tank, vat, pipe, flue or other confined space which persons may have to enter and which may contain dangerous fumes to such an extent as to involve risk of the

persons being overcome thereby shall unless there is other effective means of egress, be provided with a manhole which may be rectangular, oval or circular in shape, and which shall:
(a) in the case of rectangular or oval shape, be not less than 40-centimeter-long and 30 centimetre wide;
(b) in the case of a circular shape, be not less than 40 centimeter in diameter.

65. Exemption
The requirements of sub-section (4) of section 37 of the Act shall not apply to the following processes carried on in any factory:
(a) The operation of repairing a water-sealed gas-holder by the electric welding process, subject to the following conditions:
(i) The gas-holder shall contain only the following gases, separately or mixed at a pressure greater than atmospheric pressure, namely, town gas, coke-oven gas, producer gas, blast furnace gas, or gases other than air used in their manufacture:

Provided that this exemption shall not apply to any gas-holder containing acetylene or mixture of gases to which acetylene has been added intentionally;
i (ii) Welding shall only be done by the electric welding processes and shall be carried out by experienced operatives under the constant supervision of a competent person.
ii (b) The operations of cutting or welding steel or wrought iron gas mains and services by the application of heat subject to the following conditions:
iii (i) the main or service shall be situated in the open air, and it shall contain only the following gases, separately or mixed at a pressure greater than atmospheric pressure, namely gas, coke oven gas, producer gas, blast furnace gas, or gases other than air used in their manufacture.
iv (ii) the main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been added intentionally;
v (iii) the operation shall be carried out by an experienced person or persons and at least 2 persons (including those carrying out the operations) experienced in work on gas mains and over 18 years of age shall be present during the operations;
vi (iv) the site of the operation shall be free from any inflammable or explosive gas or vapour;

vii (v) where acetylene gas is used as source of heat in connection with an operation, it shall be compressed and contained in a porous substance in a cylinder; and
viii (vi) prior to the application of any flame to the gas main or service this shall be pierced or drilled and the escaping gas ignited.

(c) The operation of repairing on oil tank on any ship by the electric welding process shall be subject to the following conditions:
(i) the only oil contained in the tank shall have a flash point of not less than 150 degrees F (close test) and a certificate to this effect shall be obtained from a competent analyst;
(ii) the analyst's certificate shall be kept available for inspection by Inspector or by any person employed or working on the ship;
(iii) the welding operation shall be carried out only on the exterior surface of the tank at a place (a) which is free of oil leakage in inflammable quantities and (b) which is not less than one foot below the nearest part of the surface of the oil within the tank; and
(iv) welding shall be done only by the electric welding and shall be carried out by experienced operatives under the constant supervision of a competent person.

66. 59[Fire protection
1 (1) Processes, equipment, plants, etc., involving serious explosion and serious fire hazards:
2 (a) All processes, storages, equipment, plants etc. involving serious explosion and flash fire hazards shall be located in segregated buildings where the equipment shall be so arranged that only a minimum number of employees are exposed to such hazards at any one time.
3 (b) All industrial processes involving serious fire hazards shall be located in buildings or work places separated from one another by walls of fire resistant construction.
4 (c) Equipment and plant involving serious fire of flash fire hazards shall, wherever possible be so constructed and installed that in case of fire, they can be easily isolated.
5 (d) Ventilation ducts, pneumatic conveyers and similar equipment involving a serious fire risk shall be provided with flame-arresting or automatic fire extinguishing appliance or fire resisting damps, electrically interlocked with heat sensitive or smoke detectors and the air conditioning plant system.
6 (e) In all work places having serious fire or flash fire hazards, passages between machines, installations or piles of material should be at least ninety centimetres wide and for storage piles, the clearance between the ceiling and the top of the pile should not be less than two metres.
7 (2) Access for fire fighting
8 (a) Building and plants shall be so laid and roads, passage-ways etc. so maintained as to permit unobstructed access for fire fighting.
9 (b) Doors and windows opening shall be located in a suitable position on all external walls of the building to provide easy access to the entire area within the building for the fighting.

1 (3) Protection against lighting: Protection from lighting shall be provided for,

2 (a) buildings in which explosive or highly flammable substances are manufactured, used, handled or stored;
3 (b) storage tanks containing oils, paints or other flammable liquid;
4 (c) grain elevators;
5 (d) buildings, tall chimneys or stacks where flammable gases, fumes dust or lint are likely to be present; and
6 (e) sub-station buildings and outdoor transformers and switch-yards.
7 (4) Precautions against ignition: Whenever there is danger of fire of explosion from accumulation of flammable or explosive substances in air,
8 (a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition:
9 (b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
10 (c) workers shall wear shoes without iron or steel nails to cause sparks by friction;
11 (d) smoking lighting or carrying of matches, lighters, or smoking materials shall be prohibited.
12 (e) Transmission belts with iron fasteners shall not be used; and
13 (f) All other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physico-chemical reaction and radiant heat.
14 (5) Spontaneous ignition: Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The materials susceptible to spontaneous ignition shall be stored in dry condition and shall be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and store in the open shall be at a distance not less than ten metres away from process of storage building.
15 (6) Cylinders containing compressed gas: Cylinders containing compressed gas may only be stored in open, if they are protected against excessive variation of temperature direct rays of sun or continuous dampness. Such cylinders shall never be stored near highly flammable substance furnaces, or hot processes. The room where such cylinders are stored shall have adequate ventilation.
16 (7) Storage of flammable liquids
17 (a) the quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room. Flammable liquids shall be stored in suitable containers with close fitting cover:

Provided that not more than twenty litres of flammable liquids having a flash point of 2000 C or less shall be kept or stored in any work room.
(b) Flammable liquids shall be stored in closed containers and in limited quantities in well ventilated rooms of fire resisting construction which are isolated from the remainder of the building by fire walls and self-closing fire doors.

(c) Large quantities of such liquids shall be stored in an isolated and adequately ventilated building of fire resisting construction or in storage tanks preferably underground and at distance from any building as required in Petroleum Rule, 1976.
(d) Effective steps shall be taken to prevent leakage of such liquids into basements, sumps or drains and to confine any escaping liquid within safe limits.
(8) Accumulation of flammable dust, gas, fume or vapour in air of flammable waste material on the floors:
(a) Effective steps shall be taken for removal or prevention of the accumulation in the air of flammable dust gas, fume or vapour to an extent which is likely to be dangerous.
(b) No waste material of a flammable nature shall be permitted to accumulate on the floors and shall be removed at least once in a day or shift and more often, when possible. Such materials shall be placed in suitable metal containers with covers wherever possible.
(9) Fire exits
(a) In this rule:
(i) "horizontal" means an arrangement which allows alternative egress from a floor area to another floor at or near the same level in an adjoining building or an adjoining part of the same building with adequate separation; and
(ii) "travel distance" means the distance an occupant has to travel to reach an exist.
(b) An exit may be a doorway, corridor, passageway to an external stairway or to a verandah or to an internal stairway segregated from the rest of building by fire resisting walls which shall provide continuous and protected means of egress to the exterior of a building or to an exterior open space. An exit may also include a horizontal exist leading to an adjoining building at the same level.
(c) Lifts, escalator and revolving doors shall not be considered as exits for the purpose of this sub-rule.
(d) In every room of a factory exist sufficient to permit safe escape of the occupants in case of fire or other emergency shall be provided which shall be free of any obstruction.

(e) The exits shall be clearly visible and suitable illuminate with suitable arrangements irrespective of the fact that whatever artificial lighting is to be adopted for this purpose, to maintain the required illumination in case of failure of the normal source of electric supply.
(f) The exist shall be marked in language understood by the majority of the workers.
(g) Iron rung ladders or spiral staircases shall not be used as exit staircases.
(h) Fire resisting doors or roller shutter shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stars where funnel or flue effect may be created inducing an upward spread of fire.
(i) All exists shall provide continuous means of agrees to the exterior of a building or to an exterior open space leading to a street.
(j) Exits shall be so located that the travel distance to reach at least one of them on the floor shall not exceed thirty metres.
(k) In of those factories where high hazard materials are stored or used, the travel distance to the exit shall not exceed twenty-two-and-half metres and there shall be at least two ways of escape from every room, however small except toilet rooms, so located that the points of access thereto, are out of, or suitably shielded from areas of high hazard.

(l) Wherever more than one exit is required for any room, space of floor exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate direction from any point in the area served.
(m) The unit of exit width used to measure capacity of any exit shall be fifty centimetres. A clear width of twenty-five centimetres shall be counted as an additional half unit. Clear width of less than twenty-five centimetres shall not be counted for exit width.
(n) Occupants per unit width shall be fifty for stairs and seventy-five for doors.
(o) For determining the exits required, the occupant load shall be reckoned on the basis of actual number of occupants within any floor area of ten square metres per person, whichever is more.
(p) There shall not be less than two exits serving every floor area above and below the ground floor, and at least one of them shall be an internal enclosed stairway.
(q) For every building of structure used for storage only, and every section thereof considered separately, shall have access to at least one exit so arranged and located as to provide suitable means of escape for any person employed therein, and in any such room wherein ten persons may be normally present, at least two separate means of exit shall be available as remote from each other as practicable.

(r) Every storage area shall have access to at least one means of exit which can be readily opened.
(s) Every exit doorway shall open into an enclosed stairway, a horizontal exit on a corridor or passageway providing continuous and protected means of egress.
(t) No exit doorway shall be less than one hundred centimetres width. Doorways shall not be less than two hundred centimetres in height.
(u) Exit doorways shall open outwards, that is, away from the room but shall not obstruct the travel along any exit. No door when opened, shall reduce the required width of stairway of landing to less than ninety centimetres. Overhead or sliding doors shall not be installed for this purpose.
(v) An exit door shall not open immediately upon a flight of stair. A landing at least 1.5 metre x 1.5 metre in size shall be provided in the stairway at each doorway.
(w) The exit doorways shall be openable from the side which they serve without the use of a key.
(x) Exit corridors and passageways, shall be of a width not less than the aggregate required width of exit doorways leading from there in the direction of travel to the exterior.
(y) Where stairways discharge through corridors and passageways, the height of the corridors and passageways shall not be less than 2.4 metres.
(z) A staircase shall not be arranged round a lift shaft unless the latter is totally enclosed by a material having a fire-resistance rating not lower than that of the type of construction of the former.
(aa) Hollow combustible construction shall not be permitted.
(bb) The minimum width of an internal staircase shall be one hundred centimetres.
(cc) The minimum width of treads without nosing shall be twenty-five centimetres for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping.

(dd) The maximum height of a riser shall be nineteen centimetres and the number of risers shall be limited to twelve per flight.
(ee) Hand rails shall be provided with a minimum height of one hundred centimetres and shall be firmly supported.
(ff) The use of spiral staircase shall be limited to low occupant load and to a building of height of nine metres, unless they are connected to platforms such as balconies and terraces to allow escapees to pause. A spiral staircase shall be not less three hundred centimetres in diameter and have adequate head room.
(gg) The width of a horizontal exit shall be the same for the exit doorways.

(hh) The floor area on the opposite of refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor areas served, allowing not less than 0.3 square metre per person. The refuge area shall be provided with exits adequate to meet the requirements of this sub-rule. At least one of the exits shall lead directly to the exterior or street.
(ii) Where there is different in level between connected areas for horizontal exit, ramps not more than one in eight slope shall be provided. For this purpose steps shall not be used.
(jj) Doors in horizontal exits shall be open able at all times.
(kk) Ramps with a slope of not more than one in ten may be substituted for the requirements of staircase. For all slopes exceeding in ten and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with non-slipping material.
(ll) In any building not provided with automatic fire alarm, a manual fire alarm system shall be provided if the total capacity of the building is over five hundred persons, or if more than twenty- five persons are employed above or below the ground floor, except that no manual fire alarm shall be required in one storey buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.
(10) First-aid fire fighting arrangements
(a) In every factory there shall be provided and maintained adequate and suitable fire fighting equipment for fighting fires in the early stages, those being referred to as first-aid fire fighting equipment in this rule.
(b) The types of first aid fire fighting equipment to be provided shall be determined by considering the different types of fire risks which are classified as follows.
(1) "Class A fire" - Fire due to combustible materials such as wood textiles, paper, rubbish and the like;
(i) "light hazard" - Occupancies like offices, assembly halls, canteens rest-rooms, ambulance room and the like;
(ii) "ordinary hazard"- Occupancies like saw mills, carpentry shop, small timber yards, book binding shops, engineering workshop and the like;
(iii) "extra hazard"- Occupancies like large timber yards, go downs, storing, fibrous materials, flour mills, cotton mills, jute mills, large wood working factories and the like;
(2) "Class B fire"- Fire in flammable liquids like oil petroleum products, solvents, grease, paint etc.;
(3) "Class C fire"- Fire arising out of gaseous substances;
(4) "Class D fire"- Fire from reactive chemicals, active metals and the like;

1 (5) "Class F fire"- Fire involving electrical equipment and delicate machinery and the like.
2 (c) The number and types of first-aid fire fighting equipment to be provided for `light hazard' occupancy shall be as given in Schedule 1 to this rule. For `ordinary hazard' or `extra hazard' occupancies, as the case may be, equipment as given in paragraph 12 shall be provided, in addition to that given in Schedule 1 to this rule.
3 (d) The first aid fire fighting equipment shall conform to the relevant Indian Standards.
4 (e) As far as possible the first-aid fire fighting equipment shall be similar in shape and appearance and shall have the same method of operation.
5 (f) All first-aid fire fighting equipment shall be placed in a conspicuous position and shall be readily and easily accessible for immediate use. Generally, these equipment shall be placed as near as possible to the exits or stair landing or normal routes of escape.
6 (g) All water buckets and bucket pump type extinguisher shall be filled with clean water. All sand buckets shall be filled with clean, dry and fine sand.
7 (h) All other extinguishers shall be charged appropriately in accordance with the instructions of the manufacturer.
8 (i) Each first-aid fire fighting equipment shall be allotted a serial number by which it shall be referred to in the records. The following details shall be pointed with white paint on the body of each equipment:
9 (1) Serial number;
10 (2) Date of last refilling; and
11 (3) Date of last inspection.
12 (j) First-aid fire fighting equipment shall be placed on platforms or in cabinets in such a way that their bottom is seven hundred and fifty millimetres above the floor level. Fire buckets shall be placed on hooks attached to a suitable sand or wall in such a way that their bottom is seven hundred and fifty metres above the floor level. Such equipment if placed outside the building, shall be under sheds or covers.
13 (k) All extinguishers shall be thoroughly cleaned and re-charged immediately after discharge. Sufficient refill material shall be kept readily available for this purpose at all times.
14 (l) All first-aid fire fighting equipment shall be subjected to routine maintenance inspection, and testing to be carried out by properly trained persons. Periodicity of the routine maintenance, inspection and test shall conform to the relevant Indian Standards.
15 (11) Other fire fighting arrangements
16 (a) In every factory, adequate provision of water supply for fire fighting shall be made and where the amount of water required in litres per minute, as

calculated from the formula A+B+C+D divided by 20, is 550, or more power driven trailer pumps of adequate capacity to meet the requirements of water as calculated above shall be provided and maintained. In the above formula

A - the total area in square metres of all floors including galleries in all building of the factory;
B - the total area in square metres of all floors and galleries including open spaces in which combustible materials are handled or stores;
C - the total area in square metres of all floors over fifteen metres above ground level; and

D - the total area in square metres of all floors of all buildings other than those of fire resisting construction.
Provided that in areas where the fire risk involved does not required use of water, such areas under B, C or D may, for the purpose of calculation be halved:
Provided further that where the areas under B, C or D are protected by permanent automatic fire fighting installation approved by any fire association or fire insurance company, such areas may, for the purpose of calculation by halved;
Provided further that where the factory is situated at not more than three kilometres from an established city or town fire services, the pumping capacity based on the amount of water arrived at by the formula above, may be reduced by twenty-five per cent but no account shall be taken of this reduction in calculating water supply required under this clause.
(b) Each trailer pump shall be provided with equipment as per schedule II appended to this rule. Such equipment shall conform to the relevant Indian Standards.
(c) Trailers pumps shall be housed in a separate shed or sheds which shall be sited close to a principal source of water supplies in the vicinity of the main risks of the factory.
(d) In factories where the area is such as cannot be reached by man hauling of trailer pumps within reasonable time, vehicles with towing, attachment shall be provided at the scale of one for every four trailer pumps with a minimum of one such vehicle kept available at all times.
(e) Water supply shall be provided to give flow of water as required under clause (a) for at least one hundred minutes. At least fifty per cent of this water supply or four lac and fifty thousand litres whichever is less, shall be in the form of static tanks of adequate capacities (not less than four lac and fifty thousand litres each) distributed round the factory with due regard to the potential fire risks in the factory. Where pipes supply is provided, the size of the main shall not be less than fifteen hundred litres per minutes at a pressure of not less than seven kilograms per square centimetre.

1 (12) Personnel in charge of equipment and for fire fighting, fire drills, etc.,
2 (a) The first-aid and other fire fighting equipment to be provided as required in sub-rules (10) and (11) shall be in the charge of a trained responsible person.
3 (b) Sufficient number of persons shall be trained in the proper handling of fire fighting equipment as referred to in clause (a) and their use against the types of fire for which they are intended to ensure that adequate number of persons are available for fire fighting both the means of first-aid fire fighting equipment and by other means. Such persons shall be provided with clothing and equipment including helmets, belts and boots, preferably gum-boots. Wherever vehicles with towing attachment are to be provided as required in clause (d) of sub-rule (11), sufficient number of persons shall be trained in driving these vehicles to ensure that trained persons are available for driving them whenever the need arises.
4 (c) Fire fighting drills shall be held as often as necessary and at least once in every period of two months.
5 (13) Automatic sprinkles and fire hydrants shall be in addition and not in substitution of the requirements of sub-rules (10) and (11).
6 (14) If the Chief Inspector is satisfied in respect of any factory or any part of the factory that owing to the exceptional circumstances such as inadequacy of water supply or infrequency of the manufacturing process or for any other reason, to be recorded in writing, all or any of the

requirements of the rules are impracticable or not necessary for the protection of workers, he may be order in writing (which he may at his discretion revoke) exempt such factory or part of the factory from all or any of the provisions of the rules subject to the conditions as he may by such order impose.

SCHEDULE I

FIRST-AID FIRE FIGHTING EQUIPMENTS

1 (1) The different types of fires and fire fighting equipments suitable for use on them as under:

Class of fire		Suitable type of equipment
1		2
A.	Fires in ordinary combustible (wood, vegetable fibres, paper & like)	Chemical extinguishers of soda-acid, gas expelled water and anti-freeze types and water buckets
B.	Fires inflammable liquids, paints, grease, solvents and like	Chemical extinguishers of foam, carbon-dioxide and dry powder types sand buckets
C.	Fires in gaseous substances under pressure	Chemical extinguishers of carbon-dioxide and dry powder types
D.	Fires in reactive chemicals, active metals and like	Special type of dry powder extinguishers and sand buckets
E.	Fires in electric equipments	Chemical extinguishers of carbon-dioxide and dry powder types sand buckets

1 (2) One nine litres water bucket shall be provided for every one hundred square metre of the floor area or part therefore and one nine litres water type extinguisher shall be provided to six buckets or part thereof with a minimum of one extinguisher and two buckets per compartment of the buildings. Buckets may be dispensed with provided supply of extinguishers is double than that of the indicated above.

2 (3) Acceptable replacements for water buckets and water type extinguishers in occupancies where class B fires are anticipated, are an under:

Acceptable Replacements	Bucket of water	Water type extinguishers

For one bucket	For three buckets		For each nine litres (or tow gallons) extinguishers
Dry sand	One bucket		Three bucket
carbon dioxide extinguishers	Three kilogram (or seven pounds)	Nine kilograms or twenty pounds (in not less than two extinguishers)	Nine kilogram (or twenty pounds)
Dry powder	Two kilogram (or five pounds)	Five kilogram (or eleven pounds) In one or more extinguishers)	Five kilogram (or eleven pounds)
Foam extinguishers	Nine litres (or two gallons)	Nine litres (or two gallons)	Nine litres (or two gallons)

1 (4) The following provisions shall be complied with where class E fires are anticipated:
2 (a) For rooms containing electrical transformers: switch-gears, motors and/or other electrical apparatus only, not less than two kilograms try power or carbon dioxide type extinguishers shall be provided within fifteen metres of the apparatus.
3 (b) Where motors and/ or other electrical equipments are installed in rooms other than those containing such equipment only one five-kilogram dry powder or carbon dioxide extinguisher shall be installed within fifteen metres of such equipment in addition to the requirements mentioned in paras (3) and (4) above. For this purpose, the same extinguisher may be deemed to afford protection to all apparatus within fifteen metres thereof.
4 (c) Where electrical motors are installed one platforms, one, two kilograms dry powder or carbon dioxide type extinguisher shall be provided on or below each platform. In cash of a long platform with a number of motors, one

extinguisher shall be acceptable as adequate for every three motors, on the common platform. The above requirements shall be in addition to the requirements mentioned in paras (3) and (4) above.
(5) The first-aid firefighting equipment shall be so distributed over the entire floor area that a person has to travel not more than fifteen metres to reach the nearest equipment.
(6) Selection of sites for the installation of first aid fire fighting equipments:
(a) While selecting sites for first aid firefighting equipment due consideration to be covered. The equipments shall be placed in conspicuous positions and shall be readily accessible for immediate use in all parts of the occupancy, it should always be borne in mind while selecting sites that first aid fire fighting equipment are intended only for use on incipient fire and their values may be negligible if the fire is not extinguished or brought under control in the early stages.

(b) Buckets and extinguishers shall be placed at convenient and easily locations either on hangers or on stands in such a way that their bottom is seven hundred and fifty millimeters above ad floor level.
(7) The operating instructions of the extinguishers shall not be defaced of obliterated. In case the operation instructions are obliterated or have become illegible due to passage of time, fresh transfers of the same shall be obtained from the manufacturers of the equipment sand affixed to the extinguishers.

SCHEDULE II
EQUIPMENT TO BE PROVIDED WITH TRAILER PUMP
(A) For light trailer pump of a capacity of six hundred and eighty litres per minute

One Armoured suction hose of nine metres length, with wrenches.
Two Metal suction strainers.
One Basket strainer.
One Two-way suction collecting-head.
One suction adaptor
Ten Unlined or rubber lined seventy milimetres delivery house of twenty-five metres length complete with quick-release couplings.
One Dividing breaching – piece
Two Branch-pieces with fifteen milimetres nozzles
One diffuser nozzle.
One standpipe with blank cap.
One Hydrant key
Four Collapsible canvas buckets.
One fire hook (preventor) with cutting edge.

One Twenty-five millimetre manila rope of Thirty metres length.
One Extension ladder of nine metres length (Where necessary)
One Heavy axe.
One spade,
One Pick axe
One Crowbar
One Saw

One Hurricane lamp
One Electric torch.
One pair rubber gloves.

(B) For large trailer pump of a capacity of one thousand and eight hundred litres/minute

One Armoured suction hose of nine metres length, with wrenches.
One metal strainer.
One basket strainer.
One three-way suction collection head.
One suction adapter.
Fourteen unlined or rubber lined seventy Millimetres delivery hoses of twenty-five Metres length complete with quick-release couplings
One dividing breaching piece.
One collecting breaching piece
Four branch pipes with one twenty-five Millimetre, two twenty millimetre and one Diffuser nozzle.
Two standpipes with blank caps.
Two hydrant keys.
Six collapsible canvas buckets.
One ceiling hook (preventer) with cutting edge.
One fifty millimetre manilla rope of thirty metres length.
One extension ladder of nine metres length (Where necessary)
One heavy axe.
One spade,
One pick axe.
One crowbar,

One saw
One hurricane lamp
One electric torch

One pair rubber gives.

Note: If, it appears to the Chief Inspector of Factories that in any factory the provisions of breathing apparatus are necessary, he may, by order in writing require the occupier to provide suitable breathing apparatus in addition to the equipment for light trailer pump or large trailer pump as the case may be"

66-A. [60][Building and Structures

No building wall, chimney, bridge, tunnels, road, gallery, stairway, ramp, floor, platform, staging or other structure, whether of a permanent or temporary character, shall be constructed, situated or maintained in any factory, in such a manner as to cause risk of bodily injury.

66-B. Machinery and plant

No machinery, plant or equipment shall be constructed, situated, operated or maintained in any factory in such a manner as to cause risk of bodily injury.

66-C. Method of work

No process or work shall be carried on in any factory in such a manner as to cause risk of bodily injury.

66-D. Stacking and storing of materials etc.

No materials or equipment shall be stacked or stored in such a manner as to cause risk of bodily injury.]

66-E. 61[

1 (1) Safety Officer: There shall be one Safety Officer for factories employing between one thousand and two thousand workers. There shall be an additional Safety Officer for every two thousand workers or a fraction thereof in excess of two thousand workers.

2 (2) Qualifications

3 (a) A person shall not be eligible for appointment as a Safety Officer, unless he:

4 (i) possesses a degree of a recognised university or institution in any branch of Engineering or Technology and has practical experience of working in a factory in a supervisory capacity for a period of not less than two years or possesses a degree in Physics or Chemistry from a recognised university or institution and has practical experience of working in a factory in a supervisory capacity for a period of not less than five years, or possesses a recognised diploma in any branch of engineering or technology and has practical experience of working in a factory in a supervisory capacity for a period of not less than five years;

i (ii) possesses a degree or diploma in industrial safety recognised by the State Government in this behalf; and

ii (iii) has adequate knowledge of language spoken by majority of the workers in the region in which the factory where he is to be appointed, is situated;

iii (b) Notwithstanding anything contained in clause (a), any person who:

iv (i) possesses a degree or diploma in Engineering or Technology of a recognised university or institution and has experience of not less than five years in a department of the Central Government or State Government which deals with the administration of the Factory Act, 1948 or the Indian Dock Labourers Act, 1934, or

v (ii) possesses a degree or diploma in Engineering or Technology of a recognised university or institution and has experience of not less than five years of full time of training, education, consultancy, or research in the field of accident prevention in an industry or in any institution, shall also be eligible for appointment as a Safety Officer:

Provided that the Chief Inspector may, subject to such conditions as he may specify, grant exemption from the requirements of this sub-rule, if in his opinion a suitable person possessing the necessary qualifications and experience is not available for appointment;
Provided further that in the case of a person who has been working as a Safety Officer in a factory for a period of not less than three years on the date of commencement of these rules, the Chief Inspector may, subject to conditions as he may specify, relax all or any of the above said qualifications.
1 (3) Conditions of service
2 (a) Where more than one Safety Officer are appointed in a factory, one of them shall be designated as the Chief Safety Officer and shall be the overall in charge of the Safety functions as envisaged in sub-rule (4).
3 (b) The Chief Safety Officer or the Safety Officer in the case of factories where only one Safety Officer is required to be appointed, shall be given the status of a senior executive and shall work directly under the control of the Chief Executive of the factory.
4 (c) The scales of pay and the allowances to be granted to the Safety Officers including the Chief Safety Officer, and the other conditions of their service shall be the same as those of the officers of corresponding status in the factory.
5 (d) Against the order of dismissal or discharge a Safety officer shall have a right of appeal to the Government.
6 (4) Duties of Safety Officer
7 (a) The duties of a Safety Officer shall be to advise and assist the factory management in the fulfilment of its obligations, statutory or otherwise,

concerning prevention of personal injuries and maintenance of a safe working environment.
(b) Without prejudice to the generality of duties in clause (a) a Safety Officer shall have the following duties, namely:
(i) to advise the concerned departments in planning and organising measures necessary for the effective control of person injuries;
(ii) to advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs;
(iii) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;
(iv) to advise the purchase and stores departments in ensuring high quality and availability of personal protective equipment;
(v) to advise on matters relating to plant safety inspections;
(vi) to carry out plant safety inspections in order to observe the physical conditions of work and the work and the work practices and procedures followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers;

(vii) to tender advice on matter relating to reporting and investigation of industrial accidents and occupational diseases;
(viii) to investigate accidents;
(ix) to investigate the cases of occupational diseases contracted and dangerous occurrences reportable under rule 103;
(x) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and occupational diseases;
(xi) to promote setting up of safety committees and act as advisor and convener to such committees;
(xii) to organise in association with the concerned departments of the factory campaigns, competitions, contests and other activities which will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures; and
(xiii) to design and conduct either independently or in collaboration with the training department of the factory, suitable training and educational programmes for the prevention of personal injuries.
(5) Facilities to be provided to Safety Officers: An occupier of the factory shall provide each Safety Officer with such facilities, equipment and information as are necessary to enable him to discharge his duties effectively.
(6) Prohibition of performance of other duties: No Safety Officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of the duties prescribed in sub-rule (4).]

66-F. [62][Safety Committee

1 (1) In every factory,
2 (a) wherein two hundred and fifty or more workers are ordinarily employed; or
3 (b) which carries on hazardous process as defined in section 2 (cb) of the Act; or
4 (c) which carries on any manufacturing process or operation declared to be dangerous under section 87 of the Act; there shall be set up a safety committee, by the occupier.
5 (2) The representatives of the management on Safety Committee shall include,
6 (a) a senior official, who by virtue of his position in the organisation can contribute effectively to the functioning of the Committee. Such a senior official shall be the Chairman of the safety Committee;
7 (b) a Safety Officer and Factory Medical Officer, wherever available and the Safety Officer in such a case shall be Secretary of the Committee;
8 (c) a representative each from the production, maintenance and purchase departments.
9 (3) The workers' representatives on this Committee shall be elected by the workers.
10 (4) The tenure of the Committee shall be two years.
11 (5) Safety Committee shall meet as often as necessary but at least once in every quarter. The minutes of the meeting shall be recorded and produced to the Inspector on demand.
12 (6) Safety Committee shall have the right to,
13 (a) ask for necessary information concerning health and safety of the workers; and
14 (b) seek any relevant information concerning health and safety of the workers.
15 (7) Functions and duties of the Safety Committee shall include,

16 (a) assisting and co-operating with the management in achieving the aims and objects outlined in the `Health and Safety Policy' of the occupier;
17 (b) dealing with all matters concerning health safety and environment and to arrive at practicable solutions to problems encountered;
18 (c) creating safety awareness amongst all workers;
19 (d) undertaking educational training and promotional activities;
20 (e) deliberating on reports of safety environmental and occupational health surveys, emergency plans, safety audits, risk assessment and implementation of the recommendations made in the reports;
21 (f) carrying out health and safety surveys and identify causes of accidents;
22 (g) looking into any complaint made on the likelihood of an imminent danger to the safety and health of the workers and suggest corrective measures; and
23 (h) reviewing the implementation of the recommendations made by it.

1 (8) Where owing to the size of the factory, or any other reason, the functions referred to in sub- rule (7) cannot be effectively carried out by the Safety Committee it may establish sub-committees as may be required to assist it.]

67. Ladders

All ladders used in replacing belts shall be specially made and reserved for that work and provided with hooks or an effective non-skid device. Ladders provided with hooks must have hooks fitted in such suitable position that they rest on the shaft when the bottom end of the ladder is resting on the floor.

67-A. [63][Safety belts and other safety equipment

When any person is required or allowed to work at a place not affording adequate hold and foothold and from which he is liable to fall through a height of or more than 1.80 metre, he shall be provided with a safety belt fitted with leather shoulder straps of not less than 5 cm. In width with a `D Ring at the back and a rope fastened thereon. The other end of the rope shall be securely tied or hooked to same suitable rigid fixture to ensure the safety of the workers. In case it is not possible to tie or hook the other end of the rope of the safety belt to a suitable rigid fixture. The worker shall be provided with some other type of safety belt to ensure the safety of the worker. It shall be the responsibility of the occupier and manager of the Factory to ensure that every worker engaged on such operation shall use these belts and other safety equipment. These belts and other equipment shall be examined and declared fit for use every six months by a competent person. The record of examination of these belts and other equipment by the said competent person shall be maintained in a bound register which shall be produced on demand by an inspector.

67-B. [64][Fragile roofs-Provisions of crawling boards etc.

In any factory, no person shall be required to stand or pass over or work on or near any roof or ceiling covered with fragile material through which he is liable to fall, in case it breaks or gives way, a distance of more than three metres, unless:
(a) suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, are provided and used; and

(b) a permit to work on the fragile roof is issued to him each time he is required to work thereon by a responsible person of the factory concerned.

67-C. 65Electricity Rules

1 (1) Definitions

2 (a) "authorised person" means a person over 21 years of age who may be- (i) either a supplied or a consumer or (ii) a contractor for the time being under contract with the supplier or the consumer to carry out duties incidental to the generation, transformation, transmission, conversion, distribution or use of energy or (iii) any person authorised by the said supplier, consumer or contractor for the purposes specified by him, being the person who is competent to perform the duties specified in this rule and whose name has been entered in a list maintained at the office or premises of the person authorising him and giving the purposes for which such person is authorised,

and the entry has been attested by the authorised person and the person authorising him;
(b) "Apparatus" means electrical apparatus, and includes all apparatus machines and fitting in which conductors are use or of which they form a part;
(c) "bare" means not covered with insulating material;
(d) "circuit" means an electrical circuit forming a system or branch of a system;
(e) "conductor" means an electrical conductor arranged to be electrically connected to a system;
(f) "covered with insulating material" means adequately covered with insulating material of such quality and thickness that there is no danger;
(g) "danger" means danger to health or danger to life or limb from stock, burn or other injury, to persons employed or from fire attendant upon the generation, transformation, distribution or use of electrical energy;
(h) "dead" means at, or about, zero potential, and disconnected from any live system;
(i) "earthed" means connected to the general mass of each in such manner as well ensure all times an immediate discharge of electrical energy without danger.
(j) "live" means electrically charged;
(k) "pressure" means the difference of electrical potential between any two conductors or between a conductor and each as ready by a hot wire and electrostatic voltmeter;
(l) "low pressure" means a pressure in a system normally not exceeding 250 volts (where the electrical energy is used);
(m) "medium pressure" means a pressure in a system normally above 250 volts but not exceeding 620 volts, where electrical energy is used;
(n) "switch board" means the collection or switches or fuses, conductors and other apparatus in connection therewith, used for the purpose of controlling the current or pressure in any system or part of a system;
(o) "system" means an electrical system in which all the conductors and apparatus are electrically connected to a common source of electromotive force.
(2) All apparatus and conductors shall be adequate in size and power for the work they are called upon to do and so constructed, installed, protected, worked and maintained as to prevent danger so far as is reasonably practicable.

(3) All accessible metallic portions of electrical plant or apparatus which though normally not (forming) of an electrical circuit, may become alive, accidentally, shall (be protected by an insulating covering or by other adequate) means or shall be connected to each by a conductor of adequate size.

1 (4) Adequate working space and means of access, free from danger shall be provided for all apparatus which have to be worked or attended to by any person.
2 (5) The general arrangement of switch boards shall, so far as reasonably practicable, be such that:
3 (a) all parts which may have to be adjusted or handled are readily accessible;
4 (b) the course of every conductor may, where necessary, be readily traced;
5 (c) conductors arranged for connection to the same system are kept well apart, and can, where necessary, be readily distinguished;
6 (d) all bare conductors are so placed or protected as to prevent danger from accidental short circuit.
7 (6) Every switch board having bare conductors normally so exposed that they may be touched, shall, if not located in an area or areas set apart for the purpose thereof, where necessary be suitably fenced or enclosed.

No person except an authorised person, or a person acting under his immediate supervision, shall for the purpose of carrying out his duties, have access to any part of an area so set apart.
1 (7) Every flexible wire for portable apparatus shall be connected to the system either by efficient permanent joints or connections or by a properly constructed connector.

In all cases where the person handling portable apparatus or pendent lamps with switches, is liable to get a shock through a conducting floor or conducting work or otherwise, if the metal work of the portable apparatus becomes charged, the metal work must be efficiently earthed and any flexible metallic covering of the conductor shall itself be efficiently earthed and shall not itself be the only earth connection for the metal of the apparatus.
A lamp holder shall not be in metallic connection with the guard or other metal work of a portable lamp.
In such places the portable apparatus and its flexible wire shall be controlled by efficient means suitably located and capable of cutting off the pressure, and the metal work shall be efficiently earthed independently of any flexible metallic cover of the conductors and any such flexible covering shall itself be independently earthed.
1 (8) In plug and socket connection for transportable apparatus the socket shall be connected to the conductor and the plug to the appliance side.
2 (9) Plug for connecting movable conductors shall be of such construction that they do not get in the socket connections meant for higher current. Plug and socket connection shall be of such construction that the plug cannot be inserted or withdrawn while the current is on.
3 (10) All conductors and apparatus exposed to the weather; wet-corrosion, inflammable surroundings or explosive atmosphere, or used in any process or for any special purpose other than for lighting or power shall be so constructed or protected, and

1 such special precautions shall be taken as maybe necessary to prevent danger in view of such exposure or use.
2 (11) Adequate precautions shall be taken to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon.
3 (12) Instructions, both in English and in the vernacular of the district, as to the treatment of persons from electric shock, shall be affixed in all premises where electrical energy is generated, transformed, converted, switched, controlled, regulated, distributed or used.
4 (13) Exemptions
5 (i) Nothing in this rule shall apply to any service lines or apparatus on the supply side of the consumer's terminal or to any chamber containing such service lines or apparatus where the supply is obtained from an outside authority;

provided always that no live metal is exposed so that it may be touched.
i (ii) If the occupier can show, with regard to any requirements of this rule, that the special conditions in his premises are such as adequately prevent danger, that requirement shall be deemed to be satisfied and the Chief Inspector may by order in writing direct that any class to special conditions defined in the requirements of this rule adequately to prevent danger are satisfied, and may revoke such order. In particular, the following shall be deemed for all the purposes of this rule adequately to prevent danger.

Room in which,
(a) the floor is of wood or otherwise insulated;
(b) there is no machinery or other earthed metal with which a person handling any non-earthed lamp fittings or any portably lamp is liable to be in contact;
(c) no process rendering the floor wet is carried on; and
(d) no live conductor is normally exposed so that it may be touched.
(14) This rule shall apply to all factories. They are in addition, and not derogatory, to the Indian Electricity Act, 1910 and the Indian Electricity Rules, 1956.

67-D. 66[Supply of personal protective equipment
The Inspector may, having regard to the nature of the hazards involved in work and process being carried out, orders the occupier or the manager in writing to supply to the workers exposed to a particular hazard any personal protective equipment as he may deem necessary.
67-E. Quality of personal protective equipment
All personal protective equipments provided to workers as required under any of the provisions of the Act or the rules shall have certification by Bureau of Indian Standards.

67-F. Examination of eye-sight of certain workers
1 (1) No person shall be employed to operate a crane, locomotive of fork-lift truck, or to give signals to a crane or locomotive operator unless his eye-sight and colour vision has been examined and declared fit by a qualified ophthalmologist to work whether with or without the use of corrective glasses.

2 (2) The eye-sight and colour vision of the person employed as referred to in sub-rule (1) shall be examined at least once in every period of twelve months upto the age of forty-five years and once in every six months beyond that age.
3 (3) Any fee payable for an examination of a person under this sub-rule shall be paid by the occupier and shall be recoverable from that person.
4 (4) The record of examination carried out as required under sub-rules (1) and (2) shall be maintained in Form 8-A.

67-G. Railways in factories
1 (1) This rule shall apply to railways in the precincts of a factory which are not subject to Indian Railways Act, 1980.
2 (2) Gateways- A gateway through which a railway track passes shall not be used for the general passage of workers into or out of a factory.
3 (3) Barriers and Turn gates
4 (a) Where building or walls contain doors or gates, which open to a railway track a barrier about one metre high shall be fixed parallel to and about sixty centimetres away from the building or walls outside the opening and extending several feet beyond it at either end, so that any person passing out may become aware of an approaching train when his pace is checked at the barrier.

If the traffic on the nearest track is all in one direction, the barrier shall be in the Form of "L" with the end of the short leg abutting on to the wall and the other opening towards the approaching train.
(b) If the distance between wall and track cannot be made to accommodate such a barrier the barrier, or a turn gate shall be placed at the inside of the opening.
(c) Where a footway passage close to a building or other obstruction as it approached a railway track a barrier or a turn gate shall be fixed in such a manner that a person approaching the track is compelled to move away from the building or obstruction and thus obtain timely sight of an approaching locomotive or wagon.
(4) Crowds
(a) Workers pay windows, first aid stations and other points where a crowd may collect, shall not be placed near a railway track.
(b) At any time of the day when workers are starting or ending work, all railway traffic shall cease for not less than five minutes.
(5) Locomotives

(a) No locomotive shall be used in shunting operations unless it is in good working order.
(b) Every locomotive and tender shall be provided with efficient brakes, all of which shall be maintained in good working order. Brake shoes shall be examined at suitably fixed intervals and those which are worn out shall be replaced at once.
(c) Water-gauge glasses of every locomotive, whatever its boiler pressure may be, shall be protected with substantial glass or metal screens.
(d) Suitable stops and hand-holds shall be provided at the corners of the locomotive for the use of shunters.

(e) Every locomotive crane shall be provided with lifting and jacking pads at the four corners of the locomotive for assisting in re-railing operations.
(f) It shall be clearly indicated on every locomotive crane in English and in the language understood by the majority of the workers in the factory, for what weight of load and at what radius the crane is safe.
(6) Wagons
(a) Every wagon (and passenger coach, if any) shall be provided either with self-acting brakes, capable of being applied continuously or with efficient hand brakes which shall be maintained in good working order. The brakes shall be capable of being applied by a person on the ground and fitted with a device for retaining them in the applied position.
(b) No wagon shall be kept standing within three metres of any pinch bars.
(7) Riding on locomotive, wagon or other rolling stock: No person shall be permitted to be upon (whether inside or outside) any locomotive wagon or after rolling stock except where secure foothold and hand are provided.
(8) Attention to brakes and doors
(a) No locomotive, wagon or other rolling stock shall be kept standing unless its brakes are firmly applied and, where it is on a gradient, without sufficient number of properly constructed scotches placed firmly in position.
(b) No train shall be set in motion until the shunting jamadar has satisfied himself that all wagon doors are securely fastened.
(9) Projecting loads and cranes
(a) If the load on wagon projects beyond its length, a guard of dummy truck shall be used beneath the projection.
(b) No loco-crane shall travel without load unless the jib is completely lowered and positioned in line with the track.
(c) When it is necessary for a loco-crane to travel with a load, the jib shall not be swung until the loco-crane has come to test.
(10) Loose shunting: Loose shunting shall be permitted only when it cannot be avoided. It shall never be performed on a wagon not accompanied by a man capable of

1 applying and pinning down the brakes. A wagon not provided with brakes in good working order and capable of being easily pinned down shall not be loose shunted unless there is attached to it at least another wagon with such brakes. Loose shunting shall not be performed with, or against a wagon containing passengers, livestock or explosives.
2 (11) Fly-shunting: Fly-shunting shall not be permitted on any factory railway.
3 (12) The shunting jamadar
4 (a) every locomotive or wagon is motion in a factory shall be in charge of a properly trained jamadar.
5 (b) Before authorising a locomotive or wagon to be moved, the shunting jamadar shall satisfy himself that no person is under or in between or in front of the locomotive or wagon.
6 (13) Hand signals: The hand signals used by the shunting jamadar, by day and night shall be those prescribed by the shunting rules of railways, framed under the Indian Railways Act, 1890 (IX of 1890).
7 (14) Night work and fog

8 (a) In factories where persons work at night, no movement of locomotive, wagon or other rolling stock otherwise than by hand shall be permitted between sunset and sunrise unless the tracks and their vicinity are lighted on a scale of not less than ten lux as measured at the horizontal plane at the ground level.

9 (b) In no circumstances, shall any locomotive or train be moved between sunset and sunrise or at any time when there is fog, unless it carried a white head light and a red rear light.

10 (15) Speed control

11 (a) A locomotive or train shall not be permitted to move at a speed greater than seven kilometres per hour.

12 (b) A train locomotive, wagon or other rolling stock shall not be moved by mechanical or electrical power unless it is preceded at a distance of not less than ten metres during the whole of its journey by a shunting jamadar. He shall be provided with signalling flags or lamp and whistle necessary for calling the attention of the driver.

13 (16) Tracks

14 (a) The distance (i) between tracks, and (ii) between tracks and buildings, blind walls or other structures and (iii) between tracks and materials deposited on the ground shall respectively be not less than:

15 (i) from centre to centre of parallel tracks, the overall width of the widest wagon of that gauge plus twice the width of the door of such a wagon when opened directly outward plus one metre.

16 (ii) from a building or structure other than a loading platform to the centre of the nearest track, half the overall width of the widest wagon of that

i gauge; plus, the width of its door when opened outward, plus one and a half metres.

ii (iii) from material stacked or deposited alongside the track, on the ground or on a loading platform, to the centre of the nearest track, half the overall width of the widest wagon of that gauge, plus half the width of its door when opened directly outward plus one metre.

iii (b) Sleepers of a track shall be in level with the ground and at all crossings of the track with a road or walkway, the surface of the road or walkway shall be in level with the top of the rails.

iv (c) All track ends shall be equipped with buffer stops of adequate strength.

v (d) Barriers of substantial constructions shall be securely and permanently fixed across and doorway or gateway in a building or in a wall which conceals an appropriating train view, between the building and the track as prescribed in clause (a) of sub-rule (3).

vi (e) Where tracks are carried on gantry or other elevation, a footway or footways with hand rails and too-boards shall be provided at all positions where persons work or pass on foot; and where there is an opening in the stage of an elevated track for the dropping of materials to a lower level, the position shall be adequately fenced or the opening itself provided with a grill through which a person cannot fall.

vii (f) All point levers shall have their movement parallel to not across, the direction of the track.

viii (g) All loading platforms which are move than sixty centimetres above the level of the ground on which the track is laid and more than fifteen metres in length, shall be provided with

stops at intervals not greater than fifteen metres apart to enable the platform to be easily mounted from the track.

ix (h) Turn tables on plan railways shall be provided with locking devices which will prevent the tables from turning while locomotive or wagons are being run on or off the tables.

x (i) Workers shall be prohibited from passing under between or above railway wagons.

xi (17) Crossings

xii (a) At all crossings of a track with a road for walkway, danger or crossing signs and wherever reasonably practicable, blinking lights or alarm lights shall be provided. At all important crossings, gates, or barriers manned by watchman shall be provided. Swinging gates and barriers shall be secured against inadvertent opening or closing.

xiii (b) All crossing, warning, signs, gates and barriers shall be illuminated during the hours of darkness.

xiv (18) Duties of drivers and shunters: It shall be the duty of every driver of a locomotive, or a shunter including a shunting jamadar to report without delay to their superior any defect in permanent way, locomotive or rolling stock.

1 (19) Young person’s not to be employed as drivers of locomotive or as shunters: No person who is below the age of eighteen years and no person who is not sufficiently competent and reliable shall be employed as a driver of a locomotive or as a shunter.

2 (20) The Chief Inspector may by an order in writing exempt a factory or part of it from all or any of the provisions of this rule to such extent and on such conditions as he deems necessary."

67-H. 67[Site Appraisal Committee

1 (1) The following provisions shall govern the functioning of the Site Appraisal Committee (hereinafter referred to be as the "Committee") in these rules namely:

2 (a) The State Government may constitute or reconstitute a Site Appraisal Committee as and when necessary;

3 (b) The State Government may appoint a senior official of the Factories Inspectorate, preferably having qualification in Chemical Engineering to be the Secretary of the Committee;

4 (c) The State Government may appoint the following as members of the Committee, namely:

5 (i) a representative of the Local Government wing of the Department of Local Government, Housing and Urban Development Department of the State Government;

6 (ii) a representative of the Department of Industries of the State Government; and

7 (iii) a representative of the Director General of Factory Advice Service and Labour Institute, Bombay.

8 (2) No member, unless required to do so by a court of law, shall disclose otherwise than in connection with the purposes of the Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a Member on this Committee.

9 (3) Application for Appraisal of Sites

10 (a) Applications for appraisal of sites in respect of the industries covered under clause (cb) of section 2 of the Act shall be submitted to the Chairman of the Site Appraisal Committee;

11 (b) The application for site appraisal along with fifteen copies thereof shall be submitted in Form 8-B. The Committee may dispense with furnishing of information on any particular item in the application Form, if it considers the same to be not relevant to the application under consideration.
12 (4) Functions of the Committee
13 (a) The Secretary shall arrange to register the applications received for appraisal of site in separate register and acknowledge the same within a period of seven days;

(b) The Secretary shall fix up the meetings in such manner that all the applications received and registered are referred to the Committee within a period of one month from the date of their receipt;
(c) The Committee shall adopt a procedure for its working keeping in view the need for expeditious disposal of applications;
(d) The Committee shall examine the applications for appraisal of a site with reference to the prohibitions and restriction on the location of an industry and the carrying on of processes and operations in different areas as per the provisions of rule 5 of the Environment (Protection) Rules, 1986 framed under the Environment (Protection) Act, 1986;
(e) The Committee may call for documents examine experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site; and
(f) Wherever the proposed site required clearance by the Ministry of Industries or by the Ministry Environment and Forests of Government of India, the application for Site Appraisal will be considered by the Site Appraisal Committee only after such clearance had been received.

67-I. Health and Safety Policy
1 (1) The occupier of every factory except as provided for in sub-rule (2), shall prepare a written statement of his policy in respect of health and safety of workers at work.
2 (2) All factories:
3 (a) covered under sub-clause (i) of clause (m) of section 2 of the Act but employing less than fifty workers;
4 (b) covered under sub-clause (ii) of the said clause (m) but employing less than one hundred workers;

shall be exempted from the requirements of sub-rule (1):
Provided that the factories specified in clauses (a) and (b) above are not covered in First Schedule under clause (cb) of section 2 of the Act and are not carrying out processes or operations declared to be dangerous under section 87 of the Act.
1 (3) Notwithstanding anything contained in sub-rule (2) the Chief Inspector may require the occupier of any of the factories or class or description of factories to comply with the requirements of the sub-rule (1) if in his opinion, it is expedient to do so.
2 (4) The Health and Safety policy should contain or deal with,
3 (a) the declared intention and commitment of the top management to health, safety and environment and compliance with the relevant statutory requirements;
4 (b) the organisational set up to carry out the declared policy clearly assigning the responsibility at different levels; and

5 (c) arrangements for making the policy effective.

1 (5) In particular, the policy should specify the following namely:
2 (a) the arrangements for involving the workers;
3 (b) the intentions of taking into account the health and safety performance of individuals at different levels while considering their career advancement;
4 (c) fixing the responsibility of the contractors, sub-contractors, transporters and other agencies entering the premises;
5 (d) providing a resume of health and safety performance of the factory in its annual report;
6 (e) relevant techniques and methods, such as safety audits and risk assessment for periodical assessment of the status on health, safety and environment and taking all remedial measures;
7 (f) stating its intentions to integrate health and safety in all decisions including those dealing with purchase of plant, equipment, machinery and materials as well as selection and placement of personnel; and
8 (g) arrangements for informing educating and training and retraining its own employees at different levels and the public, wherever required.
9 (6) A copy of the declared Health and Safety Policy duly signed by the occupier shall be made available to the Inspector having jurisdiction over the factory and to the Chief Inspector.
10 (7) The policy shall be made widely known by,
11 (a) making copies available to all workers including contract workers, apprentices, transport workers and suppliers, etc.
12 (b) displaying copies of the policy at conspicuous places, and
13 (c) any other means of communication.
14 (8) The occupier shall revise the Health and Safety Policy as often as may be appropriate, but it shall necessarily be revised under the following circumstances:
15 (a) whenever any expansion or modification having implications on safety and health of persons at work is made; or
16 (b) whenever new substance(s) or articles are introduced in the manufacturing process having implications on health and safety of persons exposed to such substances.

67-J. Collection, development and dissemination of information
1 (1)
2 (a) The occupier or every factory carrying on a hazardous process shall arrange to obtain or develop detailed information in the form the Material Safety Data Sheet (MSDS) prescribed in Form No. 8-C in respect of every hazardous substance or material handled in the manufacture, transportation and storage in the factory. It shall be accessible upon request to a worker for reference.

(b) The occupier while obtaining or developing a Material Safety Data Sheet in respect of a hazardous substance shall ensure that the information recorded accurately reflects the scientific evidence used in making that hazard determination. If he becomes newly aware of any significant information regarding the hazards, of a substance or ways to protect against the

hazards, this new information shall be added to the Material Safety Data Sheet as soon as practicable.
(2) Labelling. Every container of an hazardous substance shall be clearly labelled or marked to identity:
(a) the contents of the container;
(b) the name and address of the manufacturer or importer of the hazardous substance;
(c) the physical and health hazards; and
(d) the recommended personal protective equipment needed to work safely with the hazardous substance.
(3) In case a container is required to be transported by road outside the factory premises it should in addition be labelled or marked in accordance with the requirements laid down under sub-rule (2).

67-K. Disclosure of information to workers

1 (1) The occupier of a factory carrying on a hazardous process shall supply to all workers the following information in relation to handling of hazardous materials o substances in the manufacture, transportation, storage and other processes:
2 (a) requirements of section 41-B, 41-C and 41-H of the Act;
3 (b) a list of hazardous processes carried on in the factory;
4 (c) location and availability of all Material Safety Data Sheets as provided in rule 67-J;
5 (d) physical and health hazards arising from the exposure to or handling of substances;
6 (e) measures taken by the occupier to ensure safety and control of physical and health hazards;
7 (f) measure to be taken by the workers to ensure safe holding, storage and transportation of hazardous substances;
8 (g) personal protective equipment required to be used by workers employed in hazardous process or dangerous operations;
9 (h) meaning of various labels and markings used in the containers of hazardous substances as provided under rule 67-J;
10 (i) signs and symptoms likely to be manifested on exposure to hazardous substances and to whom to report;
11 (j) measure to be taken by the workers in case of any spillage of leakage of a hazardous substance; and

(k) role of workers vis-à-vis the emergency plan of the factory in particular the evacuation procedures.
(l) Any other information considered necessary by the occupier to ensure safety and health of workers.
(2) The information required by sub-rule (1) shall be complied and made known to workers individually through supply of booklets of leaflets and display of cautionary notices at the work places.
(3) The booklets, leaflets and the cautionary notices displayed in the factory will be in the language understood by the majority of the workers and also explained to them.

(4) The Chief Inspector of factories may direct the occupier to supply further information to the workers may be deemed necessary.

67-L. Disclosure of information to the Chief Inspector of Factories

1 (1) The occupier of every factory carrying on hazardous process shall furnish, in writing, to the Chief Inspector of Factories a copy of all the information furnished to the workers.

2 (2) A copy of the Material Safety Data Sheet prescribed in Form 8-C, in respect of the hazardous substances used, produced or stored in the factory shall be furnished to the Chief Inspector of Factories.

3 (3) The occupier shall also furnish any other information asked for by the Chief Inspector of Factories for the purpose of the Act and the rules.

67-M. Information on industrial wastes

1 (1) The information furnished under rule, 67-K, and 67-L shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method of treatment such as incineration of solid wastes, chemical and biological treatment or liquids wastes, and arrangements for their final disposal.

2 (2) It shall also include information on the quality and quantity of gaseous waste discharged through the stacks or other openings, and arrangements such as provision of scrubbers, cyclone separators, and electrostatic precipitators or similar such arrangements made for controlling pollution of the environment.

3 (3) The occupier shall also furnish information specified in sub-rules (1) and (2) to the State Board for the prevention and Control of Water Pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974 or the Air (Prevention and Control of Pollution) Act., 1891.

67-N. Review of the information furnished to workers etc.

1 (1) The occupier shall review once in every calendar year and modify, if necessary, the information furnished under rules 67-K and 67-L to the workers and the Chief Inspector of Factories.

2 (2) In the event of any change in the process or operations or methods of work or when any new substance is introduced in the process or in the event of a serious

1 accident taking place, the information so furnished shall be reviewed and modified to the extent necessary.

67-O. Confidentiality of information

1 (1) The occupier of a factory carrying on `hazardous process' shall disclose all information needed for protecting safety and health of the workers to (a) his workers; and (b) the Chief Inspector of Factories as required under rules 67-K and 67-L. If the occupier is of the opinion that the disclosure of details regarding the process and formulations will adversely affect his business interests, he may make a representation to the Chief Inspector of Factories stating the reasons for withholding such information. The Chief Inspector of Factories shall give an opportunity to the occupier of being heard and pass an order on the representation.

2 (2) An occupier aggrieved by the order of the Chief Inspector of Factories may refer an appeal before the State Government with him a period of thirty days. The State Government shall give an opportunity to the occupier of being heard and pass an order. The order of the State Government shall be final.

67-P. Medical Examination

1 (1) Workers employed in a hazardous process shall be medically examined by a qualified medical practitioner (hereinafter referred to as the Factory Medical Officer), in the following manner, namely:

2 (a) Once before employment, to ascertain physical fitness of the person to do the particular job;

3 (b) Once in a period of six months, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed; and in cases where in the opinion of the Factory Medical Officer it is necessary to do so at a shorter interval in respect of any worker; and

4 (c) The details of pre-employment and periodical medical examination carried out as aforesaid shall be recorded in the health register in Form 34.

5 (2) No person shall be employed for the first time without a certificate of Fitness in Form 32 granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being employed in any process covered under sub-rule (1), such a person shall have the right to appeal to the Inspector who shall refer the matter to the Certifying Surgeon whose opinion shall be final in this regard. If the Inspector of Factories himself is also a Certifying Surgeon, he may dispose of the application himself.

6 (3) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned worker and communicate his findings to the occupier within thirty days. If the Certifying Surgeon is of the opinion that the worker so examined is required to be taken away from the process for health protection, he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the worker so taken away be provided with alternate placement unless he is fully

1 incapacitated in the opinion of the Certifying Surgeon in which case the worker affected shall be suitably rehabilitated:

Provided that the Certifying Surgeon on his own may examine any worker when he considers it necessary to do so for ascertaining the suitability of his employment in the 'hazardous process' or for ascertaining the health status of any workers.

1 (4) The workers taken away from employment in any process under sub-rule (2) may be employed again in the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect in the health register.

2 (5) An Inspector may, if he deems it necessary to do so, refer a worker to the Certifying Surgeon for medical examination as required under sub-rule (1) or if he is Certifying Surgeon himself, conduct such medical examination. The opinion of the Certifying Surgeon in such a case shall be final. The fees required for this medical examination shall be paid by occupier.

3 (6) The worker required to undergo medical examination under these rules and for any medical survey conducted by or on behalf of the Central or the State Government shall not refuse to undergo such medical examination.

67-Q. Occupational Health Centres

1 (1) In respect of any factory carrying on hazardous process there shall be provided and maintained in good order an occupational Health Centre with the services and facilities as per scale laid down hereunder:

2 (a) For factories employing up to fifty workers:

3 (i) the services of a Factory Medical Officer on retainer ship basis in his clinic to be notified by the occupier. He will carry out the pre-employment and periodical medical examination as stipulated in rule 67-P and render medical assistance during any emergency;

4 (ii) at least five persons trained in first-aid procedures amongst whom at least one shall always be available during the working period; and

5 (iii) a fully equipped first-aid box.

6 (b) For factories employing fifty-one to two hundred workers:

7 (i) an occupational health Centre having a room with a minimum floor area of fifteen square metres with floors and walls made of smooth and impervious surface and with adequate illumination and ventilation as well as equipment and with adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule;

8 (ii) a part-time Factory Medical officer shall be in overall charge of the centre who shall visit the factory at least twice in a week and whose services shall be readily available during medical emergencies;

9 (iii) one qualified and trained dresser-cum-compounder on duty throughout the working period; and

i (iv) a fully equipped first-aid box in all the departments.

ii (c) For factories employing above two hundred workers:

iii (i) one full-time Factory Medical Officer for factories employing up to five hundred workers and one more medical officer for every additional one thousand workers or part thereof;

iv (ii) an Occupational Health Centre having at least two rooms each with a minimum floor area of fifteen square metres with floor and walls made of smooth and impervious surface and adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule.

v (iii) There shall be one nurse, one dresser-cum compounder and one sweeper-cum-ward boy throughout the working period; and

vi (iv) the Occupational Health Centre shall be suitably equipped to manage medical emergencies.

vii (2) The Factory Medical Officer required to the appointed under sub-rule (1) shall have qualifications included in the Schedule to the Indian medical Degrees Act, 1916 or in the Schedules to the Indian Medical Council Act, 1956 and should possess a certificate of Training in industrial Health of minimum three months' duration recognised by the State Government:

Provided that:

i (i) a person possessing a Diploma in Industrial Health or equivalent shall not be required to possess the certificate of training as aforesaid;

ii (ii) the Chief Inspector of Factories may, subject to such conditions as he may specify, grant exemption from the requirement of this sub-rule, if in his opinion a suitable person possessing the necessary qualification is not available for appointment; and

iii (iii) in case of a person who has been working as Factory Medical officer for a period of not less than three years on the date of commencement of this rule, the Chief Inspector of Factories may, subject to the condition that the said person shall obtain the aforesaid certificate of training within a period of three years, relax the qualification.

iv (3) The syllabus of the course leading to the above certificate and the organisations conducting the Sate course shall be approved by the Director General, Factory Advice Service and Labour Institute of the Government in accordance with the guidelines issued by the Director General Factory Advice Service and Labour Institute.

v (4) Within one month of the appointment of a Factory Medical Officer, the occupier of the factory shall furnish to the Chief Inspector the following particulars, namely:

vi (a) Name and address of the Factory Medical Officer;

vii (b) Qualifications;

viii (c) Experience, if any; and

(d) The sub-rule under which appointed.

SCHEDULE

[See Rule 67-Q (1) (b) (i)]

Equipment for occupational Health Centre in Factories

1 1. A glazed sink with hot and cold water always available

2 2. A table with a smooth top at least 180 cm.x105 cm.

3 3. Means for sterilizing instruments.

4 4. A couch.

5 5. Two buckets or containers with close fitting.

6 6. A kettle and spirits stove or other suitable means of boiling water.

7 7. One bottle of spirits ammoniac aromatics (120 ml)

8 8. Two medium size sponges.

9 9. Two Kidney trays.

10 10. Four cakes of toilet, preferably antiseptic

11 11. Two glass tumblers and two wine glasses

12 12. Two clinical thermometers.

13 13. Two tea spoons.

14 14. Two graduated (120ml) measuring glasses.

15 15. One wash bottle (1000 cc) for washing eyes.

16 16. One bottle (one litre) carbolic lotion 1 in 20.

17 17. Three chairs.

18 18. One screen.

19 19. One electric hand torch.

20 20. An adequate supply of tetanus toxied.
21 21. Coramine liquid (60ml.).
22 22. Tablets: Antihistaminic, antispasmodic (25 each)
23 23. Syringes with needles -2 cc, and 10 cc.
24 24. Two needle holders big and small.
25 25. Suturing needles and materials.
26 26. One dissecting foreceps.
27 27. One dressing forceps
28 28. One scalpels.
29 29. One stethoscope.
30 30. Rubber bandage-pressure bandage.

1 31. Oxygen cylinder with necessary attachments.
2 32. One Blood Pressure apparatus,
3 33. One patellar Hammer.
4 34. One Peak-flow meter for lung function measurement.
5 35. One stomach wash set.
6 36. Any other equipment recommended by the Factory Medical Officer according to specific need elating to manufacturing process.
7 37. In addition:
8 (1) For factories employing 51 to 200 workers:
9 1. Four plain wooden splints 900 mmx00 mmx6mm
10 2. Four plain wooden splints 50 mm x 75 mm x 6mm.
11 3. Two plain wooden splints 250 mm x 50 mm x 12 mm.
12 4. One pair artery forceps.
13 5. Injections-morphia, pethidine, atropine, adrenaline, coramine, novacan (2 each).
14 6. One surgical scissors.
15 (2) For factories employing above 200 workers:
16 1. Eight plain wooden splints 900 mm x 100 mm x 6 mm.
17 2. Eight plain wooden splints 350 mm x 75 mm x 6 mm.
18 3. Four plain wooden splints 250 mm x 50 mm x 12 mm.
19 4. Two pairs artery forceps.
20 5. Injections –morphia, pethadine, atropine, adrenaline, coramine, novacan (4each).
21 6. Two surgical scissors.

67-R Ambulance Van

1 (1) In any factory carrying on hazardous process, there shall be provided and maintained I n good condition a suitably constructed ambulance van equipped with items as per sub-rule (2) and manned by a full-time Driver-cum-mechanic and helper trained in first-aid for the purposes of transportation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will normally be stationed at or near to the Occupational Health Centre:

Provided that a factory employing less than two hundred workers may make arrangements for procuring such facility at short notice from nearby hospital or other places, to meet any emergency.

1 (2) The ambulance should have the following equipments:

2 (a) General:

A wheeled stretcher with folding and adjusting devices; with the head of the stretcher capable of being tilled upward;
Fixed suction unit with equipment;
Fixed oxygen supply with equipment;
Pillow with case; -Sheets; -Blankets; -Towels;
Emesis bag; -Bed Pan; -Urinal; -Glass.
(b) Safety equipment:

Flares with life of thirty minutes;
Flood lights; -Flash lights; -Fire extinguisher dry powder type;
Insulated gauntlets.
(c) Emergency care equipments:
(i) Resuscitation:

Portable suction unit; Portable Oxygen units;
Bag-valve-mask, hand operated artificial ventilation unit;
Airways; -Mouth gases; -Tracheotomy adopters;
Short spine board; - I. V. Fluids with administration unit;
B.P. manometer; -Gugg; -Stethoscope

i (ii) Immobilization:

Long and short padded boards; -Wire ladder splints;
Triangular bandage; -Long and short spine boards.

i (iii) Dressings - -- Gauze pads - 4" x 4"; -- Universal dressing 10" x 36"; -- Roll of aluminium foils; -- Adhesive tape of 3"; -- Safety pins; -- Bandage sheets; -- Burn sheet.

ii (iv) Poisoning:

Syrup of lpecae; -Activated Charcoal pre-packed in doses; -Snake bite kit;
Drinking water.

i (v) Emergency Medicines:

As per requirement (under the advice of Medical Officer only).

67-S. Decontamination facilities

In every factory carrying out `hazardous process' the following provisions shall be made to meet emergency:
(a) fully equipped first aid box;

(b) readily accessible means of water for washing, drenching clothing of workers as well as for those who have been contaminated with hazardous and corrosive substances and such means shall be as per scale shown in the table below:

No. of persons employed at any time		No. of drenching showers
(i)	Up to fifty workers	2
(ii)	Between fifty-one to two hundred workers.	2+1 for every additional fifty or part thereafter.
(iii)	Between two hundred and one to five hundred workers.	5+1 for every additional one hundred or part thereafter.
(iv)	Five hundred and one workers and above.	8+1 for every additional two hundred or part thereafter.

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

67-T. Making available Health Records to Workers

1 (1) The occupier of every factory carrying out hazardous process shall make accessible the health records including the records of workers exposure to hazardous process or, as the case may be, the medical records of any worker for his perusal under the following conditions:

2 (a) once in every six months or immediately after the medical examination whichever is earlier;

3 (b) if the Factory Medical Officer of the Certifying Surgeon, as the case may be, is of the opinion that the worker has manifested signs and symptoms of any notifiable disease as specified in the Third Schedule to the Act;

4 (c) if the worker leaves the employment;

5 (d) if any one of the following authorities so direct:

6 (i) the Chief Inspector of Factories;

7 (ii) the Health Authority of Central or State Government;

8 (iii) Commissioner of workmen's Compensation;

9 (iv) The Director General Employees' State Insurance Corporation;

10 (v) The Director, Employees State Insurance Corporation (Medical benefits); and

11 (vi) The Director General, Factory Advice Service and Labour Institutes.

12 (2) A copy of the upto date health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records shall be supplied to the worker on receipt of an application from him X-ray plates and other medical diagnostic reports may also be made available for reference to his medical practitioner.

67-U. Qualifications of Supervisors

1 (1) All persons who are required to supervise the handling of hazardous substances shall process the following qualifications and experience:
2 (a)
3 (i) A Bachelor's degree in Chemistry or Diploma in Chemical Engineering or Technology with five years' experience; or
4 (ii) A Master's Degree in Chemistry or a Degree in Chemical Engineering or Technology with two years' experience.

The experience stipulated above shall be in process operation and maintenance in the Chemical Industry.
1 (2) The syllabus and duration of the above training and the organisations conducting the training shall be approved by the Director General, Factory Advice Service and Labour Institute or the State Government in accordance with the guidelines issued by the Director General, Factory Advice Service and Labour Institute.

67-V. Issue of guidelines
For the purpose of compliance with the requirements of sub-sections (1), (4) and (7) of section 41-B or section 41-C, the Chief Inspector of Factories may if deemed necessary, issue guidelines from time to time to the occupiers of factories carrying on `hazardous process'. Such guidelines shall be based on national Standards, Codes of Practice, or recommendations of International Bodies such as International lab our Organization and World Health Organization.
CHAPTER V
WELFARE
68. Washing facilities
1 (1) There shall be provided and maintained in every factory according to the nature of factory for the use of employed persons adequate and suitable facilities for washing, depending on the nature of the industry and its operations. It shall include suitable means of clearing and the facilities shall be conveniently accessible and shall be kept in orderly condition.
2 (2) Without prejudice to the generality of the foregoing provisions the washing facilities shall be of the design standard laid down by Chief Inspector in case of each industry.
3 (3)
4 (a) Every container of water for washing facilities shall have a smooth, impervious surface.
5 (b) Suitable provisions will be made for sanitary disposal of the water from washings.
6 (4) For persons, whose work involves contact with any injurious or noxious substance there shall be at least one tape of every fifteen persons.

1 (5) If female workers are employed, separate washing facilities shall be provided and so enclosed or screened that the interiors are not visible from any place where persons of the other sex work or pass. The entrance to such facilities shall bear conspicuous notice in the language understood by the majority of the workers "For Women only" and shall also be indicated pictorially.
2 (6) The water-supply to the washing facilities in case of industries involving contact with injurious or obnoxious substance shall be capable of yielding at least two gallons a day for each

person employed in the factory and shall be from a source approved in writing by the Health Officer, provided that where the Chief Inspector is satisfied that such a yield is not practicable he may be certificate in writing permit the supply of a smaller quantity not being less than one gallon per day for every person employed in the factory.

The quantity of water required for other industries will be as approved by Chief Inspector of Factories.

68-A. [68][Facilities for storing and drying clothing

All classes of factories, mentioned in the schedule annexed hereto, shall provide facilities for keeping clothing not worn during the working hours and for the drying of wet clothing. Such facilities shall include the provisions of such arrangements as are ordered by the Chief Inspector of Factories, in writing.

SCHEDULE

1 1. Glass Works.
2 2. Engineering workshops
3 3. Iron and Steel Works
4 4. Metal Foundries
5 5. Oil Mills
6 6. Chemical Works
7 7. Automobiles Workshops
8 8. Dyeing Works
9 9. Printing Press]

69. [69][First-aid appliance

The first-aid boxes or cupboards shall be distinctively marked with a red cross on white background and shall contain the following equipment:

(a) For factories in which the number of persons employed does not exceed ten or in the case of factories in which mechanical power is not used such number does not exceed fifty persons:

(i) six small size sterilised dressings;
(ii) three medium size sterilised dressings;
(iii) three large-size sterilised dressings;
(iv) three large-size sterilised burn dressings;

i (v) one (60 ml) bottle of Certrimide solution (1 per cent) or a suitable anti-septic solution;
ii (vi) one (60 ml.) bottle of mercurochrome solution (2 percent) in water;
iii (vii) one (30 ml) bottle containing sal-volatile having the dose and mode of administration indicated on the label;
iv (viii) one pair scissors;
v (ix) one roll of adhesive plaster (2 cms x 1 metre);
vi (x) six pieces of sterilized eyepads in separate sealed packets;
vii (xi) one bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic;
viii (xii) Polythene wash bottle (1/2 litre, i.e. 500 c.c,) for washing eyes;
ix (xiii) one Snake-bite lancet;

x (xiv) one (30 ml.) bottle containing Potassium Permanganate crystals;
xi (xv) one copy of first-aid leaflet issued by the Director-General of Factory Advice Service and Labour Institutes, Government of India, Bombay.
xii (b) For factories in which mechanic power is used and in which the number of persons employed exceeds ten, but does not exceed fifty:
xiii (i) twelve small size sterilized dressings;
xiv (ii) six medium size sterilized dressings;
xv (iii) six large size sterilized dressings;
xvi (iv) six large size sterilized burn dressings;
xvii (v) six (15 gm.) packets of sterilized cotton wool;
xviii (vi) one (120 ml.) bottle of certimide solution (1 per cent) or a suitable anti-septic solution;
xix (vii) one (120 ml.) bottle of mercurochrome solution (2 per cent) in water;
xx (viii) one (60 ml.) bottle containing sal-volatile having the dose and mode of administration indicated on the label;
xxi (ix) one pair scissors;
xxii (x) two rolls of adhesive plaster (2 cms x 1 metre);
xxiii (xi) eight pieces of sterilized eye pads in separate sealed packets;
xxiv (xii) one tourniquet.
xxv (xiii) one dozen safety pins;
xxvi (xiv) one bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic;
xxvii (xv) one polythene wash bottle (1/2 litre, i.e. 500 cc.) for washing eyes;
xxviii (xvi) one Snake-bite lancet;

i (xvii) one (30 ml, bottle containing Potassium Permanganate crystals,)
ii (xviii) one copy of the First-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institutes, Government of India Bombay.
iii (c) For factories employing more than fifty persons:
iv (i) twenty-four small sterilized dressings;
v (ii) twelve medium size sterilized dressings;
vi (iii) twelve large size sterilized dressings;
vii (iv) twelve large size sterilized burn dressings;
viii (v) twelve (15 gm.) packets of sterilized cotton wool;
ix (vi) one (200 ml.) bottle of certimide solution (1 per cent) or a suitable anti-septic solution;
x (vii) one (200 ml.) bottle of mercurochrome solution (2 per cent) in water;
xi (viii) one (120 ml.) bottle containing sal-volatile having the dose and mode of administration indicated on the label;
xii (ix) one pair scissors;
xiii (x) one rolls of adhesive plaster (6 cms x 1 metre);
xiv (xi) two rolls of adhesive plaster (2 cms. X 1 metre);
xv (xii) twelve pieces of sterilized eye pads in separate sealed packets;

xvi (xiii) one bottle containing (100 tablets each of 5 grains) of aspiring or any other analgesic;
xvii (xiv) one polythene wash bottle (500 c.c.) for washing eyes;
xviii (xv) twelve roller bandages 10 cms. Wide;
xix (xvi) twelve roller bandages 5 cms. Wide;
xx (xvii) six triangular bandages;
xxi (xviii) one tourniquet;
xxii (xix) suitable splints;
xxiii (xx) two packets of safety pins;
xxiv (xxi) kidney tray;
xxv (xxii) one snake-bite lancet;
xxvi (xxiii) One (30 ml) bottle containing Potassium Permanganate crystals;
xxvii (xxiv) one copy of the First-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institute, Government of India, Bombay.

[70]Provided that items (xiv) to (xxi) inclusive need not be included in the standard first-aid box or cupboard., (a) where there is a property

equipped ambulance room, or (b) if at least one box containing such items placed and maintained in accordance with the requirements of Section 45 of the Act is separately provided.
i (xxv) [One set of resuscitator (for artificial respiration)].
ii (d) In lieu of the dressings required under items (i) and (ii) of clauses (a), (b) and (c there may be substituted adhesive wound dressings approved by the Chief Inspector and other equipment or medicines that may be considered essential and recommended by him from time to time.

70. 71[Ambulance Room
1 (1) [72][Every ambulance room shall be in the charge of at least one whole-time qualified medical practitioner (hereinafter referred to as Medical Officer) assisted by at least one qualified nurse or dresser-cum-compounder and one nursing attendant, in each shift. No Medical Officer shall be required or permitted to do any work which is inconsistent with or detriment to his responsibilities:

Provided that where a factory works in more than one shift, the Chief Inspector, if he is satisfied that on account of the size of factory, nature of hazardous or frequency of accidents, it is not necessary to employ a whole-time medical officer for each shift separately, he may, grant exemption from the provisions of this sub-rule and permit employment of only one whole-time Medical Officer for more than one or all shifts, subject to the conditions that:
i (i) there shall be no relaxation in respect of nursing staff, and
ii (ii) the Medical Officer is readily available on call during the working hours of the factory]
iii (2) There shall be displayed in the ambulance room [73][-] a notice giving the name, address and telephone number of the medical practitioner in charge. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.

iv (3) The ambulance room [74][-] shall be separate from the rest of the factory and shall be used only for the purpose of first-aid treatment and rest. It shall have a floor area of at least 24 square metres and smooth, hard and impervious walls and floors shall be adequately ventilated and lighted by both natural and artificial means. [75][There shall be attached to it last one latrine and urinal of sanitary type.] An adequate supply of wholesome drinking water shall be laid on the room shall contain at least:

v (i) A glazed sink with hot and cold water always available.

vi (ii) A table with a smooth top at least 180 cms. X 105 cms.

vii (iii) Means for sterilizing instruments.

viii (iv) A couch.

ix (v) Two stretchers.

x (vi) Two buckets or containers with close fitting lids.

xi (vii) Two rubber hot water bags.

i (viii) A kettle and spirit stove or other suitable means of boiling water.

ii (ix) Twelve plain wooden splints 900 mm x 100 mm. x 6 m;

iii (x) Twelve plain wooden splints 320 mm. x 75 mm. x 6 m;

iv (xi) Six plain wooden splints 250 mm. x 50 mm. x 12 mm.

v (xii) Six woolen blankets.

vi (xiii) Three pairs artery forceps.

vii (xiv) One bottle of Spiritus Ammoniac Aromaticus (120 ml.)

viii (xv) Smelling salts (60 gms)

ix (xvi) Two medium size sponger.

x (xvii) Six hand towels.

xi (xviii) Four "Kidney" traps.

xii (xix) Four cakes of toilet, preferably anti-septic soap.

xiii (xx) Two glass tumblers and two wing glasses.

xiv (xxi) Two clinical thermometers.

xv (xxii) Two Tea Spoons.

xvi (xxiii) Two Graduated (120 ml.) measuring glasses,

xvii (xxiv) Two minimum measuring glasses.

xviii (xxv) One wash bottle (100 cc.) for washing eyes.

xix (xxvi) One bottle (one litre) carbolic lotion 1 in 20.

xx (xxvii) Three chairs.

xxi (xxviii) One screen.

xxii (xxix) One electric hand torch.

xxiii (xxx) Four first-aid boxes or cupboard stocked according to the standard prescribed under clause (c) of rule 69.

xxiv (xxxi) An adequate supply of anti-tetanus toxiod.

xxv (xxxii) Injection - Morphia, Pethidine, Atropine, Adrenaline, Coramine, Novocam - 6 each.

xxvi (xxxiii) Coramine liquid (60 ml.)

xxvii (xxxiv) Tablets Antihistaminic, Antispasmodic - 25 each

xxviii (xxxv) Syringes with needles - 2 c.c, 5 c.c., 10 c.c., 50 c.c.

xxix (xxxvi) Three Surgical Scissors.
xxx (xxxvii) Needle holder.
xxxi (xxxviii) Suturing needles and materials.
xxxii (xxxix) Three Dissecting forceps.

i (xl) Three Dressing forceps.
ii (xli) Three Scalpels.
iii (xlii) One Stethoscope.
iv (xliii) Rubber bandage-pressure bandage.
v (xliv) Oxygen cylinder with necessary attachments.
vi (4) The occupier of every factory to which these rules apply shall for the purpose of removing serious cases of accident or sickness provide in the premises and maintain in good condition a suitable conveyance unless he has made arrangements for obtaining such a conveyance from a hospital.
vii (5) [76][The Chief Inspector, may, by an order in writing exempt any factory from the requirements of this rule, subject to such conditions as he may specify in that order if there is an empanelment of a hospital or nursing home of minimum twenty beds at a travel distance of not more than two kilometers from the main gate of the factory and also there is a provision of ambulance van in the premises of the factory.]

FIRST-AID LEAFLET
(Instruction for handling emergencies)
SHOCK:
1 1. Lay the patient on his back.
2 2. Stop bleeding, if any.
3 3. Relieve pain by supporting injured part.
4 4. Keep the patient comfortable, but not hot. Do not cause sweating.
5 5. Fluids may be given in small amounts unless the patient is nauseated unconscious, likely to be operated on, or has an abdominal wound.
6 6. Reassure and cheer up the patient.

WOUNDS:
1 1. Stop the bleeding by any one of the following methods:
2 (a) direct pressure;
3 (b) direct finger pressure into the wound in cases of large bleeding wounds;
4 (c) tourniquet (seldom needed) - use only as a last material.
5 2. Avoid touching the wound with hand or unsterile material.
6 3. Clear the wound with running water and surrounding area with soap or spirit with clean guage washing way from the wound. Apply ready-made adhesive guage bandage or sterile guage and roller bandage as needed.
7 4. Keep the patient quiet; raising the extremity if it is the bleeding part. Give no stimulants.
8 5. Never apply anti-septic ointment, lotion or iodine or germicide to the wound.

ABDOMINAL WOUNDS:

1. No time must be lost in sending the patient to the hospital.
2. Keep the patient flat.
3. Give nothing by mouth.
4. Maintain warmth.
5. If intestines protrude from the wound, do not attempt to touch or replace them.
6. Apply sterile dressing and binder as for wounds.
7. Provide careful, immediate transportation to the hospital.

EYE-WOUNDS:

1. Removal may be attempted if foreign body is not embedded.
2. Do not apply oil or ointments.
3. If there is a foreign body embedded in the eye ball, send the worker immediately to the doctor after applying pad and loose bandage.

CHEMICAL BURNS OF THE EYES:

1. Immediate washing of the eye at least for fifteen minutes is of great importance.
2. Apply sterile bandage and send the worker immediately to the doctor.
3. Neutralizing agents or ointments should not be used.

SUFFOCATION:

1. Remove the patient from the source of danger.
2. Make a rapid examination to ensure that the air passages are free, and to clean them if necessary.
3. Restore natural breathing by artificial respiration, if breathing has ceased.

ELECTRIC SHOCK:

1. Remove the patient from the source of danger.
2. Make a rapid examination to ensure that the air passages are free, and to clean them if necessary.
3. Restore natural breathing by artificial respiration, if breathing has ceased.

INSENSIBILITY:

1. Send for a doctor if possible, pending his arrival.
2. Where the patient's face is pale lay him flat and face downwards with his head turned to one side. If his face is flashed or blue, raise and support the head and shoulders.
3. Control any serious bleeding.
4. Loosen any tight clothing and let him have plenty of air.
5. Do not give anything by mouth.

1. 6. If Doctor not available send the casualty to hospital,

BACKBONF (SIINAL) FRACTURE:

1 1. Transport on u rigid frame. This Frame may be improvised by using available boards or a door.
2 2. The rigid frame may be placed on a stretcher for transportation.
3 3. If a firm frame cannot be improvised, transport patient on abdomen on a stretcher made of canvas or blanket.
4 4. In neck fracture cases, it is much better to get a doctor to the scene for danger to life is great.

BRUISES:
1 1. Cold applications at first 24-48 hours.
2 2. Later heat-after 24-48 hours.

BURNS:
1 1. Act quickly.
2 2. Put the affected part in cold water.
3 3. Pour cold water over burns that cannot be immersed Cold water relieves pain, reduces fluid loss.
4 4. Cover with a sterilized dressing.

SNAKE BITE:
Calm and reassure the patient. Immobilise the bitten limb by splinting it. Wash and cool the wound with soap and water. Do not cut, rub or suck the bite. Take to a doctor. Press hard over wound for upto 15 minutes. Do not remove cloth if it has been placed.

71. Canteen

1 (1) Canteen or canteens shall be provided and maintained in all types of factories wherein more than two hundred and fifty workers are ordinarily employed.
2 (2) The occupier of every factory wherein more than two hundred and fifty workers are ordinarily employed shall provide in or near the factory an adequate canteen according to the standards prescribed in these Rules.
3 (3) The Manager of a factory shall submit for the approval of the Chief Inspector plans and site plan, in [Triplicate] [Duplicate for Haryana] of the building to be constructed or adapted for use as a canteen.
4 (4) The canteen building shall be situated not less than 15 m. from any latrine, urinal, boiler house, coal stacks, ash dumps and any other source of dust, smoke or obnoxious fumes or anything which may be considered insanitary:

Provided that the Chief Inspector may in any particular factory relax the provisions of this sub-rule to such extent as may be reasonable in the circumstances and may require measures to be adopted to secure the essential purpose of this sub-rule.

1 (5) The canteen building shall be constructed in accordance with the plans approved by the Chief Inspector and shall accommodate at least a dining hall, kitchen, store-room, pantry with suitable fixtures and washing places separately for workers and for utensils.

2 (6) In a canteen, the floor and inside walls up to a height of 125 cm. from the floor shall be made of smooth and impervious materials the remaining portion of the inside walls shall be made smooth by cement plaster or any other manner approved by the Chief Inspector.
3 (7) The doors and windows of canteen building shall be of fly-proof construction and shall allow adequate ventilation.
4 (8) The canteen shall be sufficiently lighted at all times when any person has access to it.
5 (9)
6 (a) In every canteen
7 (i) all inside walls of rooms and all ceilings and passages and staircases shall be lime washed at least once in each year of painted once in three years dating from the period when last lime washed, or painted, as the case may be;
8 (ii) all woodwork shall be varnished o painted once in three years dating from the period when last varnished or painted;
9 (iii) all internal structural iron and steel work be painted once in three years dating from the period when last painted.

Provided that inside walls of the kitchen shall be lime or colourwashed once every four months.
(b) Records of dates on which lime washing, colour washing varnishing or painting is carried out shall be maintained in the register in Form No. 7.
(10) The precincts of canteen shall be maintained in a clean and sanitary condition. Waste water shall be carried away in covered drains of suitable design and slope so as not to allow waste water to accumulate and cause a nuisance. Suitable arrangements shall be made for the collection and disposal of garbage including provision of grease traps of adequate design.

72. Dining hall
1 (1) The dining hall shall normally accommodate at a time 20 per cent of the workers working at the time: Provided that, in any particular factory or in any particular class of factories, the Chief Inspector by an order in writing in this behalf, after the percentage of workers to be accommodated.
2 (2) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs, shall not be less than 75 square metre per dinner to be accommodated as prescribed in sub-rule (1).

1 (3) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number. Washing places for women shall be separate and screened to secure privacy.
2 (4) Sufficient tables, chairs or benches shall be available for the number of diners to be accommodated as prescribed in sub-rule (1).

73. Equipment
1 (1) There shall be provided sufficient utensils, cutlery furniture and other equipment necessary for the efficient running of the canteen. Suitable clean clothes for the employees serving in the canteen shall also be provided.

2 (2) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition. A service counter if provided, shall have a top of smooth and impervious material. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.

74. [Prices to be charged

1 (1) Food, drink and other items served in the canteen shall be sold on a no-profit basis and the prices charged shall be subject to the approval of the Canteen Managing Committee.

(1-A) [77][In computing the prices referred to in sub-rule (1), the following items of expenditure shall not be taken into consideration, but will be borne by the occupier- (a) the rest for the land and building; (b) the depreciation and maintenance charges of the building and equipment provided for the canteen: (c) the cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils; (d) the water charges and expenses for providing lighting and ventilation: (e) the interest on the amount spent on the provision and maintenance of the building, furniture and equipment provided for the canteen.]

1 (2) The charge per portion of foodstuff, beverages and any other items served in the canteen shall be conspicuously displayed in the canteen:

[78][Provided that where the canteen is managed by a Cooperative Society of workers registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), it may be allowed to include, in the charges to be made for the foodstuffs served, a profit up to 5 percent on its working capital employed in running the Canteen.]

75. Accounts

1 (1) All book, of accounts, registers and any other documents used in connection with the running of the canteen shall be produced on demand to an Inspector.

2 (2) [79][The accounts pertaining to the canteen shall be audited once every twelve months by registered Accountants and Auditors and shall be submitted to the Canteen managing Committee not later than two months after the closing of the audited accounts. Provided that the accounts pertaining to the Canteen in a Government factory having its own accounts department may be audited in such department:]

[80][Provided further that where the canteen is managed by a Co-operative Society registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), the accounts pertaining to such canteen may be audited in accordance with the provisions of that Act.]

76. Managing Committee

1 (1) The Manager shall appoint a Canteen Managing Committee which shall be consulted from time to time as to:

2 (a) the quality and quantity of foodstuffs to be served in the canteen;

3 (b) the arrangements of the menus;

4 (c) times of meals in the canteen; and

5 (d) any other matter as may be directed by the Committee;

[81][Provided that where the Canteen is managed by a Co-operative Society registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), it shall not be necessary to appoint a Canteen Managing Committee.]

1 (2) The Canteen managing Committee shall consist of an equal number of elected worker shall be in the proportion of 1 for every 1,000 workers employed in the factory provided that is no case shall be more than 5 or less than 2 workers on the Committee.

2 (3) The Manager shall in consultation with the Works Committees, if any, determine and supervise the procedure for elections to the Canteen Managing Committee.

77.

A canteen Managing Committee shall be dissolved by the Manager two years after the last election, no account being taken of a bye-election.

77-A. [82][Medical Examination of Canteen Staff

1 (1) Annual medical examination for fitness of each member of the canteen staff who handles food-stuffs shall be carried out by the Factory Medical Officer or the Certifying Surgeon which should include the following:

2 (i) Routine blood examination.

3 (ii) Routine and bacteriological testing of faeces and urine for germs of dysentery and typhoid fever.

4 (iii) Any other examination including chest X-ray that may be considered necessary by the factory medical officer or the Certifying Surgeon.

5 (2) Any person who in the opinion of the Factory Medical Officer the Certifying Surgeon is unsuitable for employment on account of possible risk to the health of others, shall not be employed as canteen staff.]

78. Shelters, rest rooms and lunch rooms

1 (1) This rule shall apply to all such factories wherein more than 150 workers are employed.

1 (2) The shelters or rest rooms [83][-] shall conform to the following standards and the manager of factory shall submit for the approval of the Chief Inspector a [84][site plan and detailed plan in triplicate] of the building to be constructed or adapted:

2 (a) The building shall be soundly constructed and all the walls and roof shall be of suitable heat- resisting material and shall be waterproof. The floor and walls to the height of 0.9 metre shall be so laid or finished as to provide a smooth and impervious surface.

3 (b) The height of every room in the building shall be not less than 3.65 metre from floor level to the lowest part of the roof and there shall be at least 1.1 Sq.m. of floor area for every person employed.

Provided that

i (i) workers who habitually go home for their meals during the rest periods may be excluded in calculating number of workers to be accommodated

ii (ii) in the case of factories in existence at the date of commencement of the Act.,

where it is impracticable owing to lack of space to provide 1.1 Sq.m. of floor area for each person, such reduced floor area per person shall be provided as may be approved in writing by the Chief Inspector.
(c) Effective and suitable provision shall be made in every room for securing and maintaining adequate ventilation by the circulation of fresh air and there shall also be provided and maintained sufficient and suitable natural or artificial lighting.
(d) Every room shall be adequately furnished with chairs or benches with backrests.
(e) Sweepers shall be employed whose primary duty is to keep the rooms buildings, and precincts thereof in a clean and tidy condition.
(f) [Suitable provisions shall be made in every room for supply of drinking water and facilities for washing.][85]
(3)
(a) [86][The lunch rooms shall comply with the requirements laid down in clauses (a) to (f) of sub-rule (2).
(b) Every lunch room shall be provided with adequate number of tables with impervious tops and suitable benches or chairs for use of workers for taking food. Adequate means for warming food shall also be made.]

79. Creches

1 (1) In every factory, wherein more than [87][Thirty] women workers are ordinarily employed the crèches shall be conveniently accessible to the mothers of the children accommodated therein and so far, as reasonably practicable shall not be situated in close proximity to any part of the factory where obnoxious fumes, dust or odours are given off or in which excessively noisy processes are carried on.

1 (2) The building in which creche is situated shall be soundly constructed and all the walls and roof shall be of suitable heat-resisting materials and shall be waterproof. The floor and internal walls of the creche shall be so laid or furnished as to provide a smooth impervious surface.

2 (3) The height of the rooms in the building shall be not less than 65 cm from the floor to the lowest part of the roof and there shall be not less than 1.86 square metre of floor area for each child to be accommodated.

3 (4) Effective and suitable provision shall be made in every part of the creche for adequate ventilation by the circulation of fresh air.

4 (5) The creche shall be adequately furnished and equipped and in particular there shall be one suitable cot or cradle with the necessary bedding for each child (provided that for children over two years of age it will be sufficient if suitable bedding is made available) at least on chair or equivalent seating accommodation for the use of each mother while she is feeding or attending to her child, and a sufficient supply of suitable toys for the older children.

5 (6) A suitable fenced and shady open air play-ground shall be provided for the older children:

Provided that the Chief Inspector may by order in writing exempt any factory from compliance with this sub-rule if he is satisfied that there is no sufficient space available for the provision of such a play-ground.

1 (7) The occupier of every factory shall provide for facilities for the mothers of children to feed them at regular intervals.

80. Wash-room

1 (1) There shall be in or adjoining the creche a suitable wash-room for the washing of the children and their clothing. The wash-room shall conform to the following standards:

2 (a) The floor and internal walls of the room to the height of 0.9 metre shall be so laid or furnished as to provide a smooth impervious surface. The room shall be adequately lighted and ventilated and the floor shall be effectively drained and maintained in a clean and tidy condition.

3 (b) There shall be at least one basin or similar vessel for every four children accommodated in the creche at any one time together with a supply of water provided if practicable through taps from source approved by the health Officer. Such source shall be capable of yielding for each child a supply of at least five gallons of water a day.

4 (c) An adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the creche.

5 (2) Adjoining the wash-room referred to above, latrine shall be provided for the sole use of the children in the creche. The design of the latrine and the scale of accommodation to be provided shall either be approved by the Public Health Authorities, or where there is no such authority, by the Chief Inspector of Factories.

81. Supply of milk and refreshment

At least half of pint [88][quarter litre] of pure milk shall be available for each child on every day [89][who] is accommodated in the creche and the mother of such a child shall be allowed in the course of her daily work, two intervals of at least 15 minutes to feed the child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.

82. [90][Clothes for crèche staff

The creche staff shall be provided with suitable clean clothes for use while on duty in the creche.

82-A. [91][Exemption from the provision of crèche

1 (1) In factories where the number of married women or widows employed does not exceed fifteen or where the factory works for less than one hundred and eighty days in a calendar year, or where the number of children kept in the creche was less than five in the preceding year, the Chief Inspector of Factories may exempt such factories from the provisions of section 48 and the rules 79 to 82 of these rules, if he is satisfied that alternate arrangements as specified in sub- rule (2) are provided by the factory.

2 (2)

3 (a) The alternate arrangements required in sub-rule (1) shall include a creche building which has a minimum accommodation at the rate of 1.85 square metres per child and constructed in accordance with the plans approved by the Chief Inspector of Factories;

4 (b) The creche building shall have:
5 (i) a suitable washroom for washing of the children and their clothing;
6 (ii) adequate supply of soap and clean clothes and towels; and
7 (iii) 92[one female attendant upto twenty children and additional female attendant(s) for every additional twenty children or part thereof who are provided with suitable clean clothes for use while on duty to look after the children in the creche.
8 (3) The exemption granted under sub-rule (1) may at any time be withdrawn by the Chief Inspector of Factories if he finds after such enquiry as he may deem fit, that the factory has committed a breach of this rule."]

CHAPTER-VI
WORKING HOURS OF ADULTS
83. Compensatory holidays
1 (1) Except in the case of workers engaged in any work for which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub- section (1) of Section 52 of the Act shall be so spaced that not more than two holidays are given in one week.

1 (2) The Manager of the factory shall display, on or before the end of the month in which holidays are lost, a notice in respect of workers allowed compensatory holidays during the following month and of the dates thereof, at the place at which the notice of periods of work prescribed under Section 61 of the Act is displayed. Any subsequent change in the notice in respect of any compensatory holiday shall be made not less than three days in advance of the date of that holiday.
2 (3) Any compensatory holiday or holidays to which a worker is entitled shall be given to him before he is discharged or dismissed and shall not be reckoned as part of any period of notice required to be given before discharge or dismissal.
3 (4)
4 (a) The Manager shall maintain a Register in Form No 9.

Provided that if the Chief Inspector of Factories is of the opinion that any muster-roll or register maintained as part of routine of the factory or return made by the Manager, gives in respect of any or all of the workers in the factory the particulars required for the enforcement of Section 52, he may, by order in writing, direct that such muster-roll or register or return shall, to the corresponding extent, be maintained in place of and be treated as the register of return required under this rule, for that factory.
(b) The register maintained under clause (a) shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

84. Exemption for printing presses attached with daily newspapers
All Printing Presses attached to daily newspapers publishing more than one edition shall be exempted from the provisions of sub-section (1) of Section 58 of the Act subject to the condition that the system of overlapping shifts is duly approved by the Chief Inspector of

Factories before hand and no worker is made to work more than nine hours a day subject to forty-eight hours a week as provided under Section 51 of the Act.

85. Muster-roll for exempted factories

1 (1) [93][The Manager of every factory in which workers are exempted under Section 64 or 65 from the provisions of Section 51 or 54 shall keep a muster-roll in Form No. 10 showing the normal piece-work rate of pay, or the late or pay per hour, of all exempted employees. In this muster-roll shall be correctly entered the overtime hours of work and payments therefore of all exempted workers. The muster-roll in Form No. 10 shall always be available for inspection.

2 (2) Period of overtime work shall also be entered in overtime slips which shall be prepared in duplicate and an overtime slip duly signed by the Manager or by a person duly authorised by him shall be given to the worker immediately after completion of the overtime work.]

85-A. [94][Extra wages for overtime

For the purpose of computing cash equivalent of the advantage accruing through the concessional sale to a worker of foodgrains and other articles, the difference between the value of foodgrains and articles at the average rates in the nearest market prevailing

during the wage food period in which overtime was worked and value of foodgrains and other articles supplied at concessional rates shall be calculated and allowed for the number of overtime hours worked:

Provided that this rule shall not apply to any Federal Railway Factory whose alternative method of compensation has been approved by the State Government.]

86. Register of Adult Workers

The Register of periods of work for adult workers shall be in Form No. 11.

87. Register of adult workers

The Register of adult workers shall be in Form No. 12.

[88 to 91]

Rules 88 to 91 impliedly repealed by Punjab Government Notification No. 2036-VII-DS-Lab.-61/1345, dated the 20th May, 1961.

CHAPTER-VII

EMPLOYEMENT OF YOUNG PERSONS

92. Notice of periods of work of children

The notice of periods of work for child workers shall be in Form No. 1395.

93. Register of child workers

The Register of child workers shall be in Form No. 1496.

CHAPTER-VIII

LEAVE WITH WAGES

94. Wages during leave period

The cash equivalent of the advantage accruing thorough the concessional sale of foodgrains and other articles payable to workers proceeding on leave shall be the difference between the value at the average rates in the nearest market prevailing during the month immediately preceding his leave and the value at the concessional rates allowed foodgrains and other articles he is entitled to.

For the purposes of the cash equivalent monthly average market rates of foodgrains and other articles shall be computed at the end of every month.

94-A. [97][Leave with wages register

1 (1) The manager shall maintain a register in Form No., 15 (hereinafter called the leave with wages register) and the name of each worker shall be entered in this register before the close of the next calendar month following the month, in which the workers is taken in employment.

Provided that if Chief Inspector is of the opinion that any muster-roll or register or any other record maintained as part of the routine of the factory, or return made by the manager gives in respect of any or all the workers in the factory, the particulars required for the enforcement of Chapter VIII of the Act, he may, by order in writing, direct that such muster-roll or register or return shall, to the

corresponding extent, the maintained in place of and be treated as the register or return required under this rule in respect of the factory.

1 (2) The leave with wages register shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

95. [98][Leave Book

1 (1) The Manager shall provide each worker with a book in Form No. 15 (hereinafter called the leave book) within one month following the month in which the worker is taken in employment. The leave book shall be the property of the worker and the manager or his agent shall not demand it except to make relevant entries therein whenever necessary, and shall not keep it for more than a week at a time.

2 (2) If a worker loses his leave book, the manager shall provide him with another copy on payment of 15 Paise duly completed from his record within a week of the payment.]

96. [99][Medical Certificate

If any worker is absent from work due to his illness and he wants to avail himself of the leave with wages due to him to cover the whole or part of the period of his illness under the provisions of clause (7) of Section 79 of Chapter VIII of the Act as revised by the Factories (Amendment) Act, 1954 he shall, if required by the manager, produce a medical certificate signed by a registered medical practitioner or by a registered or recognised Vaid or hakim stating the cause of the absence and the period for which the worker is, in the opinion of such medical practitioner, Vaid or hakim, unable to attend his work, or other reliable evidence to prove that he was actually ill during the period for which the leave is to be availed of.]

97. Notice to Inspector of involuntary unemployment

The manager shall give as soon as possible a notice to the Inspector of every case of involuntary unemployment of workers, giving numbers of unemployed and the reason for their unemployment. Entries to this effect shall be made in the Leave with Wages Register and the Leave Book in respect of each worker concerned.

98. Notice by worker

Before or at the end of every calendar year, a worker, who may be required to avail to leave in accordance with sub-section (8) of Section 79 of the Act may give notice to the Manager of his intention not to avail himself of the leave with wages falling due during the following calendar year. The Manager shall make an entry to that effect in the Leave the Wages Register and in the Leave Book of the Worker concerned.

99. Notice of leave with wages

1 (1) As far as circumstances permit, members of the same family, comprising husband, wife and children shall be allowed leave on the same date.

2 (2) A worker may exchange the period of his leave with another worker, subject to the approval of the Manager.

100. Payment of wages if the worker dies

If a worker dies before he resumes work, the balance of his pay due for the period of [100][Leave with wages not availed of] shall be paid to his nominee within one week of the intimation of the death of the worker. For this purpose each worker shall submit a nomination in Form No. D annexed hereto duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.

101. Register to be maintained in case of exemption under Section 84

1 (1) Where an exemption is granted under Section 84, the Manager shall maintain a register showing the position of each worker as regards leave taken and wages granted.

2 (2) He shall display at the main entrance of the factory, notice giving full details of the system established in the factory for leave with wages and shall send a copy of it to the Inspector.

3 (3) No alternation shall be made in the Scheme approved by the State Government at the time of granting exemption under Section 84 of the Act without its previous sanction.

CHAPTER-IX

SPECIAL PROVISIONS

102. Dangerous [101][Manufacturing process] or operation

1 (1) The following [102][manufacturing process or operations] when carried on in any factory are declared to be dangerous [103][manufacturing process or operations] under Section 87 of the Act:

2 (1) Manufacture of aerated water and processes incidental thereto.

3 (2) [Electrolytic plating or oxidation of metal articles by use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver or gold.][104]

4 (3) Manufacture and repair of electric accumulators.

5 (4) Glass manufacture.

6 (5) Grinding or glazing of metals.

7 (6) Manufacture and treatment of lead and certain compounds of lead.

8 (7) [105][Generation of gas from dangerous petroleum.]

9 (8) [106][Cleaning, smoothening or roughening etc. of articles by a jet of sand, metal shot, grit or other abrasive propelled by a blast of compressed air of steam.

10 (9) Liming and tanning of raw hides and skins and processes incidental thereto.
11 (10) [107][Carrying on of certain processes of lead and lead material in Printing Presses and Type Foundries.]
12 (11) [108][Chemical works.]
13 (12) Manufacture of pottery and ceramics.

1 (13) [109]Compression of Oxygen and Hydrogen produced by the electrolysis of water:
2 (14) Manipulation of stone or any other material containing free silica;
3 (15) [110][Handling and processing of asbestos, manufacture of any article of asbestos and any other process of manufacture or otherwise in which asbestos is used in any form;
4 (16) Handling and manipulation of corrosive substances
5 (17) [Use of ovens and driers in factories][111]
6 (18) [112][Manufacture of Manipulation of Carcinogenic intermediates;
7 (19) [113][Process extracting vegetable oils from oil cakes in solvent extraction plants.]
8 (20) Manufacture and manipulation of manganese and its compounds.
9 (21) Protection against hazards of poisoning arising from benzene.
10 (22) Carbon disulphide plants.]
11 (23) Operations involving High Noise levels.
12 (24) Manufacture or manipulation of dangerous pesticides.
13 (25) Manufacture of Rayon by Viscose
14 (26) Highly Flammable liquids and Flammable Compressed Gases.][114]
15 (27) [Operation in foundries][115]

116[(2-A)
(a) for the medical examination of workers to be conducted by the certifying surgeons as required by the Schedule annexed to these rules, the occupier of the factory shall pay fee at the rate of five rupees per examination of each worker;
(b) The fee prescribed in clause (a) shall be exclusive of any charges for biological, radiological or other tests which may have to be carried out in connection with the medical examination. Such charges shall be payable by the occupier;
(c) The fees to be paid for medical examination shall be paid into the local treasury under the head of account [0230][117] Labour and Employment (Provincial) fee realized under the Factories Act, 1948", or through a crossed cheque on the State Bank of India, or through postal order drawn in favour of the Chief Inspector.]
(3) [118][Wherever a periodical medical examination has been prescribed under the different schedules, the occupier shall send a return in Form No. 34, to the Chief Inspector of Factories, so as to reach him on or before the 5th of every month in respect of medical examination of the workers conducted during the preceding month.]

1 (4) [119][Notwithstanding anything contained in the Schedules annexed to this rule, the Inspector may issue order in writing to the Manager or Occupier or both, directing them to carry such measures, and within such time, as may be specified in such order with a view to remove conditions dangerous to the health of the worker or to suspend any process, where

such process constitutes in the opinion of the Inspector imminent danger of poisoning or toxicity.]

2 (5) Any register or record of medical examinations and tests connected therewith required to be carried out, under any of the Schedule annexed hereto, in respect of any worker, shall be kept readily available to the Inspector and shall be preserved till the expiry of a period of one year after the worker ceases to be in employment of the factory.

SCHEDULE I

MANUFACTURE OF AERATED WATERS AND PROCESSES INCIDENTAL THERETO

1 1. Fencing of machines: All machines for filling bottles or syphons shall be so constructed, placed or fenced, as to prevent, as far as may be practicable, a fragment of a bursting bottle or syphon form striking any person employed in the factory.

2 2. Face guards and gauntlets:

3 (1) The occupier shall provide and maintain in good condition for the use of all persons engaged in filling bottles or siphons:

4 (a) suitable face guards to protect the face, neck and throat; and

5 (b) suitable gauntlets for both arms to protect the whole hand and arms

Provided that:

i (i) paragraph 2(1) shall not apply where bottles are filled by means of an automatic machine so constructed that no fragment of a bursting bottle can escape.

ii (ii) Where a machine is so constructed that only one arm of the bottler at work up to it is exposed to danger, a gauntlet need not be provided for the arm which is not exposed to danger.

iii (2) The Occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowning, screwing, wiring, foiling, capsuling, sighting or labelling bottles or syphons:

iv (a) suitable face-guards to protect the face, neck and throat; and

v (b) suitable gauntlets for both arms to protect the arm and at least half of the palm and the space between the thumb and forefinger.

vi 3. Wearing of face guards and gauntlets: All persons engaged in any of the processes specified in paragraph 2 of this schedule shall, while at work in such processes, wear the face guards and gauntlets provided under the provisions of the said paragraph.

SCHEDULE II120

ELECTROLYTIC PLATING OR OXIDATION OF METAL ARTICLES BY USE OF AN ELECTROLYTE CONTAINING ACIDS, BASES OR SALTS OF METALS SUCH AS CHROMIUM, NICKEL, CADMIUM, ZINC, COPPER, SILVER, GOLD ETC.

1 1. Definitions: For the purposes of this Schedule,

2 (a) “electrolytic process” means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold, etc.

3 (b) “bath” means any vessel used for an electrolytic process or for any subsequent process; and

4 (c) “Employed “means employed in any process involving contact with liquid from a bath.
5 2. Exhaust draught
6 (1) an efficient exhaust draught shall be applied to every vessel in which an electrolytic process is carried on.
7 (2) The draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as near as may be at the point of origin.
8 (3) The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the vapour or spray entering into any room or place in which work is carried on.
9 3. Prohibition relating to women and young persons: No women, adolescent or child shall be employed or permitted to work at a bath.
10 4. Floor of workrooms: The floor of every workroom containing a bath shall be impervious to water. The floor shall be maintained in good and level condition and shall be washed down at least once a day.
11 5. Protective devices:
12 (1) The occupier shall provide and maintain in good and clean condition the following articles of protective devices for the use of all persons employed on any process at which they are liable to come in contact with liquid from a bath and such devices shall be worn by the persons concerned as follows:
13 (a) waterproof aprons and bibs; and
14 (b) for persons actually working at a bath, loose fitting rubber gloves and rubber boots or other waterproof footwear, and chemical goggles.
15 (2) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and drying of protective devices.
16 6. Water facilities
17 (1) There shall be provided and maintained in good repairs for the use of all persons employed in electrolytic process and processes incidental to it
18 (a) a wash place under cover, with either:

i (i) a trough with a smooth impervious surface filled with a waste pipe, and of sufficient length to allow at least 60cms for every 5 persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60cms, or
ii (ii) at least one wash basis for every five such persons employed at any one time, fitted with a waste pipe and having a constant supply of water laid on.
iii (b) a sufficient supply of clean towels renewed daily, and soap or other suitable cleaning material.
iv (2) In addition to the facility in sub-paragraph 1, an approved type emergency shower with eye fountain shall be provided and maintained in good working order. Whenever necessary, in order to ensure continuous water supply, storage tank of 1500 litres capacity shall be provided as a source of clean water for emergency use.
v 7. Cautionary placard: A cautionary placard in the form specified below and printed in the language of the majority of the workers employed shall be affixed in a prominent place in the factory where it can be easily and conveniently read by the workers.

CAUTIONARY NOTICE

Electrolytic Plating

1 1. Chemicals handled in this plant are corrosive and poisonous.

2 2. Smoking, chewing tobacco, eating food or drinking, in this area is prohibited. No food stuff or drink shall be brought in this area.

3 3. Some of these chemicals may be absorbed through the skin and may cause poisoning.

4 4. A good wash shall be taken before meals.

5 5. Protective devices supplied shall be used while working in this area.

6 6. Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.

7 7. All workers shall report for the prescribed medical tests regularly to protect their own health.

8 8. Medical facilities and records of examinations and tests

9 (1) The occupier of every factory in which electrolytic processes are carried on shall:

10 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories;

11 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and

(c) maintain a sufficient supply of suitable barrier cream, ointment and impermeable water proof plaster in a separate box readily accessible to the worker's ad used solely for the purpose of keeping these substances. In case cyanides are used in the both, the box shall also contain an emergency cyanide kit.

(2) The medical practitioner shall examine all workers before they are employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hands, forearms and nose and will be carried out once at least in every fortnight

(3) The record of the examinations referred to in sub-paragraph (2) shall be maintained in a separate register approved by Chief Inspector of Factories which shall be kept readily available for inspection by the Inspector.

9. Medical examination by the Certifying Surgeon

(1) Every worker employed in the electrolytic processes shall be examined by a Certifying Surgeon before his first employment Such examination shall include X-ray of the chest and:

(a) in case of chromium plating include examination for nasal septum perforation and test for chromium in urine;

(b) in case of nickel platting, test for nickel in urine; and

(c) in case of cadmium plating, test for cadmium in urine and 2 microglobulin in urine.

(2) No worker shall be employed in any electrolytic process unless certified fit for such employment by the Certifying Surgeon.

(3) Every worker employed in the electrolytic processes shall be re-examined by a Certifying Surgeon at least once in every year, except in case of the workers employed in cadmium, chromium and nickel plating processes for whom this examination shall be carried our once in every six months. Such re-examination shall, wherever the Certifying Surgeon considers

appropriate, include tests as specified under sub-paragraph (1) excluding the X-ray of the chest which shall not be required normally to be carried out earlier than once in three years.
(4) The certifying surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 34.
(5) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector.
(6) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the electrolytic processes on the ground that continuance therein would involve danger to the health of the worker, he

1 shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Certifying Surgeon in which case the person affected shall be suitably rehabilitated.
2 (7) No person who has been found unfit to work as said in sub-paragraph (6) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon after further examination, again certifies him fit for employment in these processes.

SCHEDULE III
MANUFACTURE AND REPAIR OF ELECTRIC ACCUMULATORS
1 1. Savings: This schedule shall not apply to the manufacture or repair of electric accumulators or parts thereof not containing lead or any compound of lead; or to the repair on the premises, of any accumulator forming part of a stationary battery.
2 2. Definitions: For the purposes of this schedule,
3 (a) “Lead process” means the melting of lead or any material containing lead, casting, pasting, lead burning, or any other work, including trimming, or any other abrading or cutting of pasted plates, involving the use, movement or manipulation of or contact with, any oxide of lead;
4 (b) “manipulation of raw oxide of lead” means any lead process involving any manipulation or movement of raw oxides of lead other than its conveyance in a receptacle or by means of an implement from one operation to another;
5 (c) Omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
6 3. Prohibition relating to women and young persons: No women or young person shall be employed or permitted to work in any lead process or in any room in which the manipulation of raw oxide of lead or pasting is carried on.
7 4. Separation of certain processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another, and from other processes:
8 (a) manipulation of raw oxide of lend;

(b) pasting;
(c) Drying of pasted plates;
(d) formation with lead turning (tacking) necessarily carried on in connection therewith; and
(e) melting down of pasted plates.
5. Air space: In every room in which a lead process is carried on, there shall be at least 14.2 cubic meters of air space for each person employed therein, and in computing this air space no height over 3.65 meters shall be taken into account.

6. Ventilation: Every workroom shall be provided with inlets and outlets of adequate size as to secure and maintain efficient ventilation in all parts of the room.
7. Distance between workers in pasting room - In every pasting room the distance between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than 1.5 meters.
8. Floor of workrooms
(1) The floor of every room in which lead process is carried on shall be:
(a) of cement or similar material so as to be smooth and impervious to water;
(b) maintained in sound condition; and
(c) kept free from materials, plant, or other obstructions not required for, or produced in, the process carried on in the room.
(2) In all such rooms, other than grid casting shops the floor shall be cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.
(3) In grid casting shops the floor shall be cleansed daily.
(4) Without prejudice to the requirements of sub-paragraphs (1), (2) and (3), where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be:
(a) kept constantly moist while work is being done;
(b) provided with suitable and adequate arrangements for drainage; and
(c) Thoroughly washed daily by means of hose pipe.
9. Work-benches: The work-benches at which any lead process is carried on shall:
(a) have a smooth surface and be maintained in sound condition;
(b) be kept free from all materials or plant not required for, or produced in, the process carried out there at;

and all such work-benches other than those in grid casting shops shall
(c) be cleaned daily either after being thoroughly damped or by means of suction cleaning apparatus at the time when no other work being carried on threat;

and all such work-benches in grid casting shops shall
(d) be cleaned daily;

and every work-bench used for pasting shall:
(e) be covered throughout with sheet lead and other impervious material;
(f) be provided with raised edges;

(g) be kept constantly moist while pasting being carried on.

1 10. Exhuaght draught: The following provisions shall not be carried on without the use of an efficient exhaught draught,
2 (a) Melting of lead or material containing lead.
3 (b) Manipulation of raw oxide of lead unless done in an enclosed apparatus so as to prevent the escape of dust into work-room.
4 (c) Pasting
5 (d) Trimming, brushing, filing or any other abrading or cutting or pasted plates giving rise to dust.
6 (e) Lead burning other than
7 (i) “tacking” in the formation room
8 (ii) Chemical burning for making of lead linings for cell cases necessarily carried on in such a manner that the application of efficient exhaught is impracticable.

Such exhaught draught shall be affected by mechanical means and shall operate on the dust or fume given off as nearly as may be at the point of reason so as to prevent it entering the air of any room in which persons works.
1 11. Fumes and gasses from melting pots: The products of combustion produced in the heating of any melting pot shall not be allow to escape into a room in which persons work.
2 12. Containers for dross: A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the work room accept when dross is being deposited therein.
3 13. Container for lead waste: A suitable receptacle shall be provided in every work room in which old plates and waste material which may give rise to shall be deposited.
4 14. Racks and shelves drying room: The racks and shelves provided in any drying room shall not be more than 2.4 m from the floor and not more than 60 cm in width / provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 1.2 m.

Such racks and shelves shall be cleaned only after being thoroughly damped unless so efficient suction cleaning apparatus is used for this purpose.
1 15. 121[Medical facilities and records of medical examination and tests
2 (1) The occupier of every factory in which manufacture and repair of electric accumulators is carried on shall:
3 (a) Employ a qualify medical practitioner for medical surveillance of the workers employed there in whose employment shall be subject to the approval of chief inspector; and

(b) Provided to the set medical practitioner all necessary facilities for the purpose referred to enclose (a).
(2) The record of medical examinations and appropriate test carried out by the said medical practitioner shall be maintained in a separate register approved by the chief inspector .and such register shall be kept readily available for inspection by the inspector.

15-A. Medical examination by the Certifying Surgeon

1 (1) every worker employed in a lead processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include test for lead in urine and blood, ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
2 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 3 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub- paragraph (1).
3 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
6 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]
7 16. Protective clothing: protective clothing shall be provided and maintained in good condition for all person employed in,
8 (a) Manipulation of raw oxide of lead
9 (b) Pasting
10 (c) The formation room:

And such clothing shall be worn by the person concerned.
The protective clothing shall consist of a water-proof apron and water-proof footwear; and also, as required persons employed in the manipulation of raw oxide of lead or in the pasting the head covering shall be washed daily.
1 17. Mess room: There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess room which shall be furnished with sufficient tables and benches.

The mess room shall placed under the charge of a responsible person and shall be kept clean.
1 18. Cloak room: there shall be provided and maintained for the use of all persons employed in a lead process:
2 (a) a cloak room for clothing put-off during working hours with adequate arrangements for drying the clothes, if wet. Such accommodation shall be separate from mess room.

3 (b) separate and suitable arrangements for the storage of protective clothing provided as per sub-rule (16)

4 19. Washing facilities: There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process,

5 (a) a wash place with either:

6 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or

7 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a adequate supply of water laid on.

8 (iii) a sufficient supply of clean towels made of suitable materials renewed daily, which supply in case of pasters and person employed in manipulation of raw oxide of lead shall include a separate marked towel for each worker; and

9 (iv) a sufficient supply of soap or other suitable cleansing material and of nail brushes.

10 (b) There shall in addition be provided means of washing in close proximity to the rooms in which manipulation of raw oxide of lead or pasting is carried on if required by notice in writing from the Chief Inspector.

11 20. Time allowed for washing: Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in the manipulation of raw oxide of lead or in pasting. Provided that if there is be one basin or 60 centimeters of trough for each such person, this paragraph shall not apply.

1 21. Facilities for bathing: sufficient bath accommodation to the satisfaction of the Chief Inspector shall be provided to all the persons engaged in manipulation of raw oxide of lead or in pasting and a sufficient supply of soap and clean towels.

2 22. foods, drinks etc. prohibited in work-rooms: No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any work-room in which any lead process is carried on.

SCHEDULE IV

GLASS MANUFACTURE

1 1. Exemption: If the Chief Inspector is satisfied in respect of any factory or any class of process that, owing to the special methods of work or the special conditions in a factory or otherwise, any of the requirements of this schedule can be suspended or relaxed without danger to the persons employed therein, or that the application of this schedule or any part thereof is for any reason impracticable, he may be certificate in writing authorize such suspension or relaxation as may be indicated in the certificate for such period and on such conditions as he may think fit.

2 2. Definitions: For the purpose of this schedule,

3 (a) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in

which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dust originate;
4 (b) “lead compound” means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid a quantity soluble lead compound exceeding, when calculated as lead monoxide, five percent of the dry weight of the portion taken analysis.

The method of treatment shall be as follows: A weighed quantity of the material which has been dried at 100 degrees centigrade and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.
(c) “suspension” means, suspension from employment in any process specified in paragraph 3 by written certificate in the Health Register in Form No. 17 signed by the certifying surgeon who shall have power of suspension as regards all persons employed in any such process.
3. Exhaust draught: The following processes shall not be carried on except under an efficient exhaust draught or such other conditions as may be approved by the Chief Inspector,

(a) the mixing of raw materials to form a “batch”;
(b) the dry grinding, glazing and polishing of glass or any article of glass;
(c) all processes in which hydrofluoric acid fumes or ammonical vapours are given off;
(d) all processes in the making of furnace moulds or “pots” including the grinding or crushing of used “pots”; and
(e) All processes involving the use of a dry lead compound.
4. Prohibition relating to women and young person: No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 2 or at any place where such operations are carried on.
5. Floor and work-benches: The floor and work-benches of every room in which a dry compound of lead is manipulated or in which any process is carried on giving off silica dust shall be kept moist and shall comply with the following requirements,
(a) The floor shall be:
(i) of cement or similar material so as to be smooth and impervious to water;
(ii) maintained in sound condition; and
(iii) cleansed daily after being thoroughly spread with water at a time when no other work is being carried on the room; and
(b) The work-benches shall:
(i) have a smooth surface and be maintained in sound condition, and
(ii) cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat.
6. Use of hydrofluoric acid: The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid,
(a) there shall be inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;

(b) the floor shall be covered with gutta-percha and be tight and shall slope gently down to a covered drain;
(c) the workplaces shall be so enclosed in projecting hoods that openings required for the bringing in the objects to be treated shall be as small as practicable; and
(d) The efficient exhaust draught shall be so contrived that the gases are exhausted downwards.
7. Storage and transport of hydrofluoric acid: Hydrofluoric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.

1 8. Blow pipes: Every glass blower shall be provided with a separate blow pipe bearing the distinguishing mark of the person to whom it is issued and suitable facilities shall be readily available to every glass blower for sterilising his blow pipe.
2 9. Food, drinks, etc., prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any room or workplace wherein any process specified in paragraph 2 is carried on.
3 10. Protective clothing: The occupier shall provide, maintain in good repair and keep in a clean condition for the use of all persons employed in the processes specified in paragraph 2 suitable protective clothing, footwear and goggles according to the nature of the work and such clothing, footwear, etc. shall be worn by the persons concerned.
4 11. Washing facilities: There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in the processes specified in paragraph 3,
5 (a) a wash place with either:
6 (i) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
7 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available;
8 (b) a sufficient supply of clean towels made of suitable material renewed daily with sufficient supply of soap or other suitable cleansing material and of nail brushes; and
9 (c) a sufficient number of stand pipes with taps the number and location of which shall be to the satisfaction of the Chief Inspector.
10 12. 122[Medical facilities and record of examinations and tests:
11 (1) The occupier of every factory in which glass manufacturing processes are carried out, shall,
12 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and
13 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).
14 (2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

12-A. Medical Examination by Certifying Surgeon

1 (1) Every worker employed in processes specified in paragraph 2 shall be examined by the Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-ray as well as tests for lead and urine. No worker shall be allowed to work after 15 days of first employment in the factory unless certified for such employment by the Certifying Surgeon.

2 (2) Every worker employed in the said processes shall be re-examined by the Certifying Surgeon at least once in every twelve calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

3 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraph (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fir for employment in the said processes on the ground that continuance therein would involve special danger to the health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which the person affected shall be suitable rehabilitated.

6 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

SCHEDULE V

GRINDING OR GLAZING OF METALS AND PROCESSES INCIDENTAL THERETO

1 1. Definitions: For the purposes of this schedule,

2 (a) “grindstone” means a grindstone composed of natural or manufactured sandstone but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted;

3 (b) “abrasive wheel” means a wheel manufactured of bonded emery or similar abrasive;

4 (c) “grinding” means the abrasion, by aid of mechanical power, of metal, by means of a grindstone or abrasive wheel;

(d) “glazing” means the abrading, polishing or finishing, by aid of mechanical power, of metal, by means of any wheel, buff, mop or similar appliance to which any abrading or polishing substance is attached or applied;

(e) “racing” means the turning up, cutting or dressing of a revolving grindstone before it is brought into use for the first time;
(f) “hacking’ means the chipping of the surface of a grindstone by a hack or similar tool; and
(g) “rodding” means the dressing of the surface of a revolving grindstone by the application of a rod, bar or strip of metal to such surface.

Exception
1 (1) Nothing in this schedule shall apply to any factory in which only repairs are carried on except any part thereof in which one or more persons are wholly or mainly employed in the grinding or glazing of metals.
2 (2) Nothing in this schedule except paragraph 4 shall apply to any grinding or glazing of metals carried on intermittently and at which no person is employed for more than 12 hours in any week
3 2. Equipment for removal of dust: No racing, dry grinding or glazing such conditions as he may specify therein, relax or suspend any of the provisions of this Schedule in respect of any factory if owning to the special methods of work or otherwise such relaxation or suspension is practicable without danger to the health or safety of the persons employed.
4 3. Equipment for removal of dust: No racing, dry grinding or glazing shall be performed without:
5 (a) a hood or other appliance so constructed, arranged, placed and maintained as substantially to intercept the dust thrown off;
6 (b) a duct of adequate size, air tight and so arranged as to be capable of carrying away the dust, which duct shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and where practicable, with a connection at the end remote from the fan to enable the Inspector to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and
7 (c) a fan or other efficient means of producing a draught sufficient to extract the dust:

Provided that the Chief Inspector may accept any other appliance that is, in his opinion, as effectual for the interception, removal and disposal of dust thrown off as a hood, duct and fan would be.
1 4. Restriction on employment on grinding operations: Not more than one person shall at any time perform the actual process of grinding or glazing upon a grindstone, abrasive wheel or glazing appliance:

Provided that this paragraph shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky articles at any such grindstone, abrasive wheel or glazing appliance.
1 5. Glazing: Glazing or other processes, except processes incidental to wet grinding upon a grindstone shall not be carried on in any room in which wet grinding upon a grindstone is done.
2 6. Hacking and rodding: Hacking or rodding shall not be done unless during the process either (a) an adequate supply of water is laid on at the upper surface of the grindstone or (b)

adequate appliances for the interception of dust are provided in accordance with the requirements of paragraph 3.

3 7. Examination of dust equipment:

4 (a) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.

5 (b) [123][A register containing particulars of such examination and tests shall be kept in Form 24.]

6 8. 124[Medical facilities and record of examinations and tests

7 (1) The occupier of every factory in which grinding or glazing of metals are carried out, shall:

8 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and

9 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

10 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

11 9. [Medical examination by the Certifying Surgeon:

12 (1) every worker employed in grinding or glazing of metal and processes incidental thereto shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

13 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

14 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried

1 out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

2 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

3 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said person is unfit for work in the said processes

4 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][125]

SCHEDULE VI

MANUFACTURE AND TREATMENT OF LEAD AND CERTAIN COMPOUNDS OF LEAD

1 1. Exemption: Where the Chief Inspector is satisfied that all or any of the provisions of this any factory from all or any of such provisions, subject to such conditions as he may specify. schedule are not necessary for the protection of the persons employed, he may by certificate in writing exempt

2 2. Definitions: For this purpose of this schedule,

3 (a) "lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five per cent of the "dry weight" of the portion taken for analysis. In the case of paints and similar products and other mixtures containing oil or fat the "dry weight" means the dry weight of the material remaining after the substance has been thoroughly mixed and treated with suitable solvents to remove oil, fats, varnish or other media.

The method of treatment shall be as follows:
A weighed quantity of the material which has been dried at 100 degree centigrade and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then precipitate as lead sulphate and weighed as lead sulphate;

(b) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dusts originate.

3. Application: This schedule shall apply to all factories or parts of factories in which any of the following operations are carried on,

(a) work at a furnace where the reduction or treatment of zinc or lead ores is carried on;
(b) the manipulation, treatment or reduction of ashes containing lead, the desilvering of lead or the melting of scrap lead or zinc;
(c) the manufacture of solder or alloys containing more than ten percent of lead;
(d) the manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate or silicate of lead;
(e) the handling or mixing of lead tetra-ethyl;
(f) any other operation involving the use of a lead compound; and
(g) The cleaning of workrooms where any of the operations aforesaid are carried on.

4. Prohibition relating to women and young persons: No women or young person shall be employed or permitted to work in any of the operations specified in paragraph 1.
5. Requirements to be observed: No person shall be employed or permitted to work in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 5 to 13 are complied with.
6. Exhaust draught: Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of an efficient exhaust draught to contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.
7. [Medical facilities and record of examinations and tests,
(1) The occupier of every factory in which grinding or glazing of metals are carried out, shall:
(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and
(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

1 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
2 8. Medical examination by the Certifying Surgeon
3 (1) Every worker employed in the operations referred to in paragraph 3, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests lead in blood and urine, ALA in urine, haemoglobin content, stippling of cells steadiness tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
4 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 3 calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
5 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
6 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
7 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said operations.

8 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

9 9. Food, drinks, etc. prohibited in workroom: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any worker in any workroom in which the process is carried on and no person shall remain in any such room during intervals for meals or rest.

10 10. Protective clothing: Suitable protective overalls and head coverage shall be provided, maintained and kept clean by the occupier and such overalls and head coverings shall be worn by the persons employed.

1 11. Cleanliness of workrooms, tools, etc.: The rooms in which the persons are employed and all tools and apparatus used by them shall be kept in a clean state.

2 12. Washing facilities

3 (1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of:

4 (a) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least two feet for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or

5 (b) At least one wash-basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels.

6 (2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.

7 13. Mess room or canteen: The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangements shall consist of the use of a room separate from any workroom which shall be furnished with sufficient tables and benches, and unless a canteen serving hot meals is provided, adequate means of warming the food. The room shall be adequately ventilated by the circulation of fresh air, shall be placed under the charge of a responsible person and shall be kept clean.

8 14. Cloakroom: The occupier shall provide and maintain for the use of persons employed, suitable accommodation for clothing not worn during working hours, and for the drying of wet clothing.

SCHEDULE VII

126[GENERATING PETROL GAS FROM DANGEROUS PETROLEUM]

1 1. Prohibition relating to women and young persons: No woman or young person shall be employed or permitted to work in or shall be allowed to enter any building 127[in which the generation of gas from dangerous petroleum] is carried on.

2 2. Flame traps: The plant for 128[generation of gas from dangerous petroleum] and associated piping and fittings shall be fitted with at least two efficient flame traps so designed

and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free form leaks.

3 3. Generating building or room: All plants for [129][generation of gas from dangerous petroleum] erected after the coming into force of the provisions specified in this schedule, shall be erected outside the factory building proper in a separate well ventilated building (hereinafter referred to as "generating building"). In the case of such plants erected before the coming into force of the provisions specified in this schedule, there shall be no direct communication between the room

1 where such plants are erected (hereinafter referred to as "the generating room") and the remainder of the factory building. So far as practicable, all such generating rooms shall be constructed of fire-resisting materials.

2 4. Fire extinguishers: An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generation of [130][gas from dangerous petroleum].

3 5. Plant to be approved by Chief Inspector: [131][Gas from dangerous petroleum] shall not be manufactured except in a plant for [132][Generating gas], the design and construction of which has been approved by the Chief Inspector.

4 6. Escape of [133][dangerous petroleum]: Effective steps shall be taken to prevent [134][dangerous petroleum] from escaping into any drain or sewer.

5 7. Prohibition relating to smoking: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in the generation room or building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall be posted in the factory prohibiting smoking and the carrying of matches, fire or naked light or other means of producing a naked light or spark into such room or building.

6 8. Access to [135][dangerous petroleum] or container: No unauthorized person shall have access to any [136][dangerous petroleum] or to a vessel containing or having actually contained [dangerous petroleum].

7 9. Electric fittings: All electric fittings shall be of flameproof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.

8 10. Construction of doors: All doors in the generating room or building shall be constructed to open outwards or to slide and no door shall be locked or obstructed or fastened in a such a manner that it cannot be easily and immediately opened from the inside while gas is being generated and any person is working in the generating room or building.

9 11. Repair of containers: No vessel that has contained [137][dangerous petroleum] shall be repaired in a generating room or building and no repairs to any such vessel shall be undertaken unless live steam has been blown into the vessel and until the interior is thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from [dangerous petroleum] or inflammable vapour.

SCHEDULE VIII

[138]CLEANING OR SMOOTHING, ROUGHENING, ETC. OF ARTICLES, BY A JET OF SAND, METAL SHOT, OR GRIT, OR OTHER ABRASIVE PROPELLED BY A BLAST OF COMPRESSED AIR OR STEAM

(BLASTING REGULATIONS)

1 1. Definitions: For the purposes of this schedule,

2 (a) “blasting” means cleaning, smoothing, roughening, or removing of any part of the surface of any article by the use of an abrasive of a jet of sand, metal

shot, or grit or other material, propelled by a blast of compressed air or steam;

(b) “blasting enclosure” means a chamber, barrel, cabinet or any other enclosure designed for the performance of blasting therein;

(c) “blasting chamber” means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise; and

(d) “cleaning of castings” where done as an incidental or supplemental process in connection with the making of metal castings, means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothening of a casting, but does not include the free treatment.

2. Prohibition of sand blasting: Sand or any other substance containing free silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting:

Provided that this clause shall come into force two years after the coming into operation of this schedule.

Provided further that no woman or young person shall be employed or permitted to work at any operation of sand blasting.

1 3. Precautions in connection with blasting operations

2 (1) Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and clearing and repairing of the enclosure including the plant and appliances situated therein, shall be kept closed and air tight while blasting is being done therein.

3 (2) Maintenance of blasting enclosure: Blasting enclosure shall always be maintained in good condition and effective measures shall be taken to prevent dust escaping from such enclosure, and from apparatus connected therewith, into the air of any room.

4 (3) Provision of separating apparatus: There shall be provided and maintained for and in connection with every blasting enclosure, efficient apparatus for separating, so far as practicable, abrasive which has been used for blasting and which is to be used again as an abrasive, from dust or particles of other materials arising from blasting; and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been so separated : Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures constructed or installed before the coming into force of this schedule, if the Chief Inspector is of opinion that it is not reasonably practicable to provide such separating apparatus.

5 (4) Provision of ventilating plant: There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract, by exhaust draught effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by

1 such method and in such manner that it shall not escape into the air of any room; and every other filtering or settling device situated in a room in which persons are employed, other than persons attending to such bag or other filtering or settling device, shall be completely separated from the general air of that room in an enclosure ventilated to the open air.
2 (5) Operation of ventilating plant: The ventilating plant provided for the purpose of sub-paragraph (4) shall be kept in continuous operation whenever the blasting enclosure is in use whether or not blasting is actually taking place therein, and in the case of a blasting chamber, it shall be in operation even when any person is inside the chamber for the purpose of cleaning.

1 4. Inspection and examination
2 (1) Every blasting enclosure shall be specially inspected by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant shall be thoroughly examined and in the case of ventilating plant, tested by a competent person at least once in every month.
3 (2) Particulars of the result of every such inspection, examination or test shall forthwith be entered in a register which shall be kept in a form approved by the Chief Inspector and shall be available for inspection by any workman employed in or in connection with blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported by the person carrying out the inspection, examination or test to the occupier, manager or other appropriate person and without prejudice to the foregoing requirements of this schedule, shall be removed without avoidable delay.
4 5. Provision of protective helmets, gauntlets and overalls
5 (1) There shall be provided and maintained for the use of all persons who are employed in a blasting chamber, whether in blasting or in any work connected therewith or in cleaning such a chamber, protective helmets of a type approved by a certificate of the Chief Inspector; and every such person shall wear the helmet provided for this use whilst he is in the chamber and shall not remove it until he is outside the chamber.
6 (2) Each protective helmet shall carry a distinguishing mark indicating the person by whom it is intended to be used and no person shall be allowed or required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since been thoroughly disinfected.
7 (3) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less 170 litres per minute.
8 (4) Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting, and every such person shall while so engaged, wear the gauntlet and overall provided.

1 6. Precautions in connection with cleaning and other work
2 (1) Where any person is engaged upon cleaning of any blasting apparatus or blasting enclosure or of any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting apparatus or blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk of inhaling dust which has arisen from blasting, all practicable measures shall be taken to prevent such inhalation.

3 (2) In connection with any cleaning operation referred to in paragraph 5, and with the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such a manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used wherever practicable for such cleaning operations.
4 7. Storage accommodation for protective wear: Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by paragraph 5 shall be provided outside and conveniently near to every blasting enclosure and such accommodation shall be kept clean. Helmets, gauntlets and overalls when not in actual use shall be kept in this accommodation.
5 8. Maintenance and cleaning of protective wear: All helmets, guantlets, overalls and other protective devices or clothings provided and worn for the purposes of this schedule, shall be kept in good condition and so far, as is reasonably practicable shall be cleaned on every weekday in which they are used. Where dust arising from the cleaning of such protective clothing or devices is likely to be inhaled, all practicable measures shall be taken to prevent such inhalation. Vacuum cleaners shall, wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.
6 9. Maintenance of vacuum cleaning plant: Vacuum cleaning plant used for the purpose of this schedule shall be properly maintained.
7 10. Restrictions in employment of young persons
8 (1) No person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.
9 (2) No person under 18 years of age shall be employed to work regularly within twenty feet of any blasting enclosure unless the enclosure is in a room and he is outside that room where he is effectively separated from any dust coming from the enclosure.
10 11. Power to exempt or relax
11 (1) If the Chief Inspector is satisfied that in any factory or any class of factory, the use of sand or other substance containing free silica as an abrasive in blasting is necessary for a particular manufacture or process (other than the process incidental or supplemental to making of metal castings) and

1 that the manufacture or process cannot be carried on without the use of such abrasive or that owing to the special conditions or special method of work or otherwise any requirement of this schedule can be relaxed without endangering the health of the persons employed or that application of any such requirements is for any reason impracticable or inappropriate, he may, with the previous sanction of the State Government, by an order in writing exempt the said factory or class of factory from such provisions of this schedule, to such an extent and subject to such conditions and for such period as may be specified in the said order.
2 (2) Where an exemption has been granted under sub-paragraph (1), a copy of the order shall be displayed at a notice board at a prominent place at the main entrance or entrances to the factory and also at the place where the blasting is carried on.
3 12. 139[Medical facilities and records of examinations and tests
4 (1) occupier of every factory to which the Schedule applies, shall

5 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the the approval of the Chief Inspector of Factories; and

6 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

7 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

8 13. Medical examination by the Certifying Surgeon

9 (1) every worker employed in any of the processes to which this schedule shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and chest X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

10 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include pulmonary function test and chest X-ray once in every three years.

11 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

1 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

2 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

3 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

SCHEDULE IX

LIMING AND TANNING OF RAW HIDES AND SKINS AND PROCESSES INCIDENTAL THERETO

1 1. Cautionary notices

2 (1) Cautionary notices as to anthrax in the form specified by the Chief Inspector shall be affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed.
3 (2) A copy of a warning notice as to anthrax in the form specified by the Chief Inspector shall be given to each person employed when he is engaged, and subsequently if still employed, on the first day of each calendar year.
4 (3) Cautionary notices as to the effects of chrome on the skin shall be affixed in prominent positions in every factory in which chrome solutions are used and such notices shall be so placed as to be easily and conveniently read by the persons employed.
5 (4) Notices shall be affixed in prominent places in the factory stating the position of the first-aid box or cupboard and the name of the person in charge of such box or cupboard.
6 (5) If any person employed in the factory is illiterate, effective steps shall be taken to explain carefully to such illiterate person the contents of the notice specified in sub- paragraphs (1), (2) and (4) and if chrome solutions are used in the factory, the contents of the notice specified in sub-paragraph (3).
7 2. Protective clothing: The occupier shall provide and maintain in good condition the following articles of protective clothing,
8 (a) waterproof footwear leg coverings, aprons and gloves for persons employed in processes involving contact with chrome solutions, including the preparation of such solutions;

(b) gloves and boots for persons employed in lime yard;
(c) protective footwear, aprons and gloves for persons employed in processes involving the handling of hides and skins, other than in processes specified in sub- paragraphs (a) and (b) above:

Provided that:
i (i) the gloves, aprons, leg coverings or boots may be of rubber or leather, but the gloves and boots to be provided under sub-paragraphs (a) and (b) shall be of rubber.
ii (ii) the gloves may not be provided to persons fleshing by hand or employed in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquor.
iii 3. Washing facilities, mess room and cloakroom: There shall be provided and maintained in a clean state and in good repair for the use of all persons employed,
iv (a) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
v (b) at least on wash-basin for every ten such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels;
vi (c) a suitable mess room, adequate for the number remaining on the premises during the meal intervals, which shall be furnished with sufficient tables and benches and adequate means for warming food and for boiling water.

The mess room shall (1) be separate from any room or shed in which hides or skins are stored, treated or manipulated; (2) be separate from the cloakroom; and (3) be placed under the charge of a responsible person; and

(d) [140]the occupier shall provide and maintain for use of all persons employed suitable accommodation for clothing put off during working hours and another accommodation for protective clothing and also adequate arrangements for drying up the clothing in both the cases, if wet. The accommodation so provided shall be kept clean at all times and placed under the charge of a responsible person.

4. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any workroom or shed in which hides or skins are stored, treated or manipulated.

5. [141][Medical facilities and record of examinations and tests:

(1) The occupier of every factory in which the schedule applies, shall:

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories;

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(c) arrange for inspection of the hands of all the persons keeping in contact with chromium substances to be made twice a week; and

(d) Provide and maintain and supply suitable ointment and plaster in a box readily accessible to the workers and solely used for the purpose of keeping the ointment and the plaster.

(2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6. Medical Examination by Certifying Surgeon

(1) every worker employed in shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be re-examined by the Certifying Surgeon at least once in every twelve calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub- paragraph (1).

(3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fir for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said

certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which can the person affected shall be suitable rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][142]

SCHEDULE X

CARRYING ON OF CERTAIN PROCESSES OF LEAD AND LEAD MATERIAL IN PRINTING PRESSES AND TYPE FOUNDRIES

1 1. Exemption: Where the Chief Inspector is satisfied that all or any of the provisions of this schedule are not necessary for the protection of persons employed, he may by certificate in writing exempt any factory from all or any such provisions subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector.

2 2. Definitions: For the purpose of this schedule,

3 (a) "lead material" means material containing not less than five per cent of lead;

4 (b) "lead process" means

5 (i) the melting of lead or any lead material for casting and mechanical composing;

6 (ii) the recharging of machines with used lead material;

7 (iii) any other work including removal of dross from melting pots and cleaning of plungers; and

8 (iv) Manipulation, movement or other treatment of lead material.

9 (c) "efficient exhaust draught" means localised ventilation effected by head or mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dust originate.

10 3. Exhaust draught:

11 (1) None of the following processes shall be carried on except with an efficient exhaust draught unless carried on in such a manner as to prevent free escape of gas, vapour, fumes or dust into any place in which work is carried on, or unless carried on in electrically heated and thermostatically controlled melting pots:

12 (a) melting lead material or slugs; and

13 (b) Heating lead material so that vapour containing lead is given off.

Provided that the aforesaid processes may be carried on without efficient exhaust draught if they are carried on in such a manner as to prevent free escape of gas, vapour, fume or dust into any place in which work is being done or is carried on in electrically-heated and thermostatically controlled melting pots.

1 (2) Such exhaust draught shall be effected by mechanical means and so contrived as to operate on the dust, fume, gas or vapour given off as closely as may be at its point of origin.

2 4. Prohibition relating to women and young persons: No woman or young person shall be employed or permitted to work in any lead process.

1 5. Separation of certain processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another and from any other processes:

2 (a) melting of lead or any lead material;

3 (b) casting of lead ingots; and

4 (c) Mechanical composing.

5 6. Container for dross: A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the workroom near the machine except when the dross is being deposited therein.

6 7. Floor of workroom: The floor of every workroom where lead process is carried on shall be:

7 (a) of cement or similar material so as to be smooth and impervious to water;

8 (b) maintained in sound condition; and

9 (c) cleansed throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.

10 8. Mess room: There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable messroom which shall be furnished with sufficient tables and benches.

11 9. Washing facilities

12 (a) There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process – (a) a wash place with either:

13 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or

14 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available; and

15 (b) a sufficient supply of clean towels made of suitable materials renewed daily, with a sufficient supply of soap or other suitable cleansing material.

16 10. 143[Medical facilities and record of examination and tests

17 (1) The occupier of every factory to which this Schedule applies, shall:

18 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

10-A. Medical examination by Certifying Surgeon

1 (1) Every worker employed in a lead processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

2 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every six calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub- paragraph (1).

3 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

5 (5) If at any time certifying surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes

6 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

7 11. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any workroom in which any lead process is carried on.

8 12. The occupier shall provide to all persons employed in lead process two full sleeve overall every year, arrange for their weekly washing and maintain these in good

1 condition. The person employed in such a process shall wear these overall while engaged in such work.

SCHEDULE XI144
CHEMICAL WORKS
PART I

1 1. Application: This schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.

2 2. Definitions: For the purpose of this schedule,

3 (a) “chemical works” means any factory or such parts of any factory as are listed in appendix `A’ to this schedule;

4 (b) “efficient exhaust draught” means localised ventilation effected by mechanical or other means for the removal of gas, vapour, fume or dust to prevent it from escaping into the air of any place in which work is carried on;

5 (c) “bleaching powder” means the bleaching powder commonly called chloride of lime;

6 (d) “chlorate” means chlorate or perchlorate;

7 (e) “caustic” means hydroxide of potassium or sodium;

8 (f) “chrome process” means the manufacture of chromate or bichromate of potassium or sodium, OT the manipulation, movement or other treatment of these substances;

9 (g) “nitro or amino process” means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues, and the making of explosives with the use of any of these substances;

10 (h) the term `permit to work’ system means the compliance with the procedures laid down under para 20 of Part II;

11 (i) “toxic substances” means all those substances which when they enter into the human body, through inhalation or ingestion or absorption through skin, in sufficient quantities cause fatality or exert serious affliction of health, or chronic harmful effects on the health of persons exposed to it due to its inherent chemical or biological effects. (In respect of substances whose TLV is specified in Rule 123-A, exceeding the concentration specified therein would make the substance toxic);

12 (j) “emergency” means a situation or condition leading to a circumstance or set of circumstances in which there is danger to the life or health of persons or which could result in big fire or explosion or pollution to the work and outside environment, affecting the workers or neighbourhood in a serious manner, demanding immediate action;

13 (k) “dangerous chemical reactions” means high speed reactions, runaway reactions, delayed reactions, etc. and are characterised by evolution of large quantities of heat, intense release of toxic or flammable gases or vapours, sudden pressure build-up etc.;

(l) “manipulation” means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using, etc.;

(m) “approved personal protective equipment” means items of personal protective equipment conforming to the relevant ISI specifications or in the absence of it, personal protective equipment approved by the Chief Inspector of Factories;

(n) “appropriate personal protective equipment” means that when the protective equipment is used by the worker, he shall have no risk to his life or health or body; and
(o) “confined space” means any space by reason of its construction as well as in relation to the nature of the work carried therein and where hazards to the persons entering into or working inside exist or are likely to develop during working.

PART II
GENERAL REQUIREMENTS
Applying to all the works in Appendix `A’
1 1. Housekeeping
2 (1) Any spillage of materials shall be cleaned up before further processing.
3 (2) Floors, platforms, stairways, passages and gangways shall be free of any obstructions.
4 (3) There shall be provided easy means of access to all parts of the parts of the plant to facilitate cleaning.
5 2. Improper use of chemicals-chemicals or solvents or empty containers containing chemicals or solvents shall be permitted to be used by workers for any purpose other than in the processes for which they are supplied.
6 3. Prohibition on the use of food, etc. - No food, drink, tobacco, pan or any edible item shall be stored or heated or consumed on or near any part of the plant or equipment.
7 4. Cautionary Notices and Instructions
8 (1) Cautionary notices in a language understood by the majority of workers shall be prominently displayed in all hazardous areas drawing the attention of all workers about the hazards to health, hazards involving fire and explosion and any other hazard such as consequences of testing of material or substances used in the process or using any contaminated container for drinking or eating, to which the workers’ attention should be drawn for ensuring their safety and health.
9 (2) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the workers including illiterate workers about the hazards in the process including the specific hazards to which they may be exposed to, in the normal course of their work. Such instructions and education should also deal with the hazards involved in unauthorised and

1 unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precautions to be observed against each and every hazard. Further, an undertaking from the workers shall be obtained within 1 month of their employment and for old workers employed, within one month of coming into operation of the rules, to the effect that they have read the contents of the cautionary notices and instructions, understood them and would abide by them. The training and instructions to all workers and all supervisory personnel shall include the significance of different types of symbols and colours used on the labels stuck or painted on the various types of containers and pipe lines.
2 5. Evaluation and provision of safeguards before the commencement of process:

3 (1) Before commencing any process or any experimental work, or any new manufacture covered under Appendix `A', the occupier shall take all possible steps to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical reactions. The properties of the raw materials used, the final products to be made and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects on workers, which may occur during manufacture.

4 (2) Information in writing giving details of the process, its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in sub-para (1) above should be sent to the Chief Inspector at the earliest but in no case less than 15 days before commencing manufacture, handling, or storage of any of items covered under Appendix `A', whether on experimental basis, or as pilot plant or as trial production, or as large scale manufacture.

5 (3) The design, construction, installation, operation, maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safeguards against all the safety and health hazards so evaluated.

6 (4) The requirements under the sub-Para (1) to (3) shall not act in lieu of or in derogation to, any other provisions contained in any Act governing the work.

7 6. Authorized entry: Authorized persons only shall be permitted to enter any section of the factory or plant where any dangerous operations or processes are being carried on or where dangerous chemical reactions are taking place or where hazardous chemicals are stored.

8 7. Examination of instruments and safety devices

9 (1) All instruments and safety devices used in the process shall be tested before taking into use and after carrying out any repair to them and examined once in a month, by a competent person. Records of such tests and examinations shall be maintained in a register.

10 (2) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary, to ensure its effective and efficient working at all times.

1 8. Electrical installations: All electrical installations used in the process covered in Appendix `A' shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corrosion, flammability and exclusivity etc. and shall confirm to the relevant ISI specifications governing their construction and use for that area.

2 9. Handling and storage of chemicals

3 (1) The containers for handling and storage of chemicals shall be of adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequate labelling and colour coding arrangements to enable identification of the containers and their contents indicating the hazards and safe handling methods and shall conform to the respective ISI standards. The instructions given in the label shall be strictly adhered to. Damaged containers shall be handled only under supervision of a knowledgeable and responsible person and spillage shall be rendered innocuous in a safe manner using appropriate means.

4 (2) The arrangements for the storage of chemicals including charging of chemicals in reaction vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in Rule 128.
5 (3) Without prejudice to the generality of the requirements in sub- Para (2) above, the arrangements shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangements shall also take into consideration, the type of flooring and the capacity of flooring and the compatibility requirements of substances with other chemicals stored nearby.
6 (4)
7 (a) Storage of chemicals and intermediate products, which are highly unstable or reactive or explosive shall be limited to the quantities required for two months' use.
8 (b) Whenever the quantities laid down in the above clause (a) are to be exceeded, the permission of the Chief Inspector shall be obtained.
9 (c) Notwithstanding anything contained in clause (a) and (b) above, the Chief Inspector of Factories may direct any factory carrying out processes covered in Appendix `A' to further limit the storage of hazardous substances to quantities less than two months on considerations of safety.
10 (5) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the standby storage facility if any defect develops in any of the container resulting in the release of toxic substances.
11 (6) Any storage facility constructed using non-metallic material such as Fibreglass Reinforced Plastics (FRP), all glass vessels etc., shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be

1 properly anchored. Working platforms, access ladders, pipelines etc. used in such storage facility shall not have any support on the structure of the storage facility and shall be independently supported.
2 10. Facility for isolation: The plant and equipment shall be so constructed and maintained as to enable quick isolation of plant or part of plant or equipment, with appropriate indication. One copy of the layout plan indicating the isolation facilities shall always be available with the security personnel, the maintenance and the health and safety personnel and these isolation facilities shall be checked for its effectiveness once in a month.

1 11. Personal protective equipment
2 (1) All workers exposed to the hazards in the processes covered by this Schedule shall be provided with appropriate and approved type of personal protective equipment. Such equipment shall be in a clean, sterile and hygienic condition before issue.
3 (2) The occupier shall arrange to inform, educate and supervise all the workers in the use of personal protective equipment while carrying out the job.
4 (3) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector will be final.
5 12. Alarm Systems
6 (1) Suitable and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations where process control

arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to conditions conducive for an outbreak of fire or explosion to occur. Such alarm systems shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.

7 (2) The Chief Inspector of Factories may direct such system to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause wide spread poisoning in or around the plant.

8 13. Control of escape of substances into the work atmosphere

9 (1) Effective arrangements such as, enclosure, or by pass, or efficient exhaust draught, maintenance of negative pressure etc., shall be provided in all plants, containers, vessels, sewers, drains, flues, ducts, culverts, and buried pipes and equipment, to control the escape and spread or substances which are likely to give rise to fire or explosion or toxic hazards during normal working and in the event of accident or emergency.

10 (2) In the event of the failure of the arrangements for control resulting in the escape of substances in the work atmosphere immediate steps shall be

1 taken to control the process in such a manner, that further escape is brought down to the safe level.

2 (3) he substances that would have escaped into the work atmosphere before taking immediate steps as required in sub-Para (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.

3 14. Control of dangerous chemical reactions: Suitable provision, such as automatic and or remote control arrangements, shall be made for controlling the effects of `dangerous chemical reactions'. In the event of failure of control arrangements automatic flooding or blanketing or other effective arrangements shall come into operation.

1 15. Testing, examination and repair of plant and equipment

2 (1) All parts of plant, equipment and machinery used in the process which in the likely event of their failure may give rise to an emergent situation shall be tested by a competent person before commencing process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve a suitable testing procedures. In carrying out the test mentioned above in respect of pressure vessels or reaction vessels the following precautions shall be observed, namely:

3 (a) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matters. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, if such sludge is of pyropheric nature or contains spontaneously combustible chemicals;

4 (b) as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom testing has been done, and the date of test; and

5 (c) any vessel which fails to pass the test or which for any other reason is found to be unsafe for use shall be destroyed or rendered unusable under intimation to the Chief Inspector.

6 (2) All parts of plant, equipment, machinery which is the likely event of failure may give rise to an emergent situation shall be examined once in a month by the competent person.
7 (3) Records of testing and examination referred to in paragraphs (1) and (2) shall be maintained as long as that part of the plant, equipment and machinery are in use.
8 (4) All repair work including alteration, modification and addition to be carried out to the plant, equipment and machinery shall be done under the supervision of a responsible person who shall evolve a procedure to ensure

1 safety and health of persons doing the work. When repairs or modification is done on pipelines, and joints are required to be welded, butt welding of joints shall be preferred. Wherever necessary, the responsible person shall regulate the aforesaid work through a `Permit to work system'.
2 16. Staging
3 (1) All staging that is erected for the purpose of maintenance work or repair work or for work connected with entry into confined spaces and used in the processes included in Appendix `A', shall be stable, rigid and constructed out of substantial material of adequate strength. Such staging shall conform to the respective Indian Standard specifications.
4 (2) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated to prevent exposure of persons working on the stages.
5 (3) All the staging constructed for the purpose of this Para shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of one metre and toe board.
6 17. Seating Arrangements: The seating arrangements provided for the operating personnel working in processes covered in Appendix `A' shall be located in a safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of manufacture or repair or maintenance, either due to failure of plant and equipment or due to the substances which are under pressure, escaping into the atmosphere.
7 18. Entry into or work in confined spaces
8 (1) The occupier of every factory to which the provisions of this schedule apply, shall ensure the observance of the following precautions before permitting any person to enter or work inside the confined spaces:
9 (a) identify all confined spaces and the nature of hazards that are encountered in such spaces, normally or abnormally, and arrange to develop the most appropriate safeguards for ensuring the safety and health of persons entering into or working inside, the confined spaces;
10 (b) regulate the entry or work inside the confined spaces through a `permit to work system' which should include the safeguards so developed as required under sub-clause (a) above;
11 (c) before testing the confined space for entry into or work, the place shall be rendered safe by washing or cleaning with neutralising agents; or purging with steam or inert gases and making adequate forced ventilation arrangements or such measure which will render the confined space safe;
12 (d) Shall arrange to carry out such tests as are necessary for the purpose by a competent person and ensure that the confined space is safe for the persons to enter or work. Such testing

shall be carried out as often as is necessary during the course of work to ensure its continued safety;

(e) shall arrange to educate and train the personnel who would be required to work in confined spaces about the hazards involved in the work. He shall also keep in readiness the appropriate and approved personal protective equipment including arrangements for, rescue resurrection and first aid, and shall arrange supervision of the work at all times by a responsible and knowledgeable person.

(2) The manager shall maintain a log of all entry into or work in, confined spaces and such record shall contain the details of persons assigned for the work, the location of the work and such other details that would have a bearing on the log book so maintained shall be retained as long as the concerned workers are in service and produces to the Inspector when demanded.

19. Maintenance work etc.

(1) All the work connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the processes covered in this Schedule, shall be carried out under `permit to work system' employing trained personnel and under the supervision of responsible person, having knowledge of the hazards and precautions required to deal with them.

(2) Maintenance work shall be carried out in such a manner that there is no risk to persons in the vicinity or to persons who pass by. If necessary, the place of such work shall be cordoned off or the presence of unconnected persons effectively controlled.

20. Permit to work system: The permit to work system shall inter-alia include the observance of the following precautions while carrying out any specified work to be subjected to the permit to work system:

(a) all work subject to the permit to work system shall be carried out under the supervision of a knowledgeable and responsible person;

(b) all parts of plant or machinery or equipment on which permit to work system is carried out, shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant, machinery shall be rendered safe by cleaning, purging, washing, etc.;

(c) All work subject to the permit to work system shall have predetermined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued safety is ensured;

(d) persons who are assigned to carry out the permit to work system shall be physically fit in all respects taking into consideration the demands and nature, of the work before entering into the confined space. Such person shall be adequately informed about the correct work procedures as well as the precautions to be observed while carrying out the permit to work system;

(e) adequate rescue arrangements wherever considered necessary and adequate first aid, rescue and resurrection arrangements shall be available

in good working condition near the place of work while carrying out the permit to work system, for use in emergency;

(f) appropriate and approved personal protective equipment shall be used while carrying out the `permit to work system';
(g) after completion of work subject to the `permit to work system' the person responsible shall remove all the equipment and tools and restore to the original condition so as to prevent any danger while carrying out regular process.
21. Safety sampling personnel: The occupier shall ensure the safety of persons assigned for collecting samples by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personal protective equipment, if required.
22. Ventilation: Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be evolved. These arrangements shall ensure that concentrations, which are either harmful or could result in explosion, are not permitted to be built up in the work environment.
23. Procedures for meeting emergencies
(1) The occupier of every factory carrying out the works covered in Appendix `A', shall arrange to identify all types of possible emergencies that could occur in the processes during the course of work or while carrying out maintenance work or repair work. The emergencies so identified shall be reviewed every year.
(2) The occupier shall formulate a detailed plan to meet all such identified emergencies including arrangements for summoning outside help for rescue and firefighting arrangements for making available urgent medical facilities.
(3) The occupier shall send the list of emergencies and the details of procedures and plans formulated to meet the emergencies, to the Chief Inspector of Factories.
(4) The occupier shall arrange to install distinctive and recognisable warning arrangements to caution all persons inside the plant as well as the neighbouring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedures by the persons who are assigned emergency duties. Everything concerned must be well informed about the warning arrangements and their meaning. The arrangements must be checked for its effectiveness every month.
(5) Alternate power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with requirements of Paragraphs 10, 11, 12, 13, 14, 18, 22, and this paragraph of Part II, Part III, Part IV and Part V of this Schedule.

1 (6) The occupier shall arrange to suspend the further process work in a place where emergency is established and shall forthwith evacuate all persons in that area except workers who have been assigned emergency duties.
2 (7) All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.
3 (8) All emergency procedures must be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall suitably be corrected.
4 (9) The occupier shall arrange to have ten percent of the workers trained in the use of First Aid Fire Fighting appliances and in the rendering of specific hazards of the particular process.

5 (10) The occupier shall furnish immediately on request the specific chemical identity of the hazardous substance to the treating physician where the information is needed to administer proper emergency or first-aid treatment to exposed persons.

6 24. Danger due to effluents

7 (1) Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may cause dangerous or poisonous gases to be evolved.

8 (2) Effluents which contain or give rise in the presence of other effluents to poisonous gases shall be provided with independent drainage systems to ensure that they may be trapped and rendered safe.

PART III

FIRE AND EXPLOSION RISKS

1 1. Sources of ignition including lighting installation

2 (1) No internal combustion engine and no electric motor or other equipment, and fittings and fixtures capable of generating electrical sparks or otherwise causing combustion or any other source of ignition or any naked light shall be installed or permitted to be in the process area where there could be fire and explosion hazards.

3 (2) All hot exhaust pipes shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.

4 (3) The classification of work areas in terms of its hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian Standard.

5 (4) Where a flammable atmosphere may be, prevalent or could occur, the soles of footwear worn by workers shall have no metal on them, and the wheels of trucks or conveyors shall be conductive type.

6 (5) All tools and appliances used for work in this area shall be of non-sparking type.

1 (6) Smoking in process areas where there are risks of fire and explosion shall be prohibited, and warning notices in the language understood by majority of workers shall be posted in the factory prohibiting smoking into specified areas.

2 2. Static Electricity

3 (1) All machinery and plant, particularly, pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacles for flammable liquids shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be regulated.

4 (2) Mobile tanker wagons shall be earthed during filling and discharge, and precautions shall be taken to ensure that earthing is effective before such filling or discharge take place.

5 3. Lightning protection: Lightening protection arrangement shall be fitted where necessary, and shall be maintained.

6 4. Process heating: The method of providing heat for a process likely to result in fire and explosion shall be as safe as possible and where the use of naked flame is necessary, the plant shall be so constructed as to prevent any escaping flammable gas, vapour, or dust coming into contact with the flame, or exhaust gases, or other sources likely to cause ignition. Wherever

possible, the heating arrangement shall be automatically controlled at a pre-determined temperature below the danger temperature.

7 5. Leakage of flammable liquids

8 (1) Provision shall be made to confine by means of bund walls, dykes, sumps etc. Possible leakages from storage vessels containing flammable liquids.

9 (2) Waste material in contact with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.

10 (3) Adequate and suitable fire-fighting appliances shall be installed in the vicinity of such vessels.

11 6. Safety valves: Every still and every closed vessel which gas is evolved or into which gas is passed, and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge, and a proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good condition.

12 7. Installation of pipe line etc.: All pipelines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once a week to detect any deterioration or defects, or accumulation of flammable or explosive substances, and record kept of any defects found and repairs made.

13 8. Firefighting systems

14 (1) Every factory employing 500 or more persons and carrying out processes listed in Appendix `A' shall provide:

(a) Trained and responsible firefighting squad so as to effectively handle the firefighting and lifesaving equipment in the event of fire or another emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case, shall be less than 8 such trained persons to be available at any time. The squad shall consist of watch & ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire &emergency services.

(b) Squad leaders shall preferably be trained in a recognised government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(2) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(3) The pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately be brought to the notice of squad leader.

(4) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone inter lined and placed in a convenient location near such areas.

PART IV

RISKS OF TOXIC SUBSTANCES

1 1. Leakage

2 (1) All plants shall be so designed and constructed as to prevent the escape of toxic substance. Where necessary, separate buildings, rooms, or protective structures shall be used for the dangerous stages of the process and buildings shall be so designed as to localise any escape of toxic substances.
3 (2) Catch pits, bund walls, dykes, or other suitable safeguards shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipelines where there is danger involved to maintenance and other workers from such leakage.
4 2. Drainage: Adequate drainage shall be provided and shall lead to collection tanks specifically provided for this purpose wherein deleterious material shall be neutralised, treated or otherwise rendered safe before it is discharged into public drains or sewers.
5 3. Covering of vessels
6 (1) Every fixed vessel or structure containing any toxic substance and not so covered as to eliminate all reasonable risk of accidental contact of any

1 portion of the body of a worker, shall be so constructed as to avoid physical contact.
2 (2) Such vessel shall, unless its edge is at least 90 centimetres above the adjoining ground or platform, be securely fenced to a height of at least 90 centimetres above such adjoining ground or platform.
3 (3) Where such vessels adjoin and the space between them, clear of any surrounding brick or other work is either less than 45 centimetres in width or is 45 or more centimetres in width, but is not securely fenced on both sides to a height of at least 90 centimetres, secure barriers shall be so placed as to prevent passage between them:

Provided that sub-paragraph (2) of this paragraph shall not apply to:
(a) saturators used in the manufacture of sulphate of ammonia; and
(b) That part of the sides of brine evaporating pans which require raking, drawing or filling.
4. Continuous exhaust arrangement
(1) Any process evolving toxic vapour, gas, fume and substance shall have efficient continuous exhaust draught. Such arrangement shall be interlocked in the process control wherever possible.
(2) In the event of failure of continuous exhaust arrangement means shall be provided to automatically stop the process.
5. Work Bench: All the work benches used in the processes involving the manipulation of toxic substances, shall be graded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.
6. Waste disposal
(1) There shall be provided a suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such receptacle shall be destroyed by burning or using other suitable methods under the supervision of a responsible person.
(2) During the course of manufacture, whenever any batch or intermediate products having toxicity is rejected on considerations of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactivate them, before disposal.

(3) The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision of a responsible person.

PART V
SPECIAL PROVISIONS

1 1. Special precautions for Nitro or Amino Processes

1 (1) Unless the crystallised intro or amino substances or any of its liquor is broken or agitated in a completely enclosed process so as not to give rise to dust or fume, such process shall be carried on under an efficient exhaust draught or by adopting any other suitable means in such a manner as to prevent the escape of dust or fume in the working atmosphere.

2 (2) No part of the plant or equipment or implements which was in contact with nitro or amino compounds shall be repaired, or handled unless they have been emptied and thoroughly cleaned and decontaminated.

3 (3) Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop to avoid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work room.

4 (4) Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.

5 (5) Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.

6 2. Special precautions for 'chrome processes'

7 (1) Grinding and sieving of raw materials in chrome processes shall be carried on in such a manner and under such condition as to secure effective separation from any other processes and under an efficient exhaust draught.

8 (2) There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling, evaporation, crystallisation, centrifugation or packing are carried out, to enable quick washing of affected parts of body with running water.

9 (3) Weekly inspection of hand and feet of all persons employed in chrome process shall be done by a qualified nurse and record of such inspections shall be maintained in a form approved by the Chief Inspector of Factories.

10 (4) There shall be always available at designated places of work suitable ointment such as glycerine, vaseline, etc. and water proof plaster in a separate box readily accessible to the workers so as to protect against perforation of nasal septum.

11 3. Special precautions for processes carried out in all glass vessels

12 (1) Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride etc. which are required to be carried out in all glass vessels shall have suitable means like substantial wire mesh covering to protect persons working nearby in the event of breakage of glass vessel

13 (2) Any spillage or emission of vapour from the all glass vessel due to breakage, shall be immediately inactivated or rendered innocuous by suitable means

1 such as dilution with water or suitable solvents so as to avoid the risks of fire or explosion or health hazards.
2 4. Special precautions for processes involving chlorate manufacture
3 (1) Crystallisation, grinding or packing of chlorate shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of non-combustible material. The place shall be thoroughly cleaned daily.
4 (2) The personal protective equipment likes overall, etc. provided for the chlorate workers shall not be taken from the place of work and they shall be thoroughly cleaned daily.
5 (3) Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.
6 (4) Wooden vessels shall not be used for the crystallisation of chlorate or to contain crystallised ground chlorate.
7 5. Special precautions in the use of plant and equipment made from reinforced plastics:
8 (1) All plant and equipment shall conform to appropriate Indian or any other National Standard.
9 (2) Care shall be taken during storage, transport, handling and installation of plant and equipment to avoid accidental damage.
10 (3) All plant and equipment shall be installed in such a way as to ensure that loads are distributed as intended in design or as per the recommendations of the manufacture.
11 (4) All pipe work shall be supported so that total loads local to the branches on the vessel or tank do not exceed their design values.
12 (5) After erection, all plant and equipment shall be subjected to a pressure test followed by a thorough examination by a competent person. The test and examination shall be as per relevant Standard. A certificate of test and examination by a competent person shall be obtained and kept available at site.
13 (6) All plant and equipment shall be subjected to periodical test and examination and record maintained as per Paragraph 15 in Part II of this Schedule.
14 (7) Plant and equipment during their use shall not be subjected to over filling or over loading beyond rated capacity.

PART VI
MEDICAL REQUIREMENTS
1 1. Decontamination facilities: In all places where toxic substances are used in processes listed in Appendix `A' the following provisions shall be made to meet an emergency:

(a) fully equipped first aid box;
(b) readily accessible means of drenching with water persons, parts of body of persons, and clothing of persons who have been contaminated with such toxic and corrosive substances, and such means shall be as shown in the Table below:

No. of persons employed at any time	No. of drenching showers
Upto 50 persons	2
Between 51 to 100	3
101 to 200	3 + 1 for every 50 persons thereafter
201 to 400	5 + 1 for every 100 persons thereafter
401 and above	7 + 1 for every 200 persons thereafter

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

2. Occupational health centre: In all the factories carrying out processes covered in Appendix `A' there shall be provided and maintained in good order an occupational health centre with facilities as per scale laid down hereunder

(1) For factories employing upto workers

(a) the services of a qualified medical practitioner hereinafter known as Factory Medical Officer, available on a retainer ship basis, in his notified clinic near to the factory for seeking medical help during emergency. He will also carry out the pre-employment and periodical medical examinations as stipulated in paragraph 4 of this Part.

(b) A minimum of five persons trained in first aid procedures, amongst whom at least one shall always be available during the working period.

(c) A fully equipped first aid box.

(2) For factories employing 51 to 200 workers

(a) The occupational health centre shall have a room having a minimum floor area of 15 sq., with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(b) A part-time Factory Medical Officer will be in overall charge of the Centre who shall visit the factory minimum twice in a week and whose services shall be readily available during emergencies.

(c) There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period.

(d) A fully equipped first aid box.

(3) For factories employing above 200 workers

(a) There shall be one full-time Factory Medical Officer for factories employing upto 500 workers and one more medical officer for every 1000 workers or part thereof.

(b) The occupational health centre in this case shall have a minimum of 2 rooms each having a minimum floor area of 15 sq.m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(c) There shall be one trained nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period.

(d) The Occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

3. Ambulance van

(1) In every factory carrying out processes covered in Appendix `A', there shall be provided and maintained in good condition, a suitably constructed and fully equipped ambulance van as per Appendix `C' manned by a full-time driver-cum- mechanic and a helper, trained in first aid for the purposes of transportation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been made with the nearby hospital or other places. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will always be available near the Occupational Health Centre.

(2) The relaxation to procure Ambulance Van from nearby places provided for in sub- para (1) above will not be applicable to factories employing more than 500 workers.

4. Medical examination

(1) Workers employed in processes covered in Appendix `A' shall be medically examined by a Factory Medical Officer in the following manner:

(a) Once before employment, to ascertain physical suitability of the person to do the particular job;

(b) Once in a period of 6 months, to ascertain the health status of the worker, and

(c) The details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the prescribed form.

(2) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned workers and communicate his findings within 30 days. If the Certifying Surgeon is of the opinion that the person so examined is required to be suspended from the process for health protection he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the

1 opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated:

Provided that the Certifying Surgeon on his own may examine any other worker whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix `A' or for ascertaining the health status of any other worker and his opinion shall be final.

1 (3) No person shall be newly appointed without the Certificate of Fitness granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being appointed to work in the process covered in Appendix `A', such person shall have a right of appeal to the Certifying Surgeon, whose opinion shall be final in this regard.

2 (4) The worker suspended from the process owing to the circumstances covered in sub-para (2) shall be employed again in the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect in the health register.

PART VII

ADDITIONAL WELFARE AMENITIES

1 1. Washing facilities

2 (1) There shall be provided and maintained in every factory for the use of all the workers taps for washing, at the rate of one every 15 persons including liquid soap in a container with tilting arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a clean and hygienic condition.

3 (2) If washing facilities as required above are provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.

4 2. Mess room facilities

5 (1) The occupier of all the factories carrying out processes covered in Appendix `A' and employing 50 workers or more, shall provide for all the workers working in a shift mess room facilities which are well ventilated and provided with tables and sitting facilities along with the provision of cold and hygienic drinking water facilities.

6 (2) Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

7 3. Cloakroom facilities

8 (1) The occupier of every factory carrying out any process covered in Appendix `A' shall provide for all the workers employed in the process cloak room facilities with lockers. Each worker shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers should be such as to enable the keeping of the clothing in a hanging position.

1 (2) The cloak room facilities provided in pursuance of sub-para (1) shall be located as far as possible near to the facilities provided for washing in pursuance of para 1(1). If it is not possible to locate the washing facilities the cloakroom facilities shall have adequate and suitable arrangements for cleaning & washing.

2 4. Special bathing facilities

3 (1) The occupier of any factory carrying out the process covered under Appendix `B' shall provide special bathing facilities for all the workers employed and such facilities shall be provided at the rate of 1 for 25 workers and part thereof, and shall be maintained in a clean and hygienic condition.

4 (2) The occupier shall insist all the workers employed in the processes covered in Appendix `B' to take bath after the completion of the day's or shift work using the bathing facilities so provided and shall also effectively prevent such of those workers taking bath in any place other than the bathing facilities.

5 (3) Notwithstanding anything contained in sub-para (1) above, the Chief Inspector may require in writing the occupier of any factory carrying out any other process for which his opinion bathing facilities are essential from the health point of view, to provide special bathing facilities.

PART VIII

1 1. Duties of workers

2 (1) Every worker employed in the processes covered in Appendix 'A' and Appendix 'B' shall not make safety device or appliance or any guarding or fencing arrangement, inoperative or defective and shall report the defective condition of the aforesaid arrangements as soon as he is aware of any such defect.

3 (2) Before commencing any work, all workers employed in processes covered in Appendix 'A' shall check their workplace as well as the machinery, equipment or appliance used in the processes and report any mal-function or defect immediately to the supervisor or any responsible person of the management.

4 (3) All workers shall co-operate in all respects with the management while carrying out any work or any emergency duty assigned to them in pursuance of this schedule and shall always use all the personal protective equipment issued to them in a careful manner.

5 (4) All workers employed in the processes covered in Appendix `A' or Appendix `B' shall not smoke in the process area or storage area. If special facilities are provided by the management only such facilities should be used.

6 (5) All workers employed in the processes covered in Appendix `A' shall not remain in unauthorised place or carry cut unauthorised work or improvise any arrangement or adopt short out method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as or to others employed.

1 (6) The workers shall not refuse undergoing medical examination as required under these rules.

PART IX

RESTRICTIONS ON THE EMPLOYMENT OF YOUNG PERSONS UNDER 18 YEARS OF AGE AND WOMEN

1 1. The Chief Inspector of Factories may by an order in writing, restrict or prohibit the employment of women and young persons under the age of 18, in any of the processes covered in Appendix `A' of this schedule on considerations of health and safety of women and young persons.

2 2. Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of sub-para (1) above shall be provided with alternate work which is not detrimental to their health or safety.

PART X

EXEMPTIONS

1 1. Power of exemption: The State Government or subject to the control of the State Government the Chief Inspector may exempt from the compliance with any of the requirements of this Schedule partly or fully, any factory carrying out processes covered in Appendix `A', if it is clearly and satisfactorily established by the occupier that the compliance with any of the requirement is not necessary to ensure the safety and health of persons employed suitable and effective alternate arrangements are available to any of the requirements covered in this schedule.

APPENDIX `A'

Any works or that part of works in which:
(a) the manufacture, manipulation or recovery of any of the following is carried on:
(i) sodium, potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, selenium, magnesium, cadmium, mercury, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;
(ii) ammonia, ammonium hydroxide and salts of ammonium;
(iii) the organic or inorganic compounds of sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydriodic, hydro sulphuric, hydrobromic, boric;
(iv) cyanogen compounds, cyanide compounds, cyanate compounds;
(v) phosphorous and its compounds other than oregano phosphorus insecticides.
(vi) chlorine
(b) hydrogen sulphide is evolved by the decomposition of metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;
(c) bleaching powder is manufactured or chlorine gas is produced in chlor-alkali plants;
(d)

i (i) gas tar or coal tar or bitumen or shale oil asphalt or any residue of such tar is distilled or is used in any process of chemicals manufacture;
ii (ii) tar based synthetic colouring matters or their intermediates are produced;
iii (e) nitric acid is used in the manufacture of nitro compounds;
iv (f) explosives are produced with the use of nitro compounds;
v (g) aliphatic or aromatic compounds or their metallic and non-metallic derivatives or substituted derivatives, such as chloroform, ethylene glycol, formaldehyde, benzyl chloride, phenol, methyl ethyl keytone peroxide, cobalt carbonyl, tungsten carbide etc. are manufactured or recovered.

APPENDIX `B'
CONCERNING SPECIAL BATHING ACCOMMODATION IN PURSUANCE OF PARA 4 OF PART IV
1 1. Nitro or amido processes
2 2. All chrome processes
3 3. Processes of distilling gas or coal tar or processes of chemical manufacture in which tar is used
4 4. Processes involving manufacture, manipulation, handling or recovery of cyanogen compound, cyanide compound, cyanate compounds
5 5. Processes involving manufacture of bleaching powder or production of chlorine gas in chlor- alkali plants
6 6. Manufacture, manipulation or recovery of nickel and its compounds
7 7. All processes involving the manufacture, manipulation or recovery of aliphatic or aromatic compounds or their derivatives or substituted derivatives.

APPENDIX `C'
Ambulance
Ambulance should have the following equipment:
General:

-A wheeled stretcher with folding and adjusting devices;
-Head of the stretcher must be capable of being tilted upward;
-Fixed suction unit with equipment;
-Fixed oxygen supply with equipment;
-Pillow with case;
-Sheets;
-Blankets;
-Towels;
-Emesis bag;

-Bed pan;
-Urinal;
-Glass
Safety equipment:
-Flares with life of 30 minutes
-Flood lights;
-Flash lights;
-Fire extinguisher dry powder type;
-Insulated gauntlets.
Emergency care equipment:
-Resuscitation:
-Portable suction unit;
-Portable oxygen unit;
-Bag-valve-mask, hand operated artificial ventilation unit;
-Airways;
-Mouth gags;
-Tracheostomy adapters;
-Short spine board;
-I.V. Fluids with administration unit;
-B.P. manometer;
-Cugg;
-Stethoscope
Immobilisation
-Long & short padded boards;
-Wire ladder splints;
-Triangular bandage;
-Long & short spine boards.
Dressings:
-Gauze pads - 4” x 4”;
-Universal dressing 10” x 36”;
-Roll of aluminium foils;
-Soft roller bandages 6” x 5 yards;
-Adhesive tape in 3” roll;
-Safety pins;

-Bandage sheets;
-Burn sheet.
Poisoning:
-Syrup of Ipecac;
Pre-pocketed in doses.
-Activated charcoal;
-Snake bite kit;
-Drinking water.
Emergency Medicines:
-As per requirement (under the advice of Medical Officer only)

SCHEDULE XII

MANUFACTURE OF POTTERY

1 1. Definitions: For the purposes of this schedule,

2 (a) "pottery" includes earthenware, stoneware, porcelain, china tiles, and any other articles made from such clay or from a mixture containing clay and other materials such as quartz, flint, feldspar, and gypsum;

3 (b) "efficient exhaust draught" means localised ventilation effected by mechanical or other means for removal of dust or fume so as to prevent it from escaping into air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove effectively dust or fume generated at the point where dust or fume originates;

4 (c) "fettling" includes scalloping, towing, sand papering, sand sticking, brushing or any other process of cleaning of pottery ware in which dust is given off;

5 (d) "leadless glaze" means a glaze which does not contain more than one per cent of its dry weight, of a lead compound calculated as lead monoxide;

6 (e) "low solubility glaze" means a glaze which does not yield to dilute hydrochloric acid more than five per cent of its dry weight, of a soluble lead compound calculated as lead monoxide when determined in the manner described below:

A weighed quantity of the material which has been dried at 100 degrees centigrade and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphide;

(f) "ground or powdered flint or quartz" does not include natural sands; and

(g) "potter's shop" includes all places where pottery is formed by pressing or by any other process and all places where shaping, fettling or other treatment of pottery articles prior to placing for the biscuit fire is carried on.

2. Efficient exhaust draught: The following processes shall not be carried on without the use of an efficient exhaust draught,

(i) All processes involving the manipulation or use of a dry and unfitted lead compound;

(ii) The fettling operations of any kind, whether on green ware or biscuit, provided that this shall not apply to the wet fettling, and to the occasional finishing of pottery articles without the aid of mechanical power;
(iii) The shifting of clay dust or any other material for making tiles or other articles or other articles by pressure, except where
(a) this is done in a machine so enclosed as to effectually prevent the escape of dust; or
(b) the material to be shifted is so damp that no dust can be given off;
(iv) The pressing of tiles from clay dust, an exhaust opening being connected with each press, and pressing from clay dust of articles other than tiles, unless the material is so damp that no dust is given off;
(v) The fettling of tiles made from clay dust by pressure, except where the fettling is done wholly on, or with, damp material, and fettling of other articles made from clay dust, unless the material is so damp that no dust is given off;
(vi) The process of loading and unloading of saggars where handling and manipulation of ground and powdered flint, quartz, aluminia or other materials are involved;
(vii) The brushing of earthenware biscuit, unless the process is carried on in a room provided with efficient general mechanical ventilation or other ventilation which is certified by the Inspector of Factories as adequate having regard to all the circumstances of the case;
(viii) Fettling of biscuit ware which has been fired in powdered flint or quartz except where this is done in machines so enclosed as to effectually prevent the escape of dust;
(ix) Ware cleaning after the application of glaze by dipping or other process;
(x) Crushing and dry grinding of materials for pottery bodies and saggars, unless carried on in machines so enclosed as to effectively prevent the escape of dust or is so damp that no dust can be given off;
(xi) sieving or manipulation of powdered flint, quartz, clay grog or mixture of these materials unless it is so damp that no dust can be given off;
(xii) Grinding of tiles on a power-driven wheel unless an efficient water spray is used on the wheel;

i (xiii) Lifting and conveying of materials by elevators and conveyors unless they are effectively enclosed and so arranged as to prevent escape of dust into the air in or near to any place in which persons are employed;
ii (xiv) The preparation or weighing out of flow material, lawning of dry colours, colour dusting and colour blowing;
iii (xv) Mould making unless the bins or similar receptacles used for holding plaster of Paris are provided with suitable covers; and
iv (xvi) The manipulation of calcined material unless the material has been made and remains so wet that no dust is given off.
v 3. Carrying of processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another, and from other wet processes:
vi (a) Crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and green ware, loading and unloading of saggars; and
vii (b) All processes involving the use of a dry lead compound.

viii 4. Use of glaze: No glaze which is not a leadless glaze or a low solubility glaze shall be used in a factory in which pottery is manufactured.
ix 5. Restriction on employment of women and young persons: No woman or young person shall be employed or permitted to work in any of the operations specified in clause 2, or at any place where such operations are carried on.
x 6. Potter's wheel: The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel.
xi 7. Measure to be taken to prevent dust flowing:
xii (1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.
xiii (2) Damp saw-dust or other suitable material shall be used to render the moist method effective in preventing dust rising into the air during the cleaning process which shall be carried out after work has ceased.
xiv 8. Cleaning of floors: The floors of potter's shops, slip houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by a moist method by an adult male.
xv 9. [Medical facilities and records of examinations and tests
xvi (1) The occupier of every factory in which manufacture of pottery is carried on, shall:
xvii (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
xviii (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

1 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

1 10. Medical examination by Certifying Surgeon
2 (1) Every worker employed in any process mentioned under paragraph 2, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, haemoglobin content, stippling of cells and pulmonary function tests and chest X-Ray for workers engaged in processes mentioned in clause (I) and (xiv) of paragraph 2 and pulmonary function tests chest X-rays for the others. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
3 (2) All persons employed in any of the processes specified in clauses (I) and (xiv) of paragraph 2, shall be examined by a Certifying Surgeon once in every 3 calendar months. Those employed in any other processes mentioned in the remaining clause of paragraph 2, shall be examined by a Certifying Surgeon once in every 12 months. Such examinations in respect of all the workers shall include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in every 3 years.
4 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the

Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

5 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

6 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes.

7 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][145]

1 11. Protective equipment

2 (1) The occupier shall provide and maintain suitable overalls and hand coverings for all persons employed in processes mentioned in clause 2.

3 (2) The occupier shall provide and maintain suitable aprons of a of a waterproof or similar material, which can be sponged daily, for the use of the dippers, dippers assistants, throwers, jolly workers, casters, mould makers and filter press and pug mill workers.

4 (3) Aprons provided in pursuance of sub-clause (2) shall be thoroughly cleaned daily by the wearers by sponging or other wet process. All overalls and head coverings shall be washed, cleaned and mended at least once a week, and this washing, cleaning or mending shall be provided for by the occupier.

5 (4) No person shall be allowed to work in emptying sacks of dust materials, weighing out and mixing of dusty materials and charging of ball mills and blunders without wearing a suitable and efficient dust aspirator.

6 12. Washing facilities: The occupier shall provide and maintain, in a clean state and in good repair for the use of all persons employed in any of the processes specified in clause 2, a wash place under cover, with either

7 (a)

8 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of atleast 2 feet for every such persons employed at any one time, and having a constant supply of clean water from taps or jets above the trough at intervals of not more than two minutes; or

9 (ii) at least one tap or stand pipe for every five such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 meter apart; and

10 (b) a sufficient supply of clean towels made of suitable materials changed daily, with a sufficient supply of soap and nail brushes.

11 13. Time allowed for washing: Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in any of the processes mentioned in clause 2.

12 14. Mess room

13 (1) There shall be provided and maintained for use of all persons remaining within the premises during the rest intervals, a suitable mess room or canteen at a distance of at least 15 meters from the main factory providing a minimum accommodation of 0.95 square meter per head. The washing facilities mentioned above shall be provided near the mess room or canteen and the mess room and canteen shall be furnished with:

14 (i) a sufficient number of tables and chairs or benches with back rest;

15 (ii) arrangements for washing utensils;

i (iii) adequate means for warming food; and

ii (iv) adequate quantity of drinking water.

iii (2) The room shall be adequately ventilated by the circulation of fresh air and placed under the charge of a responsible person and shall be kept clean.

iv 15. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into, or consumed by any worker in any workroom in which any of the processes mentioned in clause 2 are carried on and no person shall remain in any such room during intervals for meals or rest.

v 16. Cloakrooms etc.: There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in clause 2.

vi (a) a cloakroom for clothing put off during working hours and such accommodation shall be separate from any mess room; and

vii (b) Separate and suitable arrangements for the storage of protective equipment provided under clause 11

viii 17. Applications: These provisions shall not apply to a factory in which any of the following articles, but no other pottery, are made:

ix (a) unglazed or salt glazed bricks and tiles; and

x (b) Architectural terra-cotta made from plastic clay and either unglazed or glazed with a leadless glaze only.

xi 18. Exemption: If in respect of any factory the Chief Inspector of Factories is satisfied that all or any of the provisions of this schedule are not necessary for the protection of the persons employed in such factory, he may by a certificate in writing exempt such factory from all or any of such provisions, subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector without assigning any reasons.

SCHEDULE XIII

COMPRESSION OF OXYGEN AND HYDROGEN PRODUCED BY ELECTROLYSIS OF WATER

1 1. The room in which electrolysis plant is installed shall be separate from the plant for storing and compressing the oxygen and hydrogen and also the electric generator room.

2 2. 146[The purity of oxygen and hydrogen shall have tested by a competent person at least once in every shift at the following posts:

3 (a) in the electrolysis room;

4 (b) at the gas holder inlet; and

5 (c) at the suction and of the compressor.

The purity figures shall be entered in a register and signed by the persons carrying out such test:

Provided, however, that if the electrolysis plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm lights, it shall be sufficient if the purity of gases is tested at the suction and of the compressor only.]

The purity figures shall be entered and signed by the person carrying out such tests in the register:

Provided that if the compression unit and the gas holder inlets are fitted with automatic oxygen-in-hydrogen or hydrogen-in-oxygen purity indicating instruments which trips the supply to the driving motors in the event of the purity dropping below 98 per cent testing of gas at hourly intervals at these two points shall not be necessary.

1 3. The oxygen and hydrogen gases shall not be compressed if their purity as determined under clause 2 above falls below 98% at any time.

2 4. 147[In addition to the limit switch in the gas holder, a sensitive negative pressure switch shall be provided in or adjacent to the suction main for hydrogen close to the gas holder and between the gas holder and the hydrogen compressor motor in the event of the gas holder being emptied to the extent as to cause vacuum.]

3 5. 148[The bell of any gas holder shall not be permitted to go within the 30 centimetres of its lowest position when empty and a limit switch shall be fitted to the gas holder in such a manner as to switch off the compressor motor when the limit is reached;]

4 6. The water and caustic soda used for making lye shall be chemically pure within pharmaceutical limits.

5 7. Electrical connections at the electrolyser cells and at the electric generator terminals shall be so constructed as to preclude the possibility of wrong connections leading to the reversal of polarity and in addition an automatic device shall be provided to cut off power in the event of reversal of polarity owing to wrong connections either at the switch board or at the electric generator terminals.

6 8. Oxygen and hydrogen gas pipes shall be painted with distinguishing colours and in the event of leakage at the joints of the hydrogen gas pipe, the pipe after reconnection shall be purged of all air before drawing in hydrogen gas.

7 9. All electrical wiring and apparatus in the electrolyser room shall be of flameproof construction or enclosed in flameproof fittings and no naked light or flame shall be allowed to be taken either in the electrolyser room or where compression and filling of the gases is carried on and such warning notices shall be exhibited in prominent places.

8 10. No part of the electrolyser plant and the gas holders and compressor shall be subjected to welding, brazing, soldering or cutting until steps have been taken to remove any explosive substance from that part and render the part safe for such operations and after the completion of such operations no explosive substance shall be allowed to enter that part until the metal has cooled sufficiently to prevent risk of explosion.

9 11. No work or operations, repair or maintenance shall be undertaken except under the direct supervision of a person who, by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work. No electric generator after erection or repairs shall be

1 switched on/the electrolysers unless the same is certified by the competent persons under whose direct supervision erection or repairs are carried on to be in a safe condition and the terminals have been checked for the polarity as required by clause 7.

2 12. Every part of the electrolysis plant and the gas holders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith".

SCHEDULE XIV149

MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING FREE SILICA

1 1. Application: This schedule shall apply to all factories or parts of factories in which manipulation of stone or any other material containing free silica is carried on.

2 2. Definitions: For the purpose of this Schedule,

3 (a) "manipulation" means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading or handling of stone or any other material containing free silica or any other operation involving such stone or material;

4 (b) "Stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.

5 3. Precautions in manipulation: No manipulation shall be carried out in a factory or part of a factory unless one or more of the following measures, namely:

6 (a) damping the stone or other material being processed,

7 (b) providing water spray,

8 (c) enclosing the process,

9 (d) isolating the process, and

10 (e) providing localised exhaust ventilation are adopted so as to effectively control the dust in any place in the factory where any person is employed, at a level equal to or below the maximum permissible level for silica dust as laid down in Table 2 appended to Rule 104-A.

Provided that such measures as above said are not necessary if the process or operation itself is such that the level of dust created and prevailing does not exceed the permissible level referred to.

1 4. Maintenance of floors
2 (1) All floors or places where fine dust is likely to settle on and whereon any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent dust being airborne in the process of cleaning.
3 (2) The surface of every floor of every work room or place where any work is carried on or where any person has to pass during the course of his work, shall be cleansed of dust once at least during each shift after being

1 sprayed with water or by any other suitable method so as to prevent dust being airborne in the process of cleaning.
2 5. Prohibition relating young persons: No young person shall be employed or permitted to work in any of the operations involving manipulation or at any place where such operations are carried out.
3 6. Medical Facilities and records of examinations and tests
4 (1) The occupier of every factory to which the schedule applies, shall:
5 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
6 (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause(a).
7 7. Medical examination by Certifying Surgeon
8 (1) Every worker employed in the processes specified in paragraph 1, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
9 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub- paragraph (1) except chest X-ray which will be once in 3 years.
10 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
11 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
12 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said

processes. The person so suspended from the process shall be provided with alternate placement facilities unless he fully is incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

1 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
2 8. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or in frequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.]

SCHEDULE XV150
HANDLING AND PROCESSING OF ASBESTOS, MANUFACTURE OF ANY ARTICLE OF ASBESTOS AND ANY OTHER PROCESS OF MANUFACTURE OR OTHERWISE IN WHICH ASBESTOS IS USED IN ANY FORM.
1 1. Application: This schedule shall apply to all factories or parts of factories in which any of the following processes is carried on,
2 (a) breaking, crushing, disintegrating, opening, grinding, mixing or sieving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;
3 (b) all processes in the manufacture of asbestos textiles including preparatory and finishing processes;
4 (c) making of insulation slabs or sections, composed wholly or partly of asbestos, and processes incidental thereto;
5 (d) making or repairing of insulating mattresses, composed wholly or partly of asbestos, and processes incidental thereto;
6 (e) manufacture of asbestos cardboard and paper;
7 (f) manufacture of asbestos cement goods; (g) application of asbestos by spray method;
8 (g) sawing, grinding, turning, abrading and polishing in dry state of articles composed wholly or partly of asbestos;
9 (h) cleaning of any room, vessel, chamber, fixture or appliance for the collection of asbestos dust; and
10 (i) Any other processes in which asbestos dust is given off into the work environment.
11 2. Definition: For the purpose of this Schedule,
12 (a) “asbestos” means any fibrous silicate mineral and any admixture containing actionlike, amosite, anthophyllite, dhrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;
13 (b) “asbestos textiles” means yarn or cloth composed of asbestos or asbestos mixed with any other material;

(c) “approved” means approved for the time being in writing by the Chief Inspector;

(d) “breathing apparatus” means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust, or any other approved apparatus;
(e) “Efficient exhaust draught” means a localised ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to control dust produced at the point where such dust originates;
(f) “preparing” means crushing, disintegrating, and any other processes in or incidental to the opening of asbestos;
(g) “Protective clothing” means overalls and head covering, which (in either case) will when worn exclude asbestos dust.
3. Tools and equipment: Any tools or equipment used in processes to which this schedule applies shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.
4. Exhaust draught
(1) An efficient exhaust draught shall be provided and maintained to control dust from the following processes and machines:
(a) manufacture and conveying machinery namely:
(i) preparing, grinding, or dry mixing machines;
(ii) carding, card waste and ring spinning machines, and looms;
(iii) machines or other plant fed with asbestos;
(iv) machines used for the sawing, grinding, turning, drilling, abrading or polishing; in the dry state, of articles composed wholly or partly of asbestos;
(b) cleaning, and grinding of the cylinders or other parts of a carding machine;
(c) chambers, hoppers or other structures into which lose asbestos is delivered or passes;
(d) work-benches for asbestos waste sorting or for other manipulation or asbestos by hand;
(e) workplaces at which the filling or emptying of sacks, skips or other portable containers, weighing or other process incidental thereto which is effected by hand, is carried on;
(f) sack cleaning machines;
(g) mixing and blending of asbestos by hand; and
(h) any other process in which dust is given off into the work environment.

1 (2) Exhaust ventilation equipment provided in accordance with sub-paragraph (1) shall, while any work of maintenance or repair to the machinery, apparatus or other plant or equipment in connection with which it is provided is being carried on, be kept in use so as to produce an exhaust draught which prevents the entry of asbestos dust into the air of any work place.
2 (3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.
3 (4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable recepticles or filter bags which shall be isolated from all work areas.
4 5. Testing and examination of ventilating systems
5 (1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule shall be examined and inspected once every week by a responsible

person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

6 (2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alternations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

7 6. Segregation in case of certain process: Mixing or blending of asbestos by the hand, or making or repairing of insulating mattresses composed wholly or partly of asbestos shall not be carried on in any room in which any other work is done.

8 7. Storage and distribution of loose asbestos: All loose asbestos shall while not in use be kept in suitable closed receptacles which prevent the escape of asbestos dust therefrom and such asbestos shall not be distributed in the factory except in such receptacles or in totally enclosed system of conveyance.

9 8. Asbestos sacks

10 (1) All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.

11 (2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 4.

12 9. Maintenance of floors and workplaces

13 (1) In every room in which any of the requirements of this schedule apply:

14 (a) the floors, work-benches, machinery and plant shall be kept in a clean state and free from asbestos debris and suitable arrangements shall be made for the storage of asbestos not immediately required for use; and

15 (b) the floors shall be kept free from any materials, plant or other articles not immediately required for the work carried on in the room, which would construct the proper cleaning of the floor.

1 (2) The cleaning as mentioned in sub-rule (1) shall so for as is practicable, as carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor is discharged into the air of any work place.

2 (3) When the cleaning is done by any method other than that mentioned in sub-paragraph (2), the persons doing cleaning work and any other person employed in that room shall be provided with respiratory protective equipment and protective clothing.

3 (4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2), shall be properly maintained and after each cleaning operation, its surfaces kept in a clean state and free from asbestos waste and dust.

4 (5) Asbestos waste shall not be permitted to remain on the floors or other surfaces at the work place at the end of the working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.

5 10. Breathing apparatus and protective clothing

6 (1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every person employed:

7 (a) in chambers containing loose asbestos;

8 (b) in cleaning, dust settling or filtering chambers of apparatus;

9 (c) in cleaning the cylinders, including the defer cylinders, or other parts of a carding machine by means of hand-strikes;
10 (d) in filling, beating, or levelling in the manufacture or repair of insulating mattresses; and
11 (e) in any other operation or circumstances in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.
12 (2) Suitable accommodation in conveniently accessible position shall be provided for the use of persons when putting on or taking off breathing apparatus and protective clothing provided in accordance with this rule and for the storage of such apparatus and clothing when not in use.
13 (3) All breathing apparatus and protective clothing Washing not in use shall be stored in the accommodation provided in accordance with sub-rule (2) above.
14 (4) All protective clothing in use shall be de-dusted under an efficient exhaust draught or by vacuum cleaning and shall be washed at suitable intervals. The cleaning schedule and procedure should be such as to ensure the efficiency in protective the wearer.

1 (5) All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.
2 (6) A record of the cleaning and maintenance and of the condition of the breathing apparatus shall be maintained in a register provided for that purpose which shall be readily available for inspection by an Inspector.
3 (7) No person shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.
4 (8) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.
5 11. Separate accommodation for personal clothing: A separate accommodation shall be provided in a conveniently accessible position for all persons employed in operation to which this schedule applies for storing of personal clothing. This should be separated from the accommodation provided under sub-paragraph (2) of paragraph 10 to prevent contamination of personal clothing.
6 12. Washing and bathing facilities
7 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 15 persons employed.
8 (2) The washing places shall have standpipes place at intervals of not less than one metre.
9 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.

10 (4) Sufficient supply of clean towels made of suitable material shall be provided: Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.
11 (5) Sufficient supply of soap and nail brushes shall be provided.
12 13. Mess room
13 (1) There shall be provided and maintained for the use of all worker employed in the factory covered by this schedule, remaining on the premises during the rest intervals, a suitable mess room which shall be furnished with:
14 (a) sufficient tables and benches with back rest, and
15 (b) adequate means for warming food.
16 (2) The mess room shall be placed under the charge of a responsible person and shall be kept clean.

1 14. Prohibition of employment of young persons: No young person shall be employed in any of the process covered by this schedule.
2 15. Prohibition relating to smoking: No person shall smoke in any area where processes covered by this schedule are carried on. A notice in the language understood by majority of the workers shall be posted in the plant prohibiting smoking at such areas.
3 16. Cautionary notices
4 (1) Cautionary notices shall be displayed at the approaches and along the perimeter of every asbestos processing area to warn all persons regarding:
5 (a) hazards to health from asbestos dust,
6 (b) need to use appropriate protective equipment,
7 (c) Prohibition of entry to unauthorised persons, or authorised persons but without protective equipment.
8 (2) Such notices shall be in the language understood by the majority of the workers.
9 17. Air monitoring: To ensure the effectiveness of the control measures, monitoring of asbestos fibre in air shall be carried out once at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purpose.
10 18. Medical facilities and records of medical examinations and tests
11 (1) The occupier of every factory or part of the factory to which the schedule applied, shall:
12 (a) employ a qualified medical practitioner for medical surveillance of the workers covered by this schedule whose employment shall be subject to the approval of the Chief Inspector of Factories;
13 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause(a).
14 (2) The record of medical examinations and appropriated tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspectors.
15 (3) [151][The health record of each worker shall be maintained and it shall be kept maintained upto a minimum period of forty years from the beginning of the employment or fifteen years after the retirement or cessation of the employment whichever is later.]
16 19. Medical examination by Certifying Surgeon

17 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test, tests for detecting asbestos fibers in sputum and chest X-ray. No worker shall be allowed to

1 work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
2 (2) Every worker employed in the process referred to sub-paragraph (1) shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be carried out once in 3 years.
3 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
4 (4) The certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes.
6 20. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XVI
HANDLING OR MANIPULATION OF CORROSIVE SUBSTANCES
1 1. Definitions: For the purposes of this schedule,
2 (a) “corrosive operation” means an operation of manufacturing, storing, handling processing, packing, or using any corrosive substance in a factory; and
3 (b) “corrosive substance” includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the State Government by notification in the Official Gazette specify to be corrosive substance.
4 2. Flooring: The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistance material and

1 shall be so constructed as to prevent collection of any corrosive substance. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition.

2 3. Protective equipment

3 (a) The occupier shall provide for the use of all persons employed in any corrosive operation suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles, and respirators. The equipment shall be maintained in good order and shall be kept in clean and hygienic condition by suitably treating to get rid of the ill effects of any absorbed chemicals and by disinfecting. The occupier shall also provide suitable protective creams and other preparations wherever necessary.

4 (b) The Protective equipment and preparations provided shall be used by the persons employed in any corrosive operation.

5 4. Water facilities: Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 centimetres from a pipe of 1.25 centimetres diameter and fitted with a quick acting valve so that in case of injury to the worker by any corrosive substance, the injured part can be thoroughly flooded with water. Whenever necessary, in order to ensure continuous water supply, a storage tank having a minimum length, breadth and height of 210 centimetres, 120 centimetres and 60 centimetres respectively or such dimensions as are approved by the chief inspector shall provided as the source of clean water.

6 5. Cautionary notice: A cautionary notice in the following form and printed in the language which majority of the workers employed understand, shall be displayed prominently close to the place where a corrosive operation is carried out and where any of the operation mentioned in clause 2 above is carried out and where it can be easily and conveniently read by the workers. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

CAUTIONARY NOTICE

DANGER

Corrosive substances cause severe burns and vapours thereof may be extremely hazardous. In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes.

Get medical attention quickly.

1 6. Transport

2 (a) Corrosive substances shall not be filled, moved or carried except in [152][containers or through pipes and when they are to be transported in containers], they shall be placed in crates of sound construction and of sufficient strength.

(b) A container with a capacity of 11.5 litres (2-1/2 gallons) or more of a corrosive substance shall be placed in a receptacle or crate and then carried by more than one person at a height below the waist line unless a suitable rubber wheeled truck is used for the purpose.

(c) Containers for corrosive substances shall be plainly labelled.

7. Devices for handling corrosive

(a) [153][Suitable Tilting of pumping arrangements] shall be used for emptying jars, carboys and other containers of corrosives.
(b) Corrosive substance shall not be handled by bare hands but by means of a suitable scoop or other device.
8. Opening of valves: Valves fitted to containers holding a corrosive substance shall be opened with great care. If they do not work freely, they shall not be forced open. They shall be opened by a worker suitably trained for the purpose.
9. Cleaning tanks, stills, etc.
(a) In cleaning out or removing residues from stills or other large chambers used for holding any corrosive substance, suitable implements made of wood or other material shall be used to prevent production of arseniuretted hydrogen (arsine).
(b) Whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions required under section 36 of the Act shall be taken to ensure the worker's safety.
(c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods.
10. Storage
(a) Corrosive substances shall not be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gases.
(b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance overflowing and causing injury to any person.
(c) Every container having a capacity of twenty litres or more and every pipeline, valve, and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects, and defects so found out shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector whenever required.

1 11. Fire extinguishers and firefighting equipment: An adequate number of suitable types of fire extinguishers or other stored, shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment should be used, printed in the language which majority of the workers employed understand, shall be affixed near each extinguisher or other equipment.
2 12. Exemption: If in respect of any factory on application made by the manager, the Chief Inspector is satisfied that owing to the exceptional circumstances, or the infrequency of the process or for any other reason to be recorded by him in writing, all or any of the provisions of this schedule are not necessary for the protection of the persons employed therein, he may by a certificate in writing, which he may at any time revoke, exempt the factory from such of the provisions and subject to such conditions as he may specify therein.

SCHEDULE XVII154

USE OF OVENS AND DRIERS IN FACTORIES

1 1. Application: This schedule shall apply to ovens and driers, except those used in laboratories and kitchens of any establishment and those which have a capacity below 325 liters.

2 2. Definitions: For the purpose of this schedule, oven or drier means any enclosed structure, receptacle, compartment or box which is used for baking, drying or otherwise processing of any article or substance at a temperature higher than that ambient temperature of air in the room of space in which the oven or drier is situated, and in which the flammable or explosive mixture of air and flammable substance is likely to be evolved with the enclosed structure ,receptacle, compartment or box or part thereof on account of article or substance which is baked or dried or otherwise processed within it.

3 3. Separate electric connection: Electric power supplied to every oven or drier shall be by means of separate circuit provided with an isolated switch.

4 4. Design, construction, examination and testing,

5 (a) Every oven or drier shall be properly designed on sound engineering practice and be of good construction, sound materials and adequate strength free from any patent defect and safe, if properly used.

6 (b) No oven or drier shall be taken into use in factory for the first time unless a competent person has thoroughly examined all its parts carried out the tests as are required to establish that the necessary safe systems and control provided for safety in operation for the processes for which it is to be used and a certificate of such examination and tests signed by that competent person has been obtained and are kept available for inspection.

7 (c) All parts of an oven or drier has undergone any alteration or repair which has the effect of modifying any of the design characteristics, shall not be used unless a thorough examination and tests as have been mentioned in clause (b) have been carried by the competent person and a certificate of

such examination and tests signed by that competent person has been obtained and are kept available for inspection.

1 5. Safety, Ventilation

2 (a) every oven or drier shall be provided with a positive and effective safety ventilation system using one or more motor driven centrifugal fans so as to dilute any mixture of air and flammable substance that may be formed within the oven or drier and maintain the concentration of the flammable substance in the air at safe level of dilution.

3 (b) The safe level of dilution referred to in clause (a) shall be so as to achieve a concentration of concerned flammable material in air of not more than 25 % of its lower explosive limit; Provided that level of concentration in the air up to 50% of the lower explosive limit of the concerned flammable substance may be permitted to exist subject to installation and maintenance of an automatic device which:- (I) Shows continuously the concentration of the flammable substance in air present in the oven or drier at any instant; (II) Sounds an alarm when the concentration of the flammable substance in air present in any part of oven or drier reaches a level of 50% of explosive limit (III) Shuts down the heating system of the oven or drier

automatically when the concentration of the flammable substance in air present in any part of oven or drier reaches a level of 60% of lower explosive limit

4 (c) No oven or drier shall be operated without its safety ventilation system working in efficient manner.

5 (d) No oven or drier shall be operated with a level of dilution less than what is referred in clause (b)

6 (e) Exhaust ducts of safety ventilation system should be so designed and placed that their ducts discharge the mixture of air and flammable substance away from the work room and not near windows or doors or other openings from where the mixture could re- enter the work room.

7 (f) The fresh air admitted into the oven or drier by means of safety ventilation system shall be circulated adequately by means of circulating fans or fans through all parts of the oven or drier so as to ensure that there are no location where the flammable substance can accumulate in the air become pocketed to any dangerous degree.

8 (g) Throttling dampers in any safety ventilation system should be so designed by cutting away the portion of damper or otherwise that system will handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.

9 6. Explosion panels

10 (a) every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably design explosion panel so as to allow the release of the pressure of any possible explosion within the oven or drier

through explosions vents. The area of opening of any access doors which are provided with suitable arrangements for there release in case of an explosion shall not be less than 2200 sq. cm for every 1 cu m of the volume of the oven or drier. The design of the explosion panel and doors as stated above shall be such as to secure there complete release under an internal pressure of 0.25 kg/sq. cm.

(b) The explosion releasing panel shall, as far as practicable, be situated on the roof of the oven or drier or at those portions of the walls where persons don't remain in connection with operation of oven or drier.

7. Inter locking arrangement: In each oven or drier efficient inter locking arrangement shall be provided and maintain to ensure that:

(i) All ventilating fans and circulating fans whose failure would adversely affect the ventilation rate of flow pattern, are in operation before any mechanical conveyor that may be provided for feeding the article or substances to be processed in the oven or drier, input into operation

(ii) Failure of any of the ventilating or circulating fans will automatically stop any conveyor as referred to in clause (a) as may be provided as well as so the fume supply by closing the shut of valve and shut off the ignition in the case of gas or oil fired ovens and in case of electrically heated oven switch off the electrical supply to the heater

(iii) The afore said mechanical conveyor is set in operation before the said shut off valve can be energies

(iv) The failure of the aforesaid conveyor will automatically closed the said shut off valve in the case of oven and drier heated by gas, oil or steam and deactivate the ignition system or cut off the electrical heater in the case of electrically heated ovens are furnaces

8. Automatic ventilation: Every oven or drier heated by oil, gas, steam or electricity shall be provided with an efficient arrangement for automatic ventilation consisting of at least three volume changes with fresh air by operation of safety ventilation fans and circulating fans so as to effect purging of the oven or drier of any mixture of air and flammable substance before the heating system can be activated and before the conveyor can be placed in position.
9. Temperature control: Every oven or drier shall be provided with an automatic arrangement to ensure that the temperature which does not exceed a maximum temperature required in respect of the particular process is being carried out
10. Multi stage processes: Whatever material are to be processed in ovens or driers in successive operation suitable arrangements should be provided to ensure that the operating temperature necessary for safe operation at each stage are maintain within the design limit
11. Combustible substances not to drip on electrical heater or burner flame: Effecting arrangement shall be provided in every oven or drier to prevent dripping of combustible substances on electrical heater or burner flame used for heating.
12. Periodical examination, testing and maintenance:

(a) All parts of every oven or drier shall be properly maintain and thoroughly examined and the various control as mentioned in the schedule and the working of the oven or drier shall be tested at frequent interval to ensure its safe operation by a responsible person authorized by the occupier or manager in this behalf who by his experience and knowledge of necessary precaution against risk of explosion, is fit to undertake such work
(b) A register shall be maintained in which the details of various tests carried out from time to time under clause (a) shall be entered and every entry shall be signed by the person making the test.
13. Training of operator: No person shall be assigned any task connected with operation of any oven or drier unless his has completed 18 yrs of a and is properly trained
14. Polymerizing machine
(a) Printed fabric shall be thoroughly dried by passing them over drying canes or through hot flue or other equally effecting means before the same is allowed to pass through polymerizing machines
(b) Infra ray heater of polymerizing machines shall be cut off while running the print.

SCHEDULE XVIII

155[MANUFACTURE OR MANIPULATION OF CARCINOGENIC DYE INTERMEDIATES]

1 1. Application

The schedule shall apply in respect of all factories or any part thereof where processes in which the process of manufacturing or manipulation of a carcinogenic Dye Intermediates (here in referred to as the said manufacturing processes) is carried on.
Provided that Paragraphs 25 and 26 shall only to the a process involving manufacturing, manipulation of compounds mentioned in Appendix B (here in referred to as the said manufacturing processes B).

PART-I

1 2. Definition

2 (a) For the purpose of this schedule a nitro or amino compounds means a nitrated or laminated compound of aromatic hydrocarbons mentioned in Appendix A or B attached thereto.
3 (b) “Approved “means approved by Chief Inspector.
4 (c) “Omitted”
5 (d) “efficient exhaust draught” means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air of any place in which work is carried on. No draught, shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originates; and

(e) Manipulation shall include mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using or chemical processing of a nitro-amino compound.
(f) “Airline respirator” means a helmet or face piece with necessary connections by means of which a person using it in a poisonous or irritating atmosphere breathes ordinary air or any suitable apparatus approved in writing by Chief Inspector.
3. Cautionary placards

Cautionary placards in the form specified in appendix attached to this schedule and printed in the language of the majority of the workers employed in the said processes shall be affixed in prominent places frequented by them in the factory, where the placards can be conveniently read. Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.
1 4. Prohibition relating to employment of women and young persons

No woman or young person shall be employed or permitted to work in any room in which the said processes are carried on or in which a nitro or amino compound is stored.
1 5. Air space

in every room in which the said manufacturing process is carried on there shall at least 15 cubic-meters of air space excluding any space occupied by machinery equipments or any other article for each person employed there in and in computing this air space no height over 4.25 meters shall be taken into account.
1 6. Efficient exhaught draught

unless the said process is completely enclosed so as to not to give rise to dust or fume it shall not be carried on without the use of an efficient exhaught draught when a nitro or amino compound:
(a) Is introduced into a tank, hopper, machine, or container or filled into cartridge; or
(b) Is ground, crushed, mixed, sieved, or blended.
7. Floors of workroom

The floor of every workroom in which the said processes are carried on shall be

(a) Smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor,
(b) Maintained in a state of good repair,
(c) With a suitable slope for easy draining and provided with gutters and
(d) Thoroughly washed daily with the drain water being led into a sewer through a closed channel.
8. Work benches

work benches on which a nitro or amino compound is manipulated shall

(a) Have a smooth impervious surface preferably of stainless steel; and
(b) Be washed daily with hose-pipe or cleaned by means of suction cleaning apparatus at the time when no other work is carried on there at.
9. Waste disposal
(1) a suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material like cloth paper or other material soiled with a nitro or amino compound.
(2) All such contaminated waste material shall be destroyed by burning at least once a week.
10. Empty containers

Empty containers used for holding compounds included under Appendix A shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.
1 11. Decontamination of Pits, Tanks etc.
2 (a) Before a worker enters a tank, Put, kettle or any other confined space which contains a nitro or amino compound, it shall be thoroughly washed and decontaminated
3 (b) No part of the plant which contains nitro or amino compounds shall be repaired or opened for repairs unless it has been emptied of such compounds and thoroughly cleaned & decontaminated.
4 (c) Records of such treatments shall be maintained in a register approved by the Chief Inspector and the register shall be made available for inspection when required by Inspector.
5 12. Manual handling

A nitro or amino compound shall not be required or allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle which shall be thoroughly cleaned daily.
1 13. Protective wears

The occupier shall provide, maintain clean and in good re-pair protective clothing and other equipments as specified in the table below:

Process	Protective clothing and other equipments

1 (1) For manipulation of compounds mentioned in Appendix A	(a) Long pants and shirts or overalls with long sleeves and head covering. The shirt or overalls shall cover the neck completely. (b) Rubber gloves, rubber gum boots, rubber aprons and air line respirator.

1 (2) For manipulation of compounds mentioned in Appendix B	i (i) White clean clothing mentioned in (a) above, in addition to white clean shirts. Singlet and protective equipment as in (b) above. ii (ii) White long sleeve apron.

1 14. Instructions regarding risk

Every worker on his first employment in the said processes shall be fully instructed on the properties of the toxic chemicals to which he is likely to be exposed to, of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.

1 15. 156[Medical facilities and records of examinations and tests]

2 (1) The occupier of every factory to which this schedule applies, shall

3 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

4 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

5 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6 16. Medical examination by certifying Surgeon

7 (1) every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

8 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

9 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the

Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

10 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

1 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes

2 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

3 17. Washing and bathing facilities

4 (1) The following washing and bathing facilities shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the said processes:

5 (a) a wash place under cover having constant supply of water and provided with clean towels, soap and nail brushes and with at least one stand pipe for every five such workers:

6 (b) 50 percent of the stand pipes provided under clause (a) shall be located in bathrooms where both hot and cold water shall be made available during the working hours of the factory and for one hour thereafter:

7 (c) The washing and bathing facilities shall be in close proximity of the area housing the said processes:

8 (d) Clean towels shall be provided individually to each worker; and

9 (e) in addition to the taps mentioned under clause (a), one stand pipe, in which warm water is made available, shall be provided on each floor.

10 (2) Arrangement shall be made to wash factory uniforms and other work clothes everyday.

11 18. Washing and bathing:

12 (a) all the workers employed in the said manufacturing process shall carefully wash their hands and faces before taking food or leaving factory.

13 (b) Bath register- the workers employed in the said manufacturing process shall take bath at factory premises and will enter their names in the bath register as token of having done so.

14 19. Food, drinks, etc. prohibited in workroom

No worker shall consume food, drink, pan, supari or tobacco or shall smoke in any workroom in which the said processes are carried on and no worker shall remain in any such room during intervals for meals or rest.

1 20. Cloakroom

There shall be provided and maintained in a clean state and in good repair for the use of the workers employed in the said processes
(a) a cloakroom with lockers having two compartments - one for street clothes and the other for work clothes, and
(b) a place separate from the locker room and the messroom, for the storage of protective equipment provided under paragraph 13.

The accommodation so provided shall be under the care of a responsible person and shall be kept clean.

1 21. Mess room

There shall be provided and maintained for the use of workers employed in the said processes who remain on the premises during the meal intervals, a mess room which shall be furnished with tables and benches and provided with suitable means for warming food.
The mess room shall be placed under the charge of a responsible person and shall be kept clean.

1 22. Time allowed for washing

Before each meal and the end of the day at least 10 minutes' addition to the regular interval shall be allowed for washing to each person who has been employed in the said process.

1 23. Drying stoves

2 (1) every drying stove shall be efficiently ventilated to the outside air in such a manner that hot air from stove shall not be drawn into any work room.

3 (2) No person shall enter into stove to remove the contents until a free current of air has been passed through by mechanical means.

4 24. Non-sparking tools

Non-sparking tools shall be provided for the purpose of cleaning or repairing machinery or operating any process where vapours of tetranaphthyl lamine are evolved.

1 25. Testing of atmosphere etc.

Amines in the atmosphere of the work room where the manufacturing process is carried on shall be estimated once in every week and records of such estimations shall be made available when required by an Inspector.

PART-II

1 26. Separation of process- the said manufacturing process 'B' shall be carried on in rooms which shall not communicate with the other rooms except through a passage open entirely to outside atmosphere.

2 27. Limitation of exposure

3 (1) no worker under the age of 40 years shall be engaged in the factory for the said manufacturing process 'B for the first time after the date on which these rules come into force.

1 (2) Before the end of the day at least one hour shall be allowed for bathing to each person who is employed in the said manufacturing process 'B' including the time allowed under paragraph 22.

2 28. Exemptions

If in respect of any factory, the Chief Inspector is satisfied that (owing to the exceptional circumstances or infrequency of the processes or for any other reason), all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing exempt such factory from all or any of such provisions subject to such conditions as he may specify therein. Such certificates may at any time be revoked by the Chief Inspector.

APPENDIX-A

[SEE PARAGRAPH2, 10, 13]

The benzenes, Toulenes, Xylenes, having undergone nitration once or several times (nitro, dinitro and trinitro benzene and its homologues) and chlorinated compounds, naphalenes, having undergone nitration once or several times, anilines and its homologues (toludine, Xlidine, cuminide) anisidine, phenetidine and their chlorinated nitrated and alkylaled compounds (dimethylailine, toluylendiamine, toludine phenyhydrazine, toluylhydrazine).

APPENDIX-B

[SEE PARAGRAPH2 & 13]

Alpha naphthylamine
betanaphthylamine
Benzidine and its salts
dianisidine
Toludine
Dichlorobenzidine

APPENDIX – C

(See paragraph 3)

CAUTIONARY PLACARD

Advice to workers:

1 (1) Nitro and amino compounds are aromatic hydro carbons are dangerous. In this factory, you have to handle them frequently.

2 (2) All items of protective wear provided should be made use of to safeguard your health

3 (3) Maintain cleanliness at all times. Before meals wash hands and feet. A bath before leaving the factory is essential taking care to wash the hands well.

1 (4) If any chemicals fall on your body, wash it off immediately, with soap and water. Change clothing at once. If soap with a syanotic nitromino compound contact the appointed doctor immediately.

2 (5) Do not handle any nitro or amino compounds bare hand. Use a long handle scoop.

3 (6) Avoid alcoholic drinks as these can cause risk of poisioning.

4 (7) In case of illness contact the factory manager and the appointed doctor.

5 (8) Don't chew, eat, drink or smoke in the work-room or with soiled hands. Keep food and drinks away from the work-place.
6 (9) If you work with Beta-naphthylamine or benzedine or its salt alphanapthalymine or dianisidine:
7 (a) Remember the serious effects will follow after a number of year if great care is not taken to observe absolute cleanliness of body, clothes, machinery and tools.
8 (b) At meal time wash face and hands twice with soap and water to remove all chemicals; wear a long sleeved clean apron while eating.
9 (c) Before leaving the factory take a bath using soap and water twice after this put on your home clothes.

SCHEDULE – XIX

[157][PROCESS OF EXTRACTING OILS AND FATS FROM VEGETABLES AND ANIMAL SOURCES IN SOLVENT EXTRACTION PLANTS]

1. 158[Definitions (a) "solvent extraction plant" means a plant in which the process of extracting oils and fats from vegetable and animal sources by use of solvents is carried on;]
(b) "solvent" means a flammable liquid such as pentane, hexane and heptane use for the recovery of vegetable oils;
(c) "flameproof enclosure" as applied to electrical machinery or apparatus means an enclosure that will withstand, when covers or other access doors are properly secured, an internal explosion of the flammable gas or vapour which may enter or which may originate inside the enclosure without suffering damage and without communicating internal inflammation (or explosion) to the external flammable gas or vapour;
(d) "competent person" for the purpose of this schedule shall be at least a member of the Institution of Engineers (India) or an Associate Member of the said Institution with 10 years' experience in a responsible position as may be approved by the Chief Inspector:

Provided that a graduate in mechanical engineering or chemical technology with specialised knowledge of oils and fats and with a minimum experience of 5 years in a solvent extraction plant shall also be considered to a competent person.

Provided further that the State Government may accept any other qualifications if in its opinion, they are equivalent to the qualifications aforesaid.
1 2. Location and layout
2 (a) No solvent extraction plant shall be permitted to be constructed or extended to within a distance of 30 meters from the nearest residential locality.
3 (b) A 1.5-meter-high continuous wire fencing shall be provided around the solvent/ extraction plant upto a minimum distance of 15 meters from the plant.
4 (c) No person shall be allowed to carry any matches or an open flame or fire inside the area round by the fencing.
5 (d) Boiler houses and other buildings where open flame processes are carried on shall be located at least 30 meters away from the solvent extraction plant;

(e) If god owns and preparatory processes are at a distance of less than 30 metres from the solvent extraction plant, these shall be at least 15 meters distant from the plant, and a continuous barrier wall of non-combustible material 1.5 meters' high shall be erected at a distance of not less than 15 meters from the solvent extraction plant so that it extends to at least 30 meters of vapour travel around its ends from the plant to the possible sources of ignition.

3. Electrical installations

(a) all electrical motors and wiring and other electrical equipment installed or housed insolvent extraction plant shall be of flameproof construction.

(b) All metal parts of the plant and building including various tanks and containers where solvents are stored or are present and all parts of electrical equipment not required to be energised shall be properly bonded together and connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.

4. Restriction on smoking: Smoking shall strictly have prohibited within 15 meters' distance from solvent extraction plant. For this purpose, "NO smoking" sings shall be permanently displayed in the area.

5. Precautions against friction

(a) All tools and equipment including ladders, chains and other lifting tackle required to be used in solvent extraction plant shall be of non- sparking type.

(b) [159][No machinery or equipment in any solvent extraction plant shall be belt driven, unless the belt used is of such a type that it does not permit accumulation of static electricity to a dangerous level.]

(c) No person shall be allowed to enter and work in the solvent extraction plant if wearing clothes made of nylon or such other fibre that can generate static electrical charge, or wearing footwear which is likely to cause sparks by friction.

6. Fire fighting apparatus

(a) Adequate number of portable fire extinguishers suitable for use against flammable liquid fires shall be provided in the solvent extraction plant.

(b) An automatic water spray sprinkler system on a wet pipe or open-head deluge system with sufficient supply of storage water shall be provided over solvent extraction plant and throughout the building housing such plant.

7. Precautions against power failure: Provision shall be made for the automatic cutting off of steam in the event of power failure and also for emergency overhead water- supply for feeding water by gravity to condensers which shall come into play automatically with the power failure.

8. Magnetic Separators: Oil cake shall be fed to the extractor by a conveyer through a hopper and a magnetic separator shall be provided to remove any pieces of iron during pressure in the event of fire.

9. Venting

(a) Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.

8 (b) All emergency relief vents shall terminate at least 6 meters above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.
9 10. Waste water: Process waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into a sump [160][which should be located within the fenced area but not closer than 8 meters to the fence].
10 11. Ventilation: The solvent extraction plant shall be well ventilated and if the plant is housed in a building, the building shall be provided with mechanical ventilation with provision for at least six air changes per hour.
11 12. Housekeeping
12 (a) Solvents shall not be stored in an area covered by solvent extraction plant except in small quantities which shall be stored in approved safety cans.
13 (b) Waste materials such as oily rags, other wastes and absorbents used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises at least once a day.
14 (c) Space within the solvent extraction plant and within 15 meters from the plant shall be kept free form any combustible materials and any spills of oil or solvent, shall be cleaned up immediately.
15 13. Examination and repairs
16 (a) The solvent extraction plant shall be examined by the competent person to determine any weakness or corrosion and wear once in every 12 months. Report of such examination shall be supplied to the Inspector with his observation as to whether or not the plant is in safe condition to work.
17 (b) No repairs shall be carried out to the machinery or plant except under the direct supervision of the competent person.

(c) Facility shall be provided for purging the plant with inert gas or steam before opening for cleaning or repairs and before introducing solvent after repairs.
14. Operating personnel: The operation of the plant and machinery in the solvent extraction plant shall be in the charge of such duly qualified and trained persons as are certified by the competent person to be fit for the purpose and no other person shall be allowed to operate the plant and machinery.
15. Employment of women and young persons: No woman or young person shall be employed in the solvent extraction plant.
16. Vapour detection: A suitable type of flameproof and portable combustible gas indicator shall be provided and maintained in good working order and a schedule of routine sampling of atmosphere at various locations as approved by the chief inspector shall be drawn out and entered in a register maintained for the purpose.
17. Exemption: when the solvent in removed from the batch extractor by vacuum Gauges shall be provided and tests shall be carried out to ensure that a minimum vacuum of 650 mm (26'') mercury is obtained and maintained steadily for a minimum period of 30 minutes before the extractor is allowed to be opened for discharging cake or for persons to enter.
18. Log-book: A log -book of operations with the following particulars shall be maintained and made available on demand to the Inspector:

(i) Vacuum gauge reading for each charge:
(ii) Testing of continuity of electrical bonding and earthing system:
(iii) Loss of solvent every 24 hours or loss per ton of raw materials used.
19. [161][Exemption: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time) exempt such factory from all or any of such provisions subject to conditions, if any, as he may specify therein].

SCHEDULE – XX
MANUFACTURE OR MANIPULATION OF MANGANESE AND ITS COMPOUNDS
1 1. Definitions: For the purposes of this schedule
2 (a) "manganese process" means processing, manufacture or manipulations of manganese or any ore or any mixture containing manganese;
3 (b) "first employment" means first employment in any manganese process and includes also re-employment in any manganese process followed any cessation of employment for continuous period of 3 calendar months.
4 (c) "Manipulations" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, or otherwise handling of manganese, or mixture containing manganese; and

(d) "efficient exhaust ventilation" means localised ventilation effected by mechanical means for the removal of dust or fume or at its source of origin so as to prevent it from escaping into the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or fume or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.
2. Application: This schedule shall apply to every factory in which or in any part of which any manganese process is carried on.
3. Exemption: If in respect of any factory, the Chief Inspector is satisfied that owing to any exceptional circumstances, or infrequency of the process, or for any other reason, application of all or any of the provisions of this schedule is not necessary for the protection of the persons employed in such factory, he may by an order in writing which he may at his discretion revoke, exempt such factory from all or any of the provisions on such conditions and for such period as he may specify in the said order.
4. Isolation of a process: Every manganese process which may give rise to dust, vapour or mist containing manganese, shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and processes and other parts of the factory and persons employed on other processes may not be affected by the same.
5. Ventilation of process: No process in which any dust, vapour or mist containing manganese is generated, shall be carried out except under an efficient exhaust ventilation which shall be applied as near to the point of generation as practicable.
6. [162][Medical facilities and records of examinations and tests:
(1) The occupier of every factory to which this schedule applies, shall:

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).
(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6-A. Medical examination by certifying Surgeon:
1 (1) Every worker employed in any manganese process shall be medically examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests and other neuro-muscular coordination tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified for such employment by the Certifying Surgeon.

1 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).
2 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the certifying Surgeon in a health register in Form 17.
3 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
4 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.
5 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
6 7. Personal protective equipment:
7 (1) the occupier of the factory shall provide and maintain in good and clean condition suitable overalls and head coverings for all persons employed in any manganese process and such overalls and head coverings shall be worn by the persons while working on a manganese process.

8 (2) The occupier of the factory shall provide suitable respiratory protective equipment for use by works in emergency to prevent inhalation of dusts, fumes or mists. Sufficient number of complete sets of such equipment shall always be kept near the work place and the same shall be properly maintained and kept always in a condition to be used readily.
9 (3) The occupier shall provide and maintain for the use of all persons employed, suitable accommodation for the storage and make adequate arrangements for cleaning and maintenance if personal protective equipment.
10 8. Prohibition relating to women and young persons: No women or young persons shall be employed or permitted to work in any manganese process.

1 9. Food, drinks, etc. prohibited in the work rooms - No food, drink, pan and supari or tobacco shall be allowed to be brought into or consumed by any worker in any workroom in which any manganese process is carried on.
2 10. Mess room: There shall be provided and maintained for the use of the persons employed in a manganese process a suitable mess room which shall be furnished with sufficient tables and benches and adequate means for warming of food. The mess room shall be placed under the charge of a responsible person and shall be kept clean.
3 11. Washing facilities: There shall be provided and maintained in a clean state and in good condition, for the use of persons employed on manganese process – (a) A wash place under cover, with either
4 (1) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every ten such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres:
5 (2) at least on wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply water; and (b) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.
6 12. Cloakroom: If the Chief Inspector so requires there shall be provided and maintained for the use of persons employed in manganese process a cloakroom for clothing put off during working hours with adequate arrangements for drying the clothing.
7 13. Cautionary placard and instructions - Cautionary notices in the form specified in appendix and printed in the language of the majority of the workers and employed, shall be affixed in prominent places in the factory where they can be easily and conveniently read by the workers and arrangement shall be made by the occupier to instruct periodically all workers employed in a manganese process regarding the health hazards connected with their duties and the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

CAUTIONARY NOTICE
Manganese and Manganese Compounds
1 (1) Dust free and mists of manganese and its compounds are toxic when inhaled or when ingested.
2 (2) Do not consume food or drink near the work place.
3 (3) Take a good wash before taking meals.

4 (4) Keep the working area clean.
5 (5) Use the protective clothing and equipment provided.

1 (6) When required to work in situations where dusts, fumes or mists are likely to be inhaled, use respiratory protective equipment provided for the purpose.
2 (7) If you get severe head-aches, prolonged sleeplessness or abnormal sensations on the body, report to the manager who would make arrangements for your examination and treatment.

SCHEDULE – XXI
PROTECTION AGAINST HAZARDS OF POISONING ARISING FROM BENZENE
1 1. Application: This schedule is made to provide protection against hazards of poisoning from benzene and shall apply in respect of factories or parts thereof in which benzene or substances containing benzene are manufactured, handled or used.
2 2. Definitions: For the purpose of this schedule
3 (a) "substances containing benzene" means substances wherein benzene content exceeds 1 per cent by volume;
4 (b) "substitute" means a chemical which is harmless or less harmful than benzene and can be used in place of benzene;
5 (c) "enclosed system" means a system which will not allow escape of benzene vapours to the worker's atmosphere; and
6 (d) "efficient exhaust draught" means localised ventilated effected by mechanical means for the removal of gases, vapours and dusts or fumes so as to prevent them from escaping into the air of any workroom. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapours, fumes or dusts originate.
7 3. Prohibition and substitution
8 (a) Benzene and substances containing benzene shall not be used as solvent or dilutent unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in manner which is considered equally safe as if it were carried out in an enclosed system.

[163][Provided that the use of benzene and substances containing benzene is prohibited in the following processes:
(a) manufacture of varnishes, paints and thinners; and
(b) Cleaning and degreasing operations.
(c) Where suitable substitutes are available, they shall be used instead of benzene or substances containing benzene. This provision, however, shall not apply to the processes specified in Appendix A.
(d) The Chief Inspector may, subject to confirmation by the State Government, permit exemptions from the percentage laid down in sub-paragraph 2(a) and also from the provisions of sub-paragraph (2) of this paragraph temporarily under conditions and within limits of time to be determined after consultation with the employers and workers concerned.

1 4. Protection against installation

2 (a) The process involving the use of benzene or substances containing benzene shall be as far as practicable be carried out in an enclosed system.
3 (b) Where, however, it is not practicable to carry out the process in an enclosed system, the workroom in which benzene or substances containing benzene are used shall be equipped with an efficient exhaust draught or other means for the removal of benzene vapours to prevent their escape into the air of the workroom so that the concentration of benzene in the air does not exceed 10 parts per million by volume or 30 milligrams per cubic meter.
4 (c) Air analysis for the measurement of concentration of benzene vapours in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector at places where process involving use of benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of benzene vapours in air as measured by air analysis, exceeds 10 parts per million by volume or 30 milligrams per cubic meter, the Manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase.
5 (d) Workers who for special reasons are likely to be exposed to concentration of benzene in the air of the workroom exceeding the maximum referred to in sub- paragraph (2) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.
6 5. Measures against skin contact
7 (a) Workers who are likely to come in contact with liquid benzene or liquid substances containing benzene shall be provided with suitable gloves, aprons, boots and where necessary vapour tight chemical goggles, made of material not affected by benzene or its vapours.
8 (b) The protective wear referred to in sub-paragraph (1) shall be maintained in good condition and inspected regularly.
9 6. Prohibition relating to employment of women and young persons: No woman or young person shall be employed or permitted to work in any workroom involving exposure to benzene or substances containing benzene.
10 7. Labelling: Every container holding benzene or substances containing benzene shall have the word “Benzene” and approved danger symbols clearly visible on it and shall also display information on benzene content, warning about toxicity and warning about infallibility of the chemical.
11 8. Improper use of benzene:
12 (a) The use of benzene substances containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.
13 (b) Workers shall be instructed on the possible dangers arising from such misuse.

1 9. Prohibition of consuming food, etc. in workrooms: No worker shall be allowed to store or consume food or drink in the workroom in which benzene or substances containing benzene are manufactured, handled or used. Smoking and chewing tobacco or pan shall be prohibited in such workrooms.
2 10. Instructions as regards risks: Every worker on his first employment shall be fully instructed on the properties of benzene or substances containing benzene which he has to handle and of the dangers involved. Workers shall also be instructed on the measures to be taken to deal with in an emergency.

3 11. Cautionary notices: Cautionary notices in the form specified in appendix and printed in the language easily read and understood by the majority of the workers shall be displayed in prominent places in the workrooms where benzene or substances containing benzene are manufactured, handled or used.

4 12. Washing facilities, cloakroom and mess room: In factories in which benzene or substances containing benzene are manufactured, handled or used, the occupier shall provide and maintain in a clean state and in good repair.

5 (a) washing facilities under cover, of the standard of at least one tap for every 10 persons having constant supply of water with soap, and a clean towel provided individually to each worker if so ordered by the Inspector;

6 (b) cloakroom with lockers for each worker, having two compartments - one for street-clothing and one for work-clothing; and

7 (c) a mess room furnished with tables and benches with means for warming food, provided that where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of mess room shall be dispensed with.

8 13. [164][Medical facilities and records of examinations and tests:

9 (1) The occupier of every factory to which this schedule applies, shall:

10 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

11 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

12 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

13 14. Medical examination by Certifying Surgeon:

14 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

1 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every 12 months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub- paragraph (1) Further, every worker shall also be examined once in every three calendar months by the said medical practitioner.

2 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

3 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

4 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process

5 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes].

APPENDIX-A

[SEE CLAUSE 3(B)]

1 (1) production of benzene

2 (2) process where benzene is used for chemical synthesis

3 (3) motor spirits (used as fuel).

APPENDIX-B

[SEE CLAUSE 11]

CAUTIONARY NOTICE

Benzene and substances containing benzene

(a) The Hazards:

(i) Benzene and substances containing benzene are harmful.

(ii) Prolonged or repeated breathing of benzene vapours may result in acute or chronic poisoning.

(iii) Benzene can also be absorbed through skin which may cause skin or other diseases.

(b) The Preventive measures to be taken:

(i) Avoid breathing of benzene vapours.

(ii) Avoid prolonged or repeated contact of benzene with the skin.

(iii) Remove benzene soaked or wet clothing promptly.

(iv) If any time you are exposed to high concentration of benzene vapours and exhibit signs and symptoms such as dizziness, difficulty in breathing, excessive excitation and losing of consciousness, immediately inform your factory manager.

(v) Keep all the containers of benzene closed

(vi) Handle, use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor.

(vii) Maintain good housekeeping.

(c) The Protective equipment to be used:

(i) Use respiratory protective equipment in places where benzene vapours are present in high concentration.

(ii) In emergency, use self-generating oxygen mask or oxygen or air cylinder masks.

(iii) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.

(d) The First-aid measures in case of acute benzene poisoning:

(i) Remove the clothing immediately if it is wetted with benzene.
(ii) If liquid benzene enters eyes, flush thoroughly for at least 15 minutes with clean running water and immediately secure medical attention.
(iii) In case of unusual exposure to benzene vapour, call a physician immediately. Until he arrives, do the following:

If the exposed person is conscious:
(a) Move him to fresh air in open.
(b) Lay down without a pillow and keep him quiet and warm.

If the exposed person is unconscious:
(a) Lay him down preferably on the left side with the head low.
(b) Remove any false teeth, chewing gum, tobacco or other foreign objects which may be in his mouth.
(c) Provide him artificial respiration in case difficulty is being experienced in breathing.
(d) In case of shallow breathing or cyanosis (blueness of skin, lips, ears, finger nail beds), he should be provided with medical oxygen or oxygen carbon dioxide mixture. If needed, he should be given artificial respiration. Oxygen should be administered by a trained person only.

SCHEDULE – XXII
CARBON DISULPHIDE PLANTS

1 1. Application: This schedule shall apply to all electric furnaces in which carbon disulphide is generated and all other plants where carbon disulphide after generation, is condensed, refined and stored.

This schedule is in addition to and not in derogation of any of the provisions of the Act and Rules made there under.

1 2. Construction, installation and operation:

2 (a) The buildings in which electric furnaces are installed and carbon disulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be of open type to ensure optimum ventilation and the plant layout shall be such that only a minimum number of workers are exposed to the risk of any fire or explosion at any one time.

3 (b) Every electric furnace and every plant in which carbon disulphide is condensed, refined and stored with all their fittings and attachments shall be of good construction, sound material and of adequate strength to sustain the internal pressure to which the furnace or the plant may be subjected to and shall be so designed that carbon disulphide liquid and gas are in closed system during their normal working.

4 (c) The electric furnace supports shall be firmly grouted about 60 centimetres in concrete or by other effective means.

5 (d) Every electric furnace shall be installed and operated according to manufacturers' instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.

6 (e) The instructions regarding observance of correct furnace temperature, sulphur dose, admissible current or power consumption and periodical checking of charcoal level shall be strictly complied with.

7 3. Electrodes:

8 (a) Where upper ring electrodes made of steel are used in the electric furnace, they shall be of seamless tube construction and shall have arrangement for being connected t cooling water system through a siphon built in the electrodes or through a positive pressure water-pump.

9 (b) The arrangement for cooling water referred to in sub-paragraph (1) shall be connected with automatic alarm system which will actuate in the event of interruption of cooling water in the electrodes and give visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

10 4. [165][Charcoal level indicator and vibrator: When any electric furnace is in operation it shall be ensured that the electrodes are kept covered with charcoal bed.]

1 5. Charcoal separator - A cyclone type of charcoal separator shall be fitted on the off-take pipe between the electric furnace and sulphur separator to prevent entry of pieces of charcoal into the condensers and piping.

2 6. Rupture discs and safety seal:

3 (a) At least two rupture discs of adequate size which shall blow off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top of the furnace or each through an independent pipe as close as possible to the furnace.

4 (b) A safety water seal shall be provided and tapped from a point between the charcoal separator and the sulphur separator.

5 7. Pyrometer and manometers:

6 (a) Each electric furnace shall be fitted with adequate number of pyrometers [166][to give an indication of the temperature as correctly as reasonably practicable] at various points in the furnace. The dials for reading the temperatures shall be located in the control room.

7 (b) [167][Manometers or any other suitable devices] shall be provided for indicating pressure

8 (i) In the off-take pipe before and after the sulphur separator; and

9 (ii) In primary and secondary condensers.

10 8. Check valves: All piping carrying carbon disulphide shall be fitted with check valves at suitable positions so as to prevent gas from flowing back into any electric furnace in the event of its shut down.

11 9. Inspection and maintenance of electric furnaces:

12 (a) Every electric furnace shall be inspected internally by a competent person.

13 (i) Before being placed in service after installation;

14 (ii) Before being placed in service after reconstruction or repairs; and

15 (iii) Periodically every time the furnace is opened for cleaning or de- or for replacing electrodes.

16 (b) When an electric furnace is shut down for cleaning or de-ashing:

17 (i) The brick lining shall be checked for continuity and any part found defective removed;
18 (ii) After removal of any part of the lining referred to in (a) the condition of the shell shall be closely inspected; and
19 (iii) Any plates forming shall found corroded to the extent that safety of the furnace is endangered shall be replaced.
20 10. Maintenance of records - The following hourly records shall be maintained in a log book.
21 (i) Manometer readings at the points specified in sub-paragraph 7(b)(i): and

i (ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and secondary condensers;
ii (iii) Water temperature and flow of water through the siphon in the electrodes;
iii (iv) Primary and secondary voltages and current and energy consumed.
iv 11. Electrical apparatus, wiring and fittings: All buildings in which carbon disulphide id refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from fire and explosion.
v 12. Prohibition relating to smoking - No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in buildings in which carbon disulphide is refined or stored, and a notice in the language understood by a majority of the workers shall be posted in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms.
vi 13. Means of escape: Adequate means of escape shall be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed to afford easy passage.
vii 14. Warnings in case of fire: There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electrically and in case of failure of electricity by some mechanical means.
viii 15. Fire-fighting equipment:
ix (a) Adequate number of suitable fire extinguishers or other fire-fighting equipment shall be kept in constant readiness for dealing with risks involved and depending on the amount and nature of materials stored.
x (b) Clear instructions as to how the extinguishers or other equipment should be used printed in the language which the majority of the workers employed understand, shall be affixed to each extinguisher or other equipment and the personnel trained in their use.
xi 16. Bulk Sulphur:
xii (a) Open or semi-enclosed spaces for storage of bulk sulphur shall be sited with due regard to the dangers which may arise from sparks given off by nearby locomotives, etc., and precautions shall be taken to see that flames, smoking and matches and other sources of ignition do not come in contact with the clouds of dust arising during handling of bulk sulphur.
xiii (b) All enclosures for bulk sulphur shall be of non-combustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.

xiv (c) The bulk sulphur in the enclosures shall be handled in such a manner as to minimise the formation of dust clouds and no flame, smoking and matches or other sources of ignition shall be employed during handling and non-

sparking tools shall be used whenever sulphur is shovelled or otherwise removed by hand.
(d) No repairs involving flames, heat or use of hand or power tools shall be made in the enclosure where bulk sulphur is stored.
17. Liquid sulphur: Open flames, electric sparks and other sources of ignition, including smoking and matches, shall be excluded from the vicinity of molten sulphur.
18. Training and supervision:
(a) All electric furnaces and all plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation.
(b) Workers in charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.
19. Washing facilities: The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed wash place under cover with at least one tap or stand-pipe, having a constant supply of clean water for every five such persons, the taps or stand-pipes being spaced not less than 120 centimetres apart with a sufficient supply of soap and clean towels, provided that towels shall be supplied individually to each worker if so ordered by the Inspector.

All the workers employed in the sulphur storage, handling and melting operations shall be provided with a nail brush.
1 20. Personal protective equipment:
2 (a) Suitable goggles and protective clothing consisting of overalls without packets, gloves and foot-wear shall be provided for the use of operatives
3 (i) when operating valves or cocks controlling fluids etc.,
4 (ii) drawing off a molten sulphur from sulphur pots;
5 (iii) handling charcoal or sulphur.
6 (b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
7 (c) Arrangements shall be made for proper and efficient cleaning of all such protective equipment.
8 21. Cloakrooms: There shall be provided and maintained for the use of all persons employed in the processes a suitable cloakroom for clothing put off during work hours and a suitable place separate from the cloakroom for the storage or overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.
9 22. Unauthorized persons - Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorized persons shall be admitted into the plant].

SCHEDULE – XXIII
OPERATIONS INVOLVING HIGH NOISE LEVELS

1 1. Application: This schedule shall apply to all operations in any manufacturing process having high noise level.
2 2. Definitions: For the purpose of this schedule,
3 (a) “Noise” means any unwanted sound.
4 (b) “High noise level” means any noise level measured on the A-weighted scale is 90 dB or above.
5 (c) ” Decibel” means one-tenth of “Bel” which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of “Bels” denoting such a ratio being the logarithm to the base the of 10 of this ratio. The noise level (or the sound pressure level) 6 corresponds to a reference pressure of 20 x 10-6 newton per square meter or 0.0002 dynes per square centimetre which is the threshold of hearing, that is, the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listeners. The decibel in abbreviated form is dB.
6 (d) ” Frequency” is the rate of pressure variations expressed in cycles per second or hertz.
7 (e) ” dBA” refers to sound level in decibels as measured on a sound level meter operating on the A-weighting network with slow meter response.
8 (f) ” A-weighting” means making graded adjustments in the intensities of sound of various frequencies for the purpose of noise measurement, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.
9 3. Protection against noise
10 (1) In every factory, suitable, a suitable engineering control or administrative measures shall be taken to ensure, so far as is reasonably practicable, that no worker is exposed to sound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2 given below:

Table 1
Permissible exposure in cases of continuous noise

Total time of exposure (continuous or a number of short term exposures) per day, in hours	Sound pressure level in dBA
1	2
8	90
6	92
4	95

3	97
2	100

1½	102
1	105
¾	107

Notes:

1 (1) No exposure in excess of 115 dbas is to be permitted.

2 (2) For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column 1, the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

Table 2

Permissible exposure levels of impulsive or impact noise

Peak sound pressure level in dB	Permitted number of impulses or impact per day
1	2
140	100
135	315
130	1,000
125	3,160
120	10,000

Notes:

1 (1) No exposure in excess of 140 dB peak sound pressure level is permitted.

2 (2) For any peak sound pressure level falling in between any figure and the next higher or lower figure as indicated in column 1, the permitted number of impulses or impacts per day is to be determined by extrapolation on a proportionate basis.

3 (3) For the purposes of this schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

4 (4) When the daily exposure is composed of two or more periods of noise exposure at different levels their combined effect should be considered, rather than the individual effect of each. The mixed exposure should be considered to exceed the limit value if the sum of

1 the fractions $C_1/T_1 + C_2/T_2 + \ldots\ldots\ldots C_n/T_n$ exceeds unity, Where the C_1, C_2 etc. indicate the total time of actual exposure at a specified noise level and T_1, T_2, etc. denote the time of exposure of less than 90 dBA may be ignored in the above calculation.

2 (5) Where it is not possible to reduce the noise exposure to the levels specified in sub-rule (1) by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such control measures, and each worker so exposed shall be provided with suitable ear protectors so as to reduce the exposure to noise to the levels specified in sub-rule (1).

3 (6) Where the ear protectors provided in accordance with sub-paragraph (4) and worn by a worker cannot still attenuate the noise reaching near his ear, as determined by subtracting the attenuation value in dBA of the ear protectors concerned from the measured sound pressure level, to a level permissible under Table 1 or Table 2 as the case may be, the noise exposure period shall be suitably reduced to correspond to the permissible noise exposures specified in sub-paragraph (1).

4 (7) In all cases where the prevailing sound levels exceed the permissible levels specified in sub-paragraph (1), there shall be administered an effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on workers exposed to noise exceeding the permissible levels, and rehabilitation of such workers either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.

5 (2) Every worker employed in areas where the noise exceeds the maximum permissible exposure levels specified in sub-paragraph (1), shall be subjected to any auditory examination by a Certifying Surgeon within 14 days of his first employment and thereafter, shall be re-examined at least once a every 12 months. Such initial and periodical examinations shall include tests which the Certifying Surgeon may consider appropriate and shall include determination of auditory thresholds for pure tones of 152, 250, 500, 1000, 2000, 4000 and 8000 cycles per second.

SCHEDULE – XXIV

MANUFACTURE OR MANIPULATION OF DANGEROUS PESTICIDES

1 1. Application: This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of dangerous pesticide (hereinafter referred to as the said manufacturing process), it carried on.

2 2. Definitions: For the purpose of this Schedule,

3 (a) “dangerous pesticides” means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 (Central Act No. 46

of 1968) and the rules made there under and any other product, as may be notified from time to time by the State Government;

(b) “manipulation” includes mixing, blending, formulating, filling, emptying, packing or otherwise handling;

(c) “efficient exhaust draught” means localised mechanical ventilation for removal of smoke, gas, vapour, dust, fume or mist so as to prevent them from escaping into the air of any work room in which work is carried on, but no exhaust draught shall be considered efficient if it fails

to remove smoke generated at the point where such gas, fume, dust, vapour or mist originates from the process.

3. Instruction to workers: Every worker on his first employment shall be fully instructed on the properties including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved. The employees shall also be instructed in the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

4. Cautionary notice and placards: Cautionary notices and placards in the form specified in appendix to this schedule and printed in the language of the majority of the workers shall be displayed in all work places in which said manufacturing process is carried on so that they can be easily and conveniently read by the workers. Arrangements shall be made by the occupier and the manager of the factory to periodically instruct the workers regarding the health hazards arising to in the said manufacturing process and methods of protection. Such notices shall include brief instructions regarding the periodical clinical tests required to be undertaken for projecting health of the workers.

5. Prohibition relating to employment of women or young persons: No woman or young person shall be employed or permitted to work in any room in which the said manufacturing process is carried on or in any room in which dangerous pesticide is stored.

6. Food drinks, and smoking prohibition

No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any workroom in which the said manufacturing process is carried on.

1 7. Protective clothing and protective equipment

2 (1) Protective clothing consisting of long pants and shirts or overalls with long sleeves and head coverings shall be provided for all workers employed in the said manufacturing process.

3 (2)

4 (a) Protective equipment consisting of rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators shall be provided for all workers employed in the said manufacturing processes.

5 (b) Gloves, boots, aprons shall be made from synthetic rubber where a pesticide contains oil.

1 (3) Protective clothing and equipment shall be worn by the workers supplied with such clothing and equipment.

2 (4) Protective clothing and equipment shall be washed daily from inside and outside if the workers handle pesticides containing nicotine or phosphorous and shall be washed frequently if handling other pesticides.

3 (5) Protective clothing and equipment shall be maintained in good condition.

4 8. Floors and work-benches

5 (1) Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.

6 (2) Floors shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with the hose pipe.

7 (3) Work-benches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned at least once daily.
8 9. Spillage and waste
9 (1) If, a dangerous pesticide during its manipulation splashes or spills on the work-bench, floor or on the protective clothing worn by a worker, immediate action shall be taken for through decontamination of such areas or articles.
10 (2) Cloth, rags, paper or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover and contaminated waste shall be destroyed by burning at least once a week.
11 (3) Suitable deactivating agents, where available, shall be kept in a readily accessible place for use while attending to a spillage.
12 (4) Easy means of access shall be provided to all parts of the plant for cleaning, maintenance and repairs.
13 10. Empty containers used for dangerous pesticides

Containers used for dangerous pesticides shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded or destroyed.
1 11. Manual handling
2 (1) A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of a long-handled scoop.
3 (2) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.
4 12. Ventilation
5 (1) In every workroom or area where a dangerous pesticide is manipulated, adequate ventilation shall be provided at all times by the circulation of fresh air.

1 (2) Unless the process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught:
2 (a) emptying a container holding a dangerous pesticide;
3 (b) blending a dangerous pesticide;
4 (c) preparing a liquid or powder formulation containing a dangerous pesticide; and
5 (d) Changing or filling a dangerous pesticide into a container, tank hopper or machine or small sized containers.
6 (3) In the event of a failure of the exhaust draught provided on the above operation, the said operations shall be stopped forthwith.
7 13. Time allowed for washing
8 (1) Before each meal and before the end of the day's work at least ten minutes in addition to the regular rest interval shall be allowed for washing to each worker engaged in the manipulation of dangerous pesticide.
9 (2) Every worker engaged in the manipulation of dangerous pesticides shall have a thorough wash before consuming any food and also at the end of the day's work.
10 14. Washing and bathing facilities

11 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the factory where the said manufacturing process is carried on, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 5 persons employed therein.
12 (2) The washing places shall have stand pipes placed at intervals of not less than one meter.
13 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.
14 (4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker is so ordered by the Inspector.
1 (5) Sufficient supply of soap and nail brushes shall be provided.
2 15. Cloakroom

There shall be provided and maintained for the use of all workers employed in the factory where the said manufacturing process is carried on,
(a) a cloakroom for clothing put off during working hours with adequate arrangements for drying clothing, if wet; and
(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 7.

1 16. Mess room
2 (1) There shall be provided and maintained for the use of all workers employed in the factory in which the said manufacturing process is carried on and remaining on the premises during the rest intervals, suitable mess room which shall be furnished with:
3 (a) sufficient tables and benches with back rest, and
4 (b) Adequate means for warming food.
5 (2) The mess room shall be placed under the charge of responsible person and shall be kept clean.
6 17. Manipulation not be undertaken: Manufacture or manipulation of a pesticides shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.
7 18. Medical facilities and records of examinations and tests
8 (1) The occupier of every factory to which this schedule applies, shall
9 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
10 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).
11 (2) The report of medical examinations and appropriate tests carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
12 19. Medical examination by certifying Surgeon

13 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations in respect of Halogenated Pesticides, shall include tests for determination of chemical in blood and in fat tissues, E.E.G. abnormalities and memory tests. In respect of organo phosphate compounds, such examinations shall include tests for depression of cholinesterase in plasma and red blood cells. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

14 (2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon at least once in every six calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include the tests specified in sub-paragraph (1). Further, every worker employed in the said processes shall also be examined once in every three months by the Factory Medical Officer.

1 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraph (1) and (2), including the nature and the results of these test, shall also be entered by the certifying Surgeon in a Health Register in Form 17.

2 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

3 (5) If, at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process.

4 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

5 20. Exemption: If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or the infrequency of the said manufacturing process or for any other reason which shall record in writing all or any of the provisions of this schedule are not necessary for the protection of workers employed in the factory, he may by a certificate in writing exempt such factory, from all or any of the provisions on such condition as he may specify therein.

APPENDIX
(See Paragraph 4)
CAUTIONARY NOTICE
Insecticides and pesticides

1 1. Chemicals handled in this plant are poisonous substances.

2 2. Smoking, eating food or drinking, chewing tobacco in this area is prohibited. No food stuff or drink shall be brought in this area.

3 3. Some of these chemicals may be absorbed through skin and may cause poisoning.
4 4. A good wash shall be taken before meals.
5 5. A good bath shall be taken at the end of this shift.
6 6. Protective clothing and equipment supplied shall be used while working in this area.
7 7. Containers of pesticides shall not be used for keeping food stuffs.
8 8. Spillage of the chemicals on any part of the body or on the floor or work- bench shall be immediately washed away with water.

1 9. Clothing contaminated sue to splashing shall be removed immediately.
2 10. Scrupulous cleanliness shall be maintained in this area.
3 11. Do not handle pesticides with bare hands, use scoops provided with handle.
4 12. In case of sickness like nausea, vomiting, giddiness, the manager should be informed who will make necessary arrangements for treatment.
5 13. All workers shall report for the prescribed medical tests regularly to protect their own health.

SCHEDULE – XXV
MANUFACTURE OF RAYON BY VISCOSE PROCESS

1 1. Definitions: For the purpose of this schedule,
2 (a) ” approved” means approved for the time being in writing by the Chief Inspector;
3 (b) ” breathing apparatus” means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxiating or irritant atmosphere breathes unpolluted air; or any other approved apparatus;
4 (c) ” churn” means the vessel in which alkali cellulose pulp is treated with carbon disulphide;
5 (d) ” dumping” means transfer of cellulose xanthate from a dry churn to a dissolver;
6 (e) ” efficient exhaust draught” means localised ventilation by mechanical means for the removal of any gas or vapour, so as to prevent it from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient if it fails to control effectively any gas or vapour generated at the point where such gas or fume originates;
7 (f) ” fume process” means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;
8 (g) ” life belt” means a belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it, each of which is sufficiently strong to sustain the weight of a man;
9 (h) ” protective equipment” means apron, goggles, face shields, footwear, gloves and overalls made of suitable materials.
10 2. Ventilation
11 (1) In all workrooms where a fume process is carried on, adequate ventilation by natural or mechanical means shall be provided so as to control, in association with other control measures, the concentration of carbon-di-sulphide and hydrogen sulphide in the air of every work environment within the permissible limits.
12 (2) Notwithstanding the requirements in sub-paragraph (1) an efficient exhaust draught shall be provided and maintained to control the concentration of

carbon-di-sulphide and hydrogen sulphide in the air at the following locations:

(a) dumping hoppers of dry churns;

(b) spinning machines;

(c) trio rollers and cutters used in staple fibre spinning;

(d) hydro-extractors for yarn cakes;

(e) after treatment processes; and

(f) spin baths.

(3) In so far as the spinning machines and trio rollers and cutters used in staple fibre spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust draft to be provided as required in sub-paragraph (2), enclosed as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of carbon-di-sulphide and hydrogen sulphide escaping to the work environment.

(4) No dry churn shall be opened after completion of reaction without initially exhausting the residual vapours of carbon-di-sulphide by operation of a suitable and efficient arrangement for exhausting the vapours which shall be continued to be operated as long as the churn is kept opened.

(5) Whenever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (2), (3), and (4) is ineffective, fails, or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or processes specified in the above said sub-paragraphs are in use, as soon as possible, and in any case not later than 15 minutes after such an occurrence.

(6)

(i) All ventilating systems provided for the purposes as required in sub- paragraphs (2), (3) and (4) shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

(ii) A register containing particulars of such examinations and tests, and the state of the systems and the repairs or alterations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

3. Waste from spinning machines: Waste yarn from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after decontamination.

4. Lining of dry churns: The inside surface of all dry churns shall be coated with a non-sticky paint so that cellulose xanthate will not stick to the surface of the churn. Such coating shall be maintained in good condition.

5. Air monitoring

(1) To ensure the effectiveness of the control measures, monitoring of carbon-di-sulphide and hydrogen sulphide in air shall be carried out once atleast in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purposes

3 (2) For the purpose of the requirement in sub-paragraph (1), instantaneous gas detector tubes shall not be used. Samples shall be collected over duration of not less than 10 minutes and analyzed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.

4 (3) If the concentration of either carbon disulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in Second Schedule of the Factories Act, 1948 (Central Act 63 of 1948), suitable steps shall be taken for controlling the concentrations in air of such contaminants. A report of such occurrences shall be sent to the Chief Inspector forthwith.

5 6. Prohibition to remain in fume process room: No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

6 7. Prohibition relating to employment of young persons: No young person shall be employed or permitted to work in any fume process or in any room in which any such process is carried on.

7 8. Protective equipment

8 (1) The occupier shall provide and maintain in good condition protective equipment as specified in the Table for use of persons employed in the processes referred to therein:

Name of the process		Name of the Protective equipment
1		2
1 1.	Dumping	Overalls, face-shields, gloves and footwear all made of suitable material
1 2.	Spinning	Suitable aprons, gloves and footwear
1 3.	Process involving or likely to involve contact with viscose solution	Suitable gloves and footwear
1 4.	Handling of sulphur	Suitable chemical goggles
1 5.	Any other process involving contact with hazardous chemicals	Protective equipment as may be directed by the Chief Inspector by an order in writing

1 (2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all protective equipment supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

2 9. Breathing apparatus

3 (1) There shall be provided in every factory where fume process is carried on, sufficient supply of:

4 (a) breathing apparatus,

5 (b) oxygen and a suitable appliance for its administration, and

6 (c) life belts.

7 (2)

8 (i) The breathing apparatus and other appliances referred to in sub- paragraph (1) shall be maintained in good condition and kept in appropriate locations so as to be readily available.

9 (ii) The breathing apparatus and other appliances referred to in clauses (a) and (b) of sub-paragraph (1) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.

10 (iii) A record of the maintenance of the condition of the breathing apparatus and other appliances referred to in sub-clause (1) shall be entered in a register provided for that purpose which shall be readily available for inspection by an Inspector.

11 (3) Sufficient number of workers shall be trained and periodically retrained in the use of breathing apparatus and administering artificial respiration so that at least 2 such trained persons would be available during all the working hours in each room in which fume process is carried on.

12 (4) Breathing apparatus shall be kept properly labeled in clean, dry, light-proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.

13 (5) No person shall be employed to carry on any process specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under sub-paragraph unless he has been fully instructed in the proper use of that equipment.

14 (6) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

15 10. Electric fittings: All electric fittings in any room in which carbon-di-sulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.

1 11. Prohibition relating to smoking, etc.: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the workers shall be posted at prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms:

Provided that fire, naked light or other means of producing a naked light of spark may be carried on in such room only when required for the purposes of the process itself under the direction of a responsible person.

1 12. Washing and bathing facilities

2 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed and in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed.

3 (2) The washing places shall have standpipes placed at intervals of not less than one meter.

4 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.

5 (4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

1 (5) Sufficient supply of soap and nail brushes shall be provided.

2 13. Rest Room

3 (1) A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process.

4 (2) Such rest room shall be provided with fresh air supply and adequate seating arrangement.

5 14. Cautionary notice and instructions

6 (1) the following cautionary notice shall be prominently displayed in each fume process room.

Cautionary Notice

1 1. Carbon disulphide (CS_2) and Hydrogen Sulphide (H_2S) which may be present in this room are hazardous to health.

2 2. Follow safety instructions.

3 3. Use protective equipment and breathing apparatus as and when required.

4 4. Smoking is strictly prohibited in this area.

This notice shall be in a language understood by the majority of the workers and displayed where it can be easily and conveniently read. If any worker

is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

1 5. Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically.

2 6. Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon- di-sulphide and hydrogen

sulphide. Those instructions shall be displayed in the concerned areas and workers shall be instructed and trained in the actions to be taken in such emergencies.

3 15. Medical facilities and records of examinations and tests

4 (1) the occupier of every factory to which this schedule applies, shall:

5 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

6 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

7 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

8 16. Medical examination by certifying Surgeon

9 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include tests for estimation of exposure co-efficient (iodine aside test on urine), cholesterol, electrocardiogram (ECG) and Central Nervous System (CNS) tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

10 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

11 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of these test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

1 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

2 (5) If, at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the fume process.

3 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in such processes.

4 17. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke

at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE – XXVI
HIGHLY FLAMMABLE LIQUIDS AND FLAMMABLE COMPRESSED GASES

1 1. Application: These rules will be applicable to all factories where highly flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

2 2. Definition: For the purpose of this schedule,

3 (a) " highly flammable liquid" means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934, (30 of 1934) gives off flammable vapours at a temperature less than 32 degree centigrade;

4 (b) " Flammable compressed gas" means flammable compressed gas as defined in section 2 of the Static and Mobile Pressure Vessels (Unfired) Rules 1981 framed under the Explosive Act, 1884.

5 3. Storage

6 (1) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistant construction.

7 (2) Except as necessary for use, operation or maintenance, every vessel or tank which contains or had contained highly flammable liquid or flammable compressed gas shall be always kept closed and all reasonably practicable

1 steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.

2 (3) Every container, vessel, tank, cylinder, or store room used for storing highly flammable liquid or flammable compressed gas shall be clearly and in bold letters marked "DANGER-HIGHLY FLAMMABLE LIQUID" OR "DANGER-FLAMMABLE COMPRESSED GAS".

3 4. Enclosed Systems for Conveying Highly Flammable Liquids: Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipe lines, pumps and similar appliances from the storage tank or vessel to the point of use. Such enclosed systems shall be so designed, installed, operated and maintained as to avoid leakage or the risk of spilling.

4 5. Preventing Formation of Flammable Mixture within: Wherever there is a possibility for leakage or spill of highly flammable liquid or flammable compressed gas from any equipment, pipe line, valve, joint or other part of a system, all practicable measures shall be taken to contain, drain off or dilute such spills or leakage as to prevent formation of flammable mixture with air.

5 6. Prevention of Ignition

6 (1) In every room, work place or other location where highly flammable liquid or flammable combustible gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid or flammable compressed gas in air, all practicable measures shall be taken to exclude the sources of ignition. Such precautions shall include the following:

7 (a) All electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of there being a source of ignition;
8 (b) Effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
9 (c) no person shall wear or be allowed to wear any foot wear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;
10 (d) Smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;
11 (e) Transmission belts with iron fasteners shall not be used; and
12 (f) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical-chemical reaction and radiant heat.
13 7. Prohibition of smoking: No person shall smoke in any place where highly flammable liquid or flammable compressed gas is present in circumstances that smoking would give a risk of life. The occupier shall take all practicable measures

1 to ensure compliance with this requirement including display of a bold notice indicating prohibition of smoking at every place where this requirement applies.
2 8. Fire Fighting: In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used, appropriate and adequate means of fighting a fire shall be provided. The adequacy and suitability of such means which expression includes the fixed and portable fire extinguishing systems, extinguishing material, procedures and the process of fire fighting, shall be to the standards and levels prescribed by the Indian Standards applicable, and in any case not inferior to the stipulations under Rule 66.
3 9. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE – XXVII
OPERATIONS IN FOUNDRIES
1 1. Application: The provisions of this Schedule shall apply to all parts of factories where any of the following operations or processes are carried on:
2 (a) the production of iron castings or, as the case may be, steel castings by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shall moulding, or by centrifugal casting and any process incidental to such production;
3 (b) the production of non-ferrous castings by casting metal in moulds made of sand, loam, metal, moulding composition or other material or mixture of materials, or by shall mouldings, die-casting (including pressure die casting), centrifugal casting or continuous casting and any process incidental to such production; and

4 (c) the melting and casting of non-ferrous metal for the production of ingots, billets, slabs or other similar products, and the stripping thereof; But shall not apply with respect to,
5 (a) Any process with respect to the smelting and manufacture of lead and the Electric Accumulators;
6 (b) Any process for the purpose of a printing works; or
7 (c) Any smelting process in which metal is obtained by a reducing operation or any process incidental to such operation; or
8 (d) The production of steel in the form of ingots; or
9 (e) Any process in the course of the manufacture of solder or any process incidental to such manufacture; or
10 (f) the smelting and casting of lead or any lead-based alloy for the production of ingots, billets, slabs or other similar products or the

stripping thereof, or any process incidental to such melting, casting or stripping.
2. Definition: For the purpose of this schedule,
(a) ” approved respirator” means a respirator of a type approved by the Chief Inspector;
(b) ” cupola of furnace” includes a receiver associated therewith;
(c) ” dressing or fettling operations” includes stripping and other removal of adherent sand, cores, runners, risers, flash and other surplus metal from a casting and the production of reasonably clean and smooth surface, but does not include (a) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled, or (b) any operation which is knock-out operation within the meaning of this schedule;
(d) ”foundry” means those parts of a factory in which the production of iron or steel or non-ferrous castings (not being the production of pig iron or the production of steel in the form of ingots) is carried on by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding or by centrifugal casting in metal moulds lined with sand, or die casting including pressure die casting, together with any part of the factory in which any of the following processes are carried on as incidental processes in connection with and in course of, such production, namely, the preparation and preparation of moulds and cores, knock out operations and dressing or fettling operations;
(e) “knock-out operations” means all methods of removing castings from moulds and the following operations, when done in connection therewith, namely, stripping, coring-out and the removal of runners and risers;
(f) ” pouring aisle” means an aisle leading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds.
3. Prohibition of use of certain materials as parting materials
(1) A material shall not be used as a parting material if it is a material containing compounds of silicon by weight of the dry material:

Provided that this prohibition shall not prevent the following being used as a parting material if the material does not contain an admixture of any other silica,
(a) Zirconium silicate (Zircon);
(b) Calcined china clay;

(c) Calcined aluminous fireclay;
(d) Sillimanite;
(e) Calcined or fused alumina;
(f) Olivine; and

(g) Natural sand.
(2) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.
4. Arrangement and storage: For the purposes of promoting safety and cleanliness in workrooms the following requirements shall be observed,
(a) moulding boxes, loam plates, ladles, patterns, pattern plates, frames, boards, box weights, and other heavy articles shall be so arranged and placed as to enable work to be carried on without unnecessary risk;
(b) Suitable and conveniently accessible racks, bins, or other receptacles shall be provided and used for the storage of other gear and tools;
(c) Where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins, bunkers or other receptacles shall be provided for the purpose of such storage.
5. Construction of floors
(1) Floors of indoor workplaces in which the processes are carried on, other than parts which are of sand, shall have been surface of hard material.
(2) No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work done.
(3) All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as practicable, be maintained in an even and firm condition.
6. Cleanliness of indoor workplaces
(1) All accessible parts of the walls of every indoor workplace in which the processes are carried on and of everything affixed to those walls shall be effectively cleaned by a suitable method to a height of not less than 4.2 metres from the floor at least once in every period of fourteen months. A record of the carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not less than five months nor more than nine months after the last immediately preceding washing, cleaning or other treatment.)
(2) Effective cleaning by a suitable method shall be carried out at least once every working day of all accessible parts of the floor of every indoor workplace in which the processes are carried on, other than parts which are of sand; and the parts which are of sand shall keep in good order.
7. Manual operations involving molten metal
(1) There shall be provided and properly maintained for all persons employed on manual operations involving molten metal with which they are liable to be splashed, a working space for that operation:
(a) which is adequate for the safe performance of the work; and
(b) which, so far as reasonably practicable, is kept free from obstruction.

1 (2) Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor all parts of which were any person walks while engaged in the operation shall be on the same level:

Provided that, where necessary to enable the operation to be performed without undue risk, nothing in this paragraph shall prevent the occasional or exceptional use of a working provided with a safe means of access from the floor for any person while engaged in the operation.

1 8. Gangways and pouring aisles

2 (1) In every workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the commencement of the Punjab Factory (Amendment) Rules, 1994 and, so far as reasonably practicable, in every another workroom to which this Paragraph applies, sufficient and clearly defined main gangway shall be provided and properly maintained which:

3 (a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

4 (b) shall be kept, so far as reasonably practicable, free from obstruction;

5 (c) if not used for carrying molten metal, shall be at least 920 millimetres in width;

6 (d) if used for carrying molten metal shall be,

7 (i) Where truck ladles are used exclusively, at least 600 millimetres wider than the overall width of the ladle;

8 (ii) Where hand shanks are carried by not more than two men, at least 920 millimetres in width;

9 (iii) Where hand shanks are carried by more than two men, at least 1.2 matters in width; and

10 (iv) Where used for simultaneous travel in both directions by men carrying hand shanks, at least 1.8 metres in width.

11 (2) In workroom to which this Paragraph applies constructed, reconstructed or converted for use as such after the commencement of the Punjab Factory (Amendment) Rules, 1994, sufficient and clearly defined pouring aisles shall be provided and properly maintained which,

12 (a) shall have an even surface of hard material and shall, in particular, not be sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

13 (b) Shall be kept so far as reasonably practicable free from obstruction;

14 (c) if molten metal is carried in hand ladles or bulk ladles by not more than two men per ladle, shall be at least 460 millimetres wide, but where any moulds alongside the aisle are more than 510 millimetres above

the floor of the aisle, the aisle shall be not less than 600 millimetres wide;

(d) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be at least 760 millimetres wide;

(e) if molten metal is carried in crane, trolley or truck ladles, shall be of a width adequate for the safe performance of the work.

(3) Requirements of sub-paragraph (1) and (2) shall not apply to any workroom or part of a workroom if, by reason of the nature of the work done therein, the floor of that workroom or, as the case may be, that part of a workroom has to be of sand.
(4) In this paragraph "workroom" to which this paragraph applies "means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used, and a workroom to which this paragraph applies shall be deemed for the purposes of this paragraph to have been constructed, reconstructed or converted for use as such after the making of this Schedule if the construction, reconstruction or conversion thereof was begun after the making of this Schedule".
9. Work near cupolas and furnaces: No person shall carry out any work within a distance of 4 metres from a vertical line passing through the delivery end of any spout of a cupola or furnace, being a spout used for delivering molten metal, or within a distance of 2.4 metres from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout, except, in either case, where it is necessary for the proper use of maintenance of a cupola or furnace that work should be carried out within that distance of that work is being carried out at such a time and under such conditions that there is no danger to the person carrying it out from molten metal which is being obtained from the cupola or furnace or is in a ladle in position at the end of the spout.
10. Dust and fumes
(1) Open coal, coke or wood fires shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the workroom.
(2) No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is unavoidable.
(3) Mould stoves, core stoves and annealing furnaces shall be so designed constructed, maintained and worked as to prevent, so far as practicable, offensive or injurious fumes from entering into any workroom during any period when a person is employed therein.
(4) All of them knock-out operations shall be carried out,
(a) in a separate part of foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and a high standard of general ventilation are provided; or

(b) in an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided, or where compliance with this requirement is not reasonably practicable, a high standard of general ventilation is provided.
(5) All dressing or fettling operations shall be carried out,
(a) In a separate room or in a separate part of foundry suitably partitioned off; or
(b) In an area of the foundry set apart for the purpose; and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.
11. Maintenance and examination of exhaust plant
(1) All ventilation plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

(2) All ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person at least once in every such examination and test shall be entered in an approved register which shall be available for inspection by an Inspector. Any defect found on any such examination and carrying out the examination and test to the occupier or manager of the factory.

12. Protective equipment

(1) The occupier shall provide and maintain protective equipment specified for the protection of workers,

(a) suitable gloves to other protection for the hands for workers engaged in handling any hot material likely to cause damage to the hands by burn, scald, or scar, or in handling pig iron, rough castings or other articles likely to cause damage to the hands by cut or abrasion;

(b) approved respirators for workers carrying out any operations creating a have dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.

(2) No respirator provided for the purposes of clause 1 of the sub-clause (b) has been worn by a person shall be worn by another person if it has not since been thoroughly cleaned and disinfected.

(3) Persons who for any of their time:

(a) a work at a spout of or attend to, a cupola or furnace in such circumstances that material there from may come into contact with the body, being material at such a temperature that its contact with the body would cause a burn; or

(b) Are engaged in, or in assisting with, the pouring of molten metal; or

(c) carry by hand or move by manual power any ladle or mould containing molten metal; or

(d) are engaged in knocking-out operations involving material at such a temperature that its contact with the body would cause a burn;

Shall be provided with suitable footwear and gaiters which worn by them prevent, so far as reasonably practicable, risk of burns to his feet and ankles.

1 (4) Where appropriate, suitable screens shall be provided for protection against flying materials (including splashes of molten metal and sparks and chips thrown off in the course of any process).

2 (5) The occupier shall provide and maintain suitable accommodation for the storage and make adequate arrangements for cleaning and maintaining of the protective equipment supplied in pursuance of this paragraph.

3 (6) Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraph (1) and (4) and shall without delay report to the occupier, manager, or other appropriate person any defect in, or less of, the same.

4 13. Washing and bathing facilities

5 (1) There shall be provided and maintained in clean state and good repair for the use of all workers employed in the foundry,

6 (a) A wash place under cover with either:

7 (i) a trough with impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every 10 such persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60 centimetres or

8 (ii) at least one tap or stand pipe for every 10 such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 metres apart; and

9 (b) Not less than one half of the total number of washing places provided under clause (a) shall be in form of bath rooms.

10 (c) A sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.

11 (2) The facilities provided for the purposes of sub-paragraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly condition.

12 14. Disposal of dross and skimming: Dross and skimming removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.

1 15. Disposal of waste: Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out.

2 16. Material and equipment left out of doors: All material and equipment left out of doors (including material, and equipment so left only temporarily or occasionally) shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and, so far as reasonably practicable, such access shall be by roadways or pathways which shall be properly maintained. Such roadways or pathways shall have a firm and even surface and shall, so far as reasonably practicable be kept free from obstruction.

1 17. Medical facilities and records of examinations and tests

2 (1) The occupier of every factory to which this schedule applies, shall,

3 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

4 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

5 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6 18. Medical examination by certifying Surgeon

7 (1) Every worker employed in a foundary shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include pulmonary function tests and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

8 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every 12 months and such examination shall, wherever the Certifying

Surgeon considers appropriate, include all the tests in sub- paragraph (1) except chest X-ray which will be once in three years.

9 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 28. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of these test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

10 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector of Factories.

1 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended form the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

2 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

3 19. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

103. 168[Notification of Accidents and Dangerous Occurrences

1 (1) When any accident which results in the death of any or which results in such bodily injury to any person as is likely to cause his death, or any dangerous occurrence specified in the Schedule to this rule takes place in a factory, the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the Inspector and the Chief Inspector.

2 (2) When any accident or any dangerous occurrence specified in the Schedule to this rule which results in the death of any person or which results in such bodily injury to any person as is likely to cause his death, takes place in a factory, a notice as mentioned in sub-rule (1) shall also be sent to:

3 (a) the District Magistrate or Sub-Divisional Magistrate;

4 (b) the Officer-in-charge of the Police Station; and

5 (c) the relatives of the injured or deceased person.

6 (3) Any notice given as required under sub-rules (1) and (2) shall be confirmed by the manager of the factory to the authorities mentioned in sub-rules (1) and (2) within twelve hours of the accident or the dangerous occurrence by sending them a written report in Form 18

in the case of an accident or dangerous occurrence causing death or bodily injury to any person in Form 18-A in the case of dangerous occurrence which has not resulted in any bodily injury to any person.

7 (4) When any accident or dangerous occurrence specified in the Schedule below takes place in a factory and it causes such bodily injury to any person as prevents the person injured from working for a period of forty-eight hours or more immediately

1 following the accident or the dangerous occurrence, as the case may be, the manager of the factory shall send a report thereof to the Inspector and Chief Inspector in Form 18 within twenty-four hours after the expiry of the forty-eight hours from the time of the accident or the dangerous occurrence:

Provided that if an in the case of an accident or dangerous occurrence, death occurs of any person injured by such accident or dangerous occurrence after the notices and reports referred to in the foregoing sub-rule have been sent, the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the authorities and persons mentioned in sub-rules (1) and (2) and also have this information confirmed in writing within twelve hours of the death:

Provided further that, if the period of disability from working for forty-eight hours or more referred to in sub-rule (4) does not occur immediately following the accident, or the dangerous occurrence, but later on occurs in more than one spell, the report referred to in clause (3) shall be sent to the Inspector and Chief Inspector in Form 18 within twenty-four hours immediately following the hour when the actual total period of disability from working resulting from the accident or the occurrence dangerous becomes forty-eight hours.

SCHEDULE

The following class of dangerous occurrence whether or not attended by personal injury or displacement, shall be dangerous occurrence within the meaning of rule 103:

(a) Bursting of plant used for containing or supplying of steam under pressure greater than atmospheric pressure.

(b) Collapse or failure of crane, derrick, winch, hoist or any other appliance used in raising or lowering persons or goods or any other part thereof, or the overturning of crane.

(c) Explosion, fire, bursting out, leakage or escape of any molten metal or hot liquid or gas causing bodily injury to any person or damage to any room or place in which persons are employed or fire in the room of cotton pressing factories where cotton opener is in use.

(d) Explosion of receiver or container used for storage of pressure greater than atmospheric pressure of any gas (including air) or any liquid or solid resulting from the compression of gas.

(e) Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall, building or any other structure.

104. Notice of poisoning or disease under section 89

A notice in Form 19 should be sent forthwith both to the Chief Inspector and to the Certifying Surgeon by the Manager of a factory in which there occurs a case of lead, phosphorus, mercury, manganese, arsenic, carbon disulphide or benzene poisoning or poisoning by nitrous fumes, or

by halogen or halogen derivatives of the hydrocarbons of the aliphatic series; or of chrome ulceration, anthrax, silicosis, toxic anaemia, toxic

jaundice, primary opitheliomatous cancer of the skin, or pathological manifestations due to radium or other radio-active substances or X- Rays.

104A. Permissible levels of certain chemical substances in work environment

Without prejudice to the requirements in any other provisions in the Act or the rules made there under, the requirements specified in the Schedule given below shall apply to all factories:

SCHEDULE

1 1. Definitions: for the purpose of this schedule,

2 (a) "mg/m_3" means milligrams of a substances per cubic metre of air;

3 (b) "mppcm" means million particles of a substance per cubic metre of air;

4 (c) "ppm" means parts of vapour or gas per million parts of air by volume at 25_0 C and 760 mm of mercury pressure;

5 (d) " Time weighted average concentration" means the average concentration of a substance in the air at any work location in a factory computed from evaluation of adequate number of air samples taken at that location, spread over the entire shift on any day, after giving weightage to the duration for which each such sample is collected and the concentration prevailing at the time of taking the sample.

Time weighted average $C_1T_1 + C_2T_2 + ...C_nT_n$ Concentration = ---------- $T_1 + T_2 + ...T_n$ Where C_1 represents the concentration of the substance for duration T_1 (in hours); C2 represents the concentration of the substance for duration T_2 (in hours); and C_n represents the concentration of the substance for duration T_n (in hours).

(e) "Work location" means a location in a factory at which a worker works or may be required to work at any time during any shift on any day.

2. Limits of concentration of substances at work location

(1) The time weighted average concentration of any substance listed in Table 1 or 2 of the schedule, at any work location in a factory during any shift on any day shall not exceed the limit of the permissible time weighted average concentration specified in respect of that substance:

Provided that in the case of a substance mentioned in Table 1 in respect of which a limit in terms of short term maximum concentration is indicated, the concentration of such a substance may exceed the permissible limit of the time weighted average concentration for the substance for short periods not exceeding 15 minutes at a time, subject to the condition that:

(a) Such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than 4 per shift;

(b) the time interval between any two such periods of higher exposure shall not be less than 60 minutes; and

(c) At no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.

(2) In the case of any substance given in Table 3, the concentration of the substance at any work location in a factory at any time during any day she

(3) In the cases where the word “skin” has been indicated against certain substance mentioned in Tables 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous routes particularly skin, mucous membranes, and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.
(4)
(a) In case, the air at any work location contains a mixture of such substances mentioned in Table 1, 2 or 3, which have similar toxic properties, the time weighted concentration of each of these substances during the shift should be such that when these times weighted concentration divided by the respective permissible time weighted average concentration specified in the above-mentioned tables, and the fractions obtained are added together, the total shall not exceed unity. $C_1/L_1 + C_2/L_2 \ldots\ldots\ldots\ldots C_n/L_n$;

Where C_1, C_2..... C_n are the time weighted concentration of toxic substances 1, 2……., and n respectively, determined after measurement at work location; And L_1, L_2 .....L_n are the permissible time weighted average concentration of the toxic substances 1, 2, and n respectively.
(b) In case the air at any work location contains a mixture of substances, mentioned in Table 1, 2, 3 and these do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above-mentioned tables, for that particular substance.
(c) The requirement in clauses (a) and (b) shall be in addition to the requirements in paragraphs 2(1) and 2(2).
3. Sampling and evaluation procedures
(1) Notwithstanding provisions in any other paragraphs, the sampling and evaluation procedures to be adopted for checking compliance with the provisions in the schedule shall be as per standard procedures in vogue from time to time.
(2) Notwithstanding the provisions in paragraph 5, the following conditions regarding the sampling and evaluation procedures relevant to checking compliance with the provisions in the Schedule are specified.
(a) For determination of the number of particles per cubic meter in item 1 (a)(i)(1) in Table 2, samples are to be collected by standard or midget impinger and the counts made by light-field technique.

(b) The percentage of quartz in the 3 formulae given in item 1(a)(i) of Table 2 is to be determined from air borne samples.
(c) For determination of number of fibres as specified in item 2(a) of Table 2, the membrane filter method at 430 x magnification (4mm objective) with phase contrast illumination shall be used.
(d) Both for determination of concentration and percentage of quartz for use of the formula given in item 1(a)(i)(2) of Table 2, the fraction passing through a size-selector with the following characteristics should only be considered.

Aerodynamic diameter (unit density sphere)	Percentage allowed by size-selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	10

1 4. Power to require assessment of concentration of substances

2 (1) An Inspector may, by an order in writing, direct the occupier or manager of a factory to get before any specified date, the assessment of the time weighted average concentration at any work location of any of the substances mentioned in Table 1 ,2 or 3 carried out.

3 (2) The results of such assessment as well as the method followed for air sampling and analysis for such assessment shall be sent to the Inspector within 3 days from the date of completion of such assessment and also a record of the same kept readily available for inspection by an Inspector.

4 5. Exemption: If in respect of any factory or a part of a factory, the Chief Inspector is satisfied that, by virtue of the pattern of working time of the workers at different work locations or an account of other circumstances, no worker is exposed, in the air at the work locations, to a substance or substances specified in Tables 1,2 or 3 to such an extent as is likely to be injurious to his health, he (the Chief Inspector) may by an order in writing, exempt the factory or a part of the factory from the requirements in paragraph 2, subject to such conditions, if any, as he may specify therein.

Table

Substance		Permissible limits of exposure
Time-weighted average concentration		Short term maximum concentrations
1	2	3

PPm	mg/m3	PPm	mg/m3
Acetic acid	10	25	15	37
Acrolein	0.1	0.25	0.3	0.8
Aldrin-skin	..	0.25	..	0.75
Ammonia	25	18	35	27

Aniline-Skin	2	10	5	20
Anisidine (O-p-isomera)-skin	0.1	0.5	..	..
Aresenic and Compound (as As)	..	0.2	..	..
Benzene	10	30	..	..
Bromine	0.1	0.7	0.3	2
2Butanone Methylethyl Ketone (MEK)	200	590	30	885
N-Butylacetate	150	710	200	950
Sec/Tert./Butyl acetate	205	950	250	1190
Cadmium-dust and salts (as Cd)	..	0.05	..	0.2
Calcium	..	2	..	..
Carbaryl (Sevin)	..	5	..	10
Carbofuran (Furadan)	..	0.1	..	..
Carbon disulfide-skin	20	60	30	90
Carbon monoxide	50	55	400	440
Carbon tetrahloride-skin	10	65	20	130
Carbonyl chloride (Phosgene)	0.1	0.4	..	..
Chlordane-skin	..	9.5	..	2
Chlorobenzene (monom chloro-benzene)	75	350	..	..
Chlorine	1	3	3	9
Bis-chloromethyl ether	0.001	..	[	..
Chromic acid and chromates (as Cr.)	..	0.05	..	..

Chromium Sol. Chromic Chromous	..	0.05	..	..
Copper Fume	..	0.2	..	..

Cotton Dust, rew	..	0.2	..	0.6
Cresol, all isomers-skin	5	22	..	..
Cyanides, as Cn-skin	..	5	..	..
Cyanogen	10	20	..	..
DDT (Dichloro diphenyl Trichlorocthanc)	..	1	..	1
Demoon-skin	..	1	..	3
Diazion-skin	0.01	0.1	0.03	0.3
Dibutyl Phthalate	..	5	..	10
Dichlorves (DDVP)-Skin	0.1	1	0.3	3
Dieldrin-skin	..	0.25	..	0.75
Dinitro benzene (all isomers)-skin	0.15	1	0.5	3
Dinitrotoluene-skin	..	1.5	..	5
Diphenyl	0.2	1.5	..	5
Endosulfan (Thiodan)-skin	..	0.1	..	0.3
Endrin-skin	..	0.1	..	0.3
Ethly acetate	400	1000	..	..
Ethly alcohol	1000		1900	
Ethly amine	60	18	..	..
Flourides (as F)	..	2.5	..	..
Fluorine	1	2	2	4
Hydrogen Cyanide-skin	10	11	15	16
Hydorgen Suphide	10	15	15	27
Iron Oxide Fume (Fe2 o3 as Fe)	..	5	..	10
Isoamyl alcohol	100	360	125	450
Isoamyl acetate	100	525	125	655
Isobutyl alcohol	50	150	75	225

lead, inorg fumes and dusts (as Pb)	..	0.15	..	0.45
Lindane-skin	..	0.5	..	1.5
Malathion-skin	..	10	..	..
Manganese fume (as Mn)	..	1	..	1
Mercury (as Hg)	..	0.05	..	0.15
Mercury (alkyl compounds) skin (as Hg)	0.001	0.01	0.003	0.03
Methyl alcohol (methanel)-skin	200	260	250	310
Methyl cellosolve-skin (2-inethoxy ethanol)	25	80	35	120
Methyl isobutyl Ketone-skin	100	410	125	510
Naphthalene	10	50	15	75
Nickel carbonyl (as Ni)	0.05	0.35	..	..
Nitric acid	2	5	4	10
Nitric oxide	25	30	35	45
Nitrobenzene—skin	1	5	2	10
Oil mist mineral	..	5	..	10
Parathion—skin	..	0.01	..	0.03
Phenel—skin	5	19	10	38
Phorate (Thimet)--- skin	..	00.5	..	0.2
Phosgene (Carbonyl chloride)	0.1	0.4	1	1
Phosphine	0.3	0.4	1	1
Phosphorus Pentachloride	..	1	..	3
Phosphorus Trichloride	0.5	3	..	..
Picric acid skin	..	0.1	..	0.3
Phosphorus (yellow)	..	0.1	..	0.3
Pyridine	5	15	10	30

Silane (silicon tetrahydride)	0.5	0.7	1	1.5

Styrene, Monower (Phenyl ethylene)	100	40	125	525
Sulphur dioxide	5	13	..	..
Sulfuric acid	..	1	..	..
Toluene (toluol) skin	100	375	150	560
O-Toludine	5	22	10	44
Trichloroethylene	100	535	15	800
Vinyl Chloride	5	10	..	...
Welding fumes (NOC)	..	5	..	..
Xylene (o-m-p-isomers) skin	100	435	150	655

Substance	Permissible time weighted average concentrating
1	2
1 1. Silica	
(a) Crystaline	
i (i) Quartz	
1 (1) In term of dust count= 1060/%Quartz+10 mppcm	
1 (2) In terms of respirable dust= 10/%respirable quartz+2 mg/m_3	
1 (3) In terms of total dust= 30/%quartz +3 mg/m_3	

i (ii) Cristobalite	Half the limits given against quartz.
i (iii) Tridymite	Half the limits given against quartz
i (iv) Silica fused	Same limit as for quartz
i (v) Tripoli	Same limit as in formula in term 2 given against quartz
(b) Amorphous	705 mppcm
1 2. Silicates having less than 1% free silica by weight:	
(a) Abestos-fibres longer than 52 fibres per cubic centimetre mocorns	
(b) Mica	705mppcm
(c) Mineral wool fibre	10mg/m3
(d) Portile	1060 mppcm
(e) Portland cement	1060mppcm
(f) Soapstone	705 mppcm
(g) Talc (nonabostiforn)	705mppcm

(h) Talc (Fibrous)	Same limit as for asbestos
(i) Ttemolite	Same limit as for asbestos
1 3. Coal dust	
1 (1) For airborne dust having less than 5% silicon dioxide by weight	2mg/m3
1 (2) For air borne dust having over 5% silicon dioxide	Same limit as prescribed by formula in item (2) against quartz

TABLE 3

Substance	Permissible limit of exposure	
PPm	PPm mg/m3	
Acetic anhydride	5	20
O-Dichlorobenzene	50	300
Formaldhyde	2	3
Hydrogen chloride	5	7
Manganese and Compounds (as Mn)	-	5
Nitrogen dioxide	5	9
Nitroglycerin-skin	0.2	2
Potassium Hydroxide	-	2
Sodium hydroxide	-	2

2, 4, 6 Trinitrotoluene (TNT)	-	0.5

CHAPTER-X
SUPPLEMENTAL
105. Procedure in appeals
1 (1) An appeal presented under section 107 shall lie to the Chief Inspector, or in cases where the order appealed against is an order passed by that officer, to the [Labour Commissioner, Punjab], and shall be in the form of a memorandum setting forth concisely grounds of objection to the order and bearing court-fees stamp in accordance with Article II of Schedule II to the Court-fees Act, 1870, and shall be accompanied by a copy of the order appealed against.
2 (2) Appointment of assessors: On receipt of the memorandum of appeal, the appellate authority may, if it thinks fit or if the appellant has requested that the

1 appeal should be heard with the aid of assessors, call upon the body specified in sub-rule (4) being the representative of the industry concerned to appoint an assessor within a period of 14 days. If an assessor is nominated by such body, the appellate authority shall appoint a second assessor itself. It shall then fix a date for the hearing of the appeal and shall give due notice of such date to the appellant and to the Inspector whose order is appealed against, and shall call upon the two assessors to appear upon such date to assist him in the hearing of the appeal.
2 (3) The appellant shall state in the memorandum presented under sub-rule (1) whether he is a member of one or more of the following bodies:
3 (1) The Punjab Chamber of Commerce, New Delhi.
4 (2) The Federation of Industries, Amritsar. (C) The Textile Manufacturers' Association, Amritsar.
5 (3) The Factory Owners Association, Batala.
6 (4) Desi Beopar Mandal, Ambala.
7 (4) Remuneration of assessors: An assessor appointed in accordance with the provisions of sub-rules (2) and (3) shall receive for the hearing of the appeal, a fee to be fixed by the appellate authority subject to a maximum of fifty rupees per diem. He shall also receive the actual traveling expenses. The fees and traveling expenses shall be paid to the assessor by Government; but where assessors have been appointed at the request of the appellant and the appeal has been decided wholly or partly against him the appellate authority may direct that the fees and traveling expenses of the assessor shall be paid in whole or in part by the appellant.

106. Display of notices
The abstract of the Act and of the Rules required to be displayed in every factory shall be in Form No.20.
107. 169[Returns

The Manager of every factory shall furnish to the Chief Inspector or other officer appointed by the State Government in this behalf the following returns, namely:

1 (1) Annual return: On or before the 31st January of each year in Form No.21, in duplicate.

2 (2) Half-yearly return: On or before the 15th July of each year in Form No.22, in duplicate.

108. Service of notices

The dispatch by post under registered cover of any notice or order shall be deemed sufficient service on the occupier, owner or manager of a factory of such notice or order.

109. Information required by the Inspector

The occupier or manager of a factory shall furnish any information that an Inspector may require for the purpose of satisfying himself whether any provisions of the Act and the

rules made there under have been complied with or whether any order of an Inspector has been duly carried out. Any demand by an Inspector for any such information, if made, during the course of an inspection, shall be complied with forthwith if the information is available in the factory, or if made in writing, shall be complied with within seven days of receipt thereof.

110.

1 (1) [170][Muster-roll: The manager of every factory [171][except the factories as envisaged under the provision 85 of the Act] shall maintain a muster-roll] of all the workers employed in the factory in Form No.25 showing (a) the name of each worker, (b) the nature of his work, and (c) the daily attendance of the worker which, in case of factories employing more than 200 workmen, shall be marked within two hours and in other cases within one hour of the start of the duty:

Provided that, if the daily attendance is noted in the Register of Adult Workers in Form No.12 or the particulars required under this Rule are noted in any other register, a separate muster-roll required under this Rule need not be maintained:

[172][Provided further that the Chief Inspector may be written order exempt from the provisions of this sub-rule, any factory which has card punching or other satisfactory arrangement of marking the attendance.

1 (2) [173][The manager of the factory shall be responsible to keep the muster-roll available for inspection by an Inspector during the periods of work of the factory.

2 (3) 174[

3 (i) No worker shall be required or allowed to work unless he/she has in his/her possession attendance card with upto date entries, in Form No. 25-A to be supplied by the occupier. The attendance card shall always remain with the worker. The manager or his agent shall demand it only to make relevant entries therein, whenever necessary.

4 (ii) If a worker loses his attendance card, the manager shall provide him/her with another copy duly completed from his record on payment of twenty-five paise within two days of the payment.

111. Register of accidents and dangerous occurrences

The manager of every factory shall maintain a register of all accidents and dangerous occurrences which occur in the factory in Form No. 26 showing the:
(a) name of injured person (if any);
(b) date of accident or dangerous occurrence;
(c) date of report on Form No.18 to Inspector;
(d) nature of accident or dangerous occurrence;
(e) date of return of injured person to work; and
(f) number of days of absence from work of injured person.

112. [175][Maintenance of Inspection Book

The manager of every factory shall maintain an inspection book in from No.35 and shall produce it when so required by the Inspector or Certifying Surgeon.

113. 176[Intimation of the intended closure of Factory

The occupier or manager of every factory shall send a report to the Chief Inspector with a copy to the Inspector of any intended closure of the factory or any section or department thereof at least one month before such closure stating:

i (i) the reason for closure;
ii (ii) the number of workers on rolls on the date of submission of report;
iii (iii) the number of workers likely to be affected by the closure; and
iv (iv) the probable period of closure.
v (v) [177][Information as to the particulars and quantity of chemicals stored and action taken proposed to be taken thereof to ensure safety during such closure.]

The occupier or the manager shall also send intimation to the Chief Inspector and the Inspector before the factory or the section of the department thereof as the case maybe starts working again:
Provided that in case of sudden closure of factory or any other section or department thereof for reasons beyond the control of the management the occupier or manager shall send such a report within 48 hours of such closure:
Provided further that in case of seasonal factories when it is being closed for the season the occupier or manager shall extend the date of closure of giving a further notice to the Chief Inspector with a copy to the Inspector at least one week before the original date of closure.]

114. 178[Maintenance of registers in electronic or digital format

1 (1) Occupier or factory Manager shall have an option to maintain the registers mentioned in the Schedule given below in electronic or digital format with time stamp, geo positioning and digital signatures of the occupier or factory manager in the same format as specified for the said registers in these rules.

SCHEDULE			
Serial.	**Name of Register**	**Section**	**Rule**
1.	Particular of Rooms Register	6	3-A

2.	Lime-Washing Register	11	18
3.	Humidity Register	15	24
4.	Tight-cloth Register	22	58
5.	Compensatory Holidays register	53	83
6.	Overtime muster roll for exempted workers Register	59	85
7.	Adult Workers Register	62	87

x

8.	Child Labour Register	73	93
9.	Leave With Wages Register	83	94-A
10.	Health Register	87	102
11.	Muster Roll	112	110
12.	Accident Register	112	111
13.	Inspection Book	112	112

1 (2) The Occupier or Manager shall provide access to the Inspector to inspect such registers as and when required and shall also make a provision for signing of such registers digitally by the Inspector.

2 (3) The Occupier or Manager shall preserve such registers as required under the provisions of the Act and these rules.]

THE PUNJAB FACTORY RULES, 1952

Contents

THE PUNJAB FACTORY RULES, 1952

Published vide Punjab Government Notification No. 3686-LP-52/2600, dated 29th May, 1952.

CHAPTER 1

PRELIMINARY RULE

1. Short title extent and commencement

4 (1) These rules may be 1[called] cited as the Punjab Factory Rules, 1952.

5 (2) 2[They shall extend to the territories which immediately before the IST November, 1956, were comprised in the State of Punjab and Patiala and East Punjab States Union.]

6 (3) Except as hereunder provided with respect to certain rues these rules shall come into force at once:

Rules 31 to 35 (Artificial lighting)	Six months after the enforcement of these Rules.
Rule 55 (Safety precautions)	Six months after the enforcement of these Rules.
Rule 68 (Washing facilities)	Three months after the enforcement of these Rules.

Rule 70 (Ambulance room)	Three months after the enforcement of these Rules.
Rule 71 to 77 (Canteens)	Nine months after the enforcement of these Rules.
Rule 78 (Shelters, etc.)	Six months after the enforcement of these Rules.
Rule 79-82 (Crèches)	Nine months after the enforcement of these Rules.
Rule 102 (Special provision for dangerous operations)	Six months after the enforcement of these Rules.

2. Definitions

In these Rules unless there is anything repugnant in the subject or context:

(a) "Act" means the Factories Act, 1948.

(b) "Appendix" means an appendix appended to these Rules.

(c) "Artificial humidification" means the introduction of moisture into the air of a room by any artificial means whatsoever, except the unavoidable escape of steam of water vapour into the atmosphere directly due to a manufacturing process:

Provided that the introduction of air directly from outside through moistened mats or screens placed in openings at times when the temperature of the room is

80 degrees [3][26 degrees] or more, shall not be deemed to be artificial humidification.

(d) "Belt" includes any driving strap or rope.

(e) "Degrees of temperature" means degrees on the Fahrenheit [4][Celsius] scale.

(ee) [5]["first employment" means first employment in any manufacturing process to which the relevant Schedule applies and shall also include re-employment in the manufacturing process following and cessation of employment for a continuous period exceeding three calendar months.]

(f) "Fume" includes gas or vapour.

(g) "Form" means form appended to these rules.

(h) "Health Officer" means the Municipal Health Officer or District Health Officer or such other official as may be appointed by the State Government in that behalf.

(i) "Hygrometer" means an accurate wet and dry bulb hygrometer conforming to the prescribed conditions as regards construction and maintenance.

(j) [Omitted vide Punjab Government No. G.S.R.94/C.A.-63/48/S.112/Amd. 20/84, dated 31-10-1984.]

(k) "Maintained" means maintained in an efficient state, in efficient working order and in good repair.

(l) "Manager" means the person responsible to the occupier for the working of the factory for the purposes of the Act.
(m) "Family" means the wife, son, daughter, father, mother, brother and sister of the owner of any place wherein a manufacturing process is carried on who lives with or is dependent on such owner.
(n) 6[recognized university or institution means:
(i) any university incorporated by law in any of the states of India; or
(ii) in the case of a degree or diploma obtained as a result of examination held before the 15th August, 1947, the Punjab, Sind or Dacca University; or
(iii) any other university or institution which is declared by the Government to be a recognized university or institution for the purposes of these rules.]

2-A. 7[Competent person

2 (1) The Chief Inspector sections may recognize any person as `competent person' within such area and for such period as may be specified for the purposes of carrying out tests, examination, inspection and certification for such buildings, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, pressure plant, confined space, ventilation system and such other process of plant and equipment located in a factory as stipulated in the Act and the rules made there under, if such person possesses the qualifications, experience and other requirements specified in the Schedule appended to this rule:

Provided that the Chief Inspector may relax the requirements of qualifications in respect of competent person if such a person is exceptionally experience and knowledgeable;
Provided further that where it is proposed to recognise a person employed under the Chief Inspector as a competent person, concurrence of the State Government shall be obtained and such a person after being so recognised, shall not have the powers of an Inspector;
Provided further that the competent person recognise under this rule shall not be above the age of sixty-two years and shall be physically fit for the purpose of carrying out the requisite tests, examination and inspection.

7 (2) The Chief Inspector may recognise an institution of repute, having persons possessing qualification and experience as specified in the Schedule appended to this rule, and issue a certificate of competency in Form I-B for the purposes of carrying out tests, examinations, inspections and certification buildings, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, pressure plant confined space, ventilation system and such other processes of plant and equipment, as are stipulated in the Act and the rules made thereunder, a competent person within such area and for such period as may be specified.

8 (3) The Chief Inspector on receipt of an application in Form 1-A from a person or an institution as the case may be, intending to be recognised as a competent person for the purposes of the Act and the rules made thereunder, shall register such application and after satisfying himself as regards competence and facilities available at the disposal of the applicant may recognise the applicant as a competent person. Such application shall be disposed of either by issuing a certificate of competency in Form I-B or by rejecting the same specifying reasons thereof, within a period of sixty days.

9 (4) The Chief Inspector of Factories, if he has reason to believe that a competent person:

10 (a) has violated any condition stipulated in the certificate of competency; or
11 (b) has carried out a test, examination and inspection or has acted in a manner inconsistent with the intent or the purpose of the Act or the rules made thereunder, or has omitted to act as required under the Act or the rules made thereunder; or
12 (c) for any other reason to be recorded in writing; may revoke the certificate or competency after giving an opportunity to the competent person for being heard.

Explanation: For the purpose of this rule, an institution includes an organisation.
2 (5) The Chief Inspector of Factories may, for reasons to be recorded in writing, require recertification of lifting machines, lifting tackles, pressure plant or ventilation system, as the case may be, which has been certified by a competent person outside the State:

13 (6) 8[Following leading technical Institutions in the State of Punjab and Chandigarh having Civil or Structural Engineering courses shall be the competent person for the purpose of clause (a) of sub-section (1) of section 6 of the Act, namely:-
14 (1) Punjab Engineering College (deemed to be University), Sector-12, Chandigarh;
15 (2) Chandigarh College of Engineering and Technology, Sector-26, Chandigarh;
16 (3) Thapar Institute of Engineering and Technology, Patiala;
17 (4) Guru Nanak Dev Engineering College, Ludhiana;
18 (5) Dr. B.R. Ambedkar National Institute of Technology, Jalandhar;
19 (6) Giani Zail Singh Campus College of Engineering and Technology, Maharaja Ranjit Singh Punjab Technical University, Bathinda;
20 (7) Indian Institute of Technology, Ropar;
21 (8) Punjabi University, Patiala;
22 (9) Shaheed Bhagat Singh State Technical Campus, Ferozepur; and
23 (10) any other institute, as may be notified by the State Government.
24 (7) The certification done by the institutions referred in sub-rule (6) shall be accepted only when such certification is signed by the Head of the Civil or Structural Engineering Department and Head of the Institution.]

SCHEDULE
[Rule 2A (1) and (2)]

Sr. No	Sections or Rules under	Qualifications	Experience for the purpose	Facilities at his Disposal
1	2	3	4	5

2	**1.**	Rules made under Section 6 and section 112 certificate of stability for buildings	Bachelor's Degree in Civil or structural Engineering or its equivalent from a recognised university	(i) An experience of working for a minimum period of 10 years in design or construction or testing or repair of structures. (ii) Knowledge of non-destructive testing various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the building; and (iii) an ability to arrive at a reliable conclusion with regard to the safety of the structure or the building.	
2	**2.**	Rules made under Section 21(2) "Dangerous machines".	Bachelor's Degree in Electrical or Mechanical or Textile Engineering or its equivalent from a recognised University	(i) An experience of working for minimum period of 7 years in, (a) design, operation or maintenance; or (b) testing, examination & inspection of relevant machinery, their guards, Safety devices and appliances (ii) Should,	Gauges for measurement, instruments for measurement of speed and any other equipment or device to determine the safety in the use of the dangerous machine.

(a) Be conversant with safety devices and their proper functioning; (b) Be able to identify defects and any Other cause leading to the failure; and (c) have ability to arrive at a reliable conclusion with regard to the proper functioning of Safety devices and appliances and machine guards.				
2 **3.**	Section 28 lifts and Hoists	A Bachelor's degree in Electrical and/or Mechanical or Textile Engineering or its equivalent from a recognised University	(i) An experience of working for minimum period of 7 years in, (a) design or erection or maintenance; or (b) Inspection and test procedure of hoists and lifts. ii) Should be – (a) conversant with the current and relevant codes of practices and test procedures; (b) conversant with other statutory requirements covering the safety of hoists and lifts; and (c) able to identify defects and arrive at a reliable conclusion and with regard to safety of hoist & lifts	Facilities for load testing, tensile testing gauges, equipment or gadgets for measurement and any other equipment required for determining the safe working conditions of hoists and lifts.

2	**4.**	Section 29-Lifting Machines, chains, ropes and lifting tackles	Bachelor's Degree in Electrical or Mechanical or Metallurgical Engineering or its equivalent from a recognised University.	(i) An experience of working for minimum period of 7 years in, (a) design or erection or maintenance; or (b) Testing, examination and inspection of lifting machinery, chains, ropes and lifting tackles (ii) Should be conversant with (a) Current and relevant codes of practice and test procedures (b) fracture mechanics and metallurgy of the material of construction; and (c) Heat-treatment/ stress relieving techniques as applicable to stress bearing components and parts of lifting machinery and lifting tackles. (d) capable of identifying defects and arriving at a reliable conclusion with regard to safety of lifting machinery, chains, ropes and lifting tackles.	Facilities for load testing, tensile testing heat-treatment equipment or gadgets for measurement, gauges and any such other equipment required for determining the safe working conditions of the lifting machines and tackles.

2	**5.**	Section 31-Pressure plant	Bachelor's Degree in chemical or Electrical or Mechanical or Metallurgical Engineering or its equivalent from a recognised University.	(i) An experience of for a minimum experience of 10 years in, (a) design or erection or maintenance; (b) testing, examination and inspection of plants	Facilities for carrying hydraulic tests, gauge, equipment or gadget for measurement and any other equipment or gauges to determine the
(ii)Should be- (A) conversant with and relevant codes of practice and test procedures relating to pressure vessels; (B) conversant with other Statutory requirements concerning the safety of unfired pressure vessels and equipment's operating under pressure. (C) conversant with non-destructive testing techniques as are applicable to pressure vessels; (D) able to identifying defects and arriving at a reliable conclusion and with regard to safety of pressure plants.				safety in the use of pressure vessels.	
2	**6.**	(i) Section 36 Precautions against fumes, (ii) Rules made Section 41 and 112 concerning shipbuilding and ship repairs.	Master's degree in chemistry or a Bachelor's degree in Chemical Engineering from a recognised University.	iii (i) an experience of working for a minimum period of 10 years' in collection and analysis of environmental samples and calibration of monitoring equipment's, iv (ii) Should	meters, instruments & devices duly calibrated and certified for carrying out the tests and certification of safety in working in confined spaces.

			(a) Be conversant with the hazardous preparation of chemicals and their permissible limit values; (b) Be conversant with current techniques of sampling and analysis of environmental contaminants; and	

(c) able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out hot work					
2	**7.**	Ventilation system as required under various schedules framed under section 87 such as schedule on (i) grinding or glazing metals and processes incidental thereto (ii) cleaning or smoothing, roughening etc. of articles by jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam.	degree in mechanical or electrical engineering or equivalent	(i) an experience of working for a minimum period of seven years' in the design, fabrication, testing of ventilation system and system used for extraction and collection of dust, fumes and vapours and other ancillary equipment. (ii) should be conversant with the current and relevant codes of practice and test procedures in respect of ventilation and extraction system for fumes and	facilities for testing the ventilating system instruments and gauges for testing Effectiveness of extraction system for dusts, vapours & fumes and any other equipment needed for determining the efficiency and adequacy of these systems. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of system"

	(iii) handling and processing of Asbestos (iv) manufacture of Rayon by Viscose Process (v) Foundry operations]		ii (iii) be able to arrive at a reliable conclusion with regard to effectiveness of the system	

3. 9[Submission of plans

The State Government or the Chief Inspector may require for the purposes of the Act, submission of plans of any factory which was either in existence on the date of the commencement of the Act or which had been constructed or extended since then. Such plans shall be drawn to scale showing:

(a) the site of the factory and immediate surrounding including adjacent buildings and other structures, Roads, drains, etc.

(b) the plan, elevation and necessary cross-sections of the factory buildings indicating all relevant details relating to natural lighting, ventilation and means of escape in case of fire, and the position of the plant and machinery, aisles and passage-ways; and

(c) such other particulars as the State Government or the Chief Inspector, as the case may be, may require.]

3-A. [10]Approval of Plans

3 (1) No building shall be constructed or used as factory unless plans in respect of such building are approved by the Chief Inspector.

4 (2) [11][No additions, alterations or extensions in the existing factory shall be made, except those specified in the Schedule given below, unless such additions, alterations or extensions are accepted by the Chief Inspector

SCHEDULE	
Serial No.	**Type of additions, alterations or extensions**
1.	Boundary Wall upto height of 6 Feet.
2.	Rooms or cabins be used for clerical or managerial or pantry purposes.
3.	Security pickets or guard rooms
4.	Electricity meter rooms
5.	Sheds for vehicle parking
6.	Canopies for generator sheds
7.	Store where non-combustible or non-inflammable or non-toxic material to be stored.
8.	Balcony or chajjas
9.	Toilets or urinals.
10.	Demolition of any part of factory building.
11.	Addition of machinery which does not result in any change in process or end product or by product.
12.	Changes in outer gates.
13.	Additional stair cases or ramps.

14.	Rooms to be used for residential purposes"; and]

11 (3) Application for approval of the plans shall be made in Form no. 1 along with the following plans and documents in triplicate to the Inspector of the area:

12 (a) [12][for the words, figure, signs and letter "Application for submission the plans shall be made by the competent person, in Form No. 1-C along with the following plans and documents in duplicate (In duplicate duly countersigned by the Occupier or Manager as the case may be), to the Chief Inspector", the words, brackets and signs " Application for submission of the plans shall be uploaded by the Occupier or Manager along with the following plans and documents on the portal (pblabour.gov.in) of the Chief Inspector.]

13 (b) Form No. 1-A and replies to questionnaire annexed thereto;

14 (c) Flow chart of the manufacturing process giving a brief description of the process in its various stages;

15 (d) Site plan drawn to a minimum scale of 1 cm. = 12 m. showing the exact location of the factory with respect to surrounding buildings, roads, drains, etc.:

16 (e) Plans elevations, cross-sections drawn to a minimum scale of 1 cm. = 1.2 m. showing means of lighting, ventilation, fire escapes, position of plant and machinery, direction of opening of doors, drinking water points, roof materials, details of urinals latrines washing places, facilities for storing and drying of workers clothing, rest-room and lunch-room canteen and ambulance room; and

17 (f)

18 (i) [13][the occupier or manager of the factory shall appoint a competent person for certification of Building Plans and Stability Certificate; and

19 (ii) the competent person shall make an application of self-certification to the effect that the building plans and stability certificate being certified are as per the Act and rules made thereunder. The occupier or manager of the factory shall submit such certified application through his user name on the portal "pblabour.gov.in" of the Chief Inspector for acceptance.]

20 (4) If the Inspector is satisfied that the plans and documents are in accordance with the requirements of the Act and the rules, he shall forward the plans and documents to the Chief Inspector for approval. The Chief Inspector after being similarly satisfied shall approve the plans and send one copy of each such plan and document to the applicant for his record;

Provided that where the plans and documents fall short of the requirements of the Act and these rules, the Inspector or the Chief Inspector as the case may be, may return them to the applicant for modifications and corrections as suggested therein:

Provided further that the plans shall not be deemed to have been submitted till such time as they are resubmitted duly modified and amended.

Explanation: The plans referred to in sub-rules (1), (2) and (3) shall be certified by a person possessing qualifications prescribed for the grant of certificate of stability and shall be signed by the applicant.

4. 14[Certificate of stability

No manufacturing process shall be carried on in any building or part of a building whether newly constructed, re-constructed or extended, or in any building which has been taken into use as a factory or part of a factory until a certificate of stability in respect thereof, in Form 1-F signed by a competent person has been sent by the occupier or manager of the factory to the Chief Inspector and accepted by him. Neither any new plant nor machinery shall be added to any building of a factory nor brought into use after such addition until a certificate of stability in Form 1-F signed by a competent person in respect thereof has been sent by the occupier or manager of the factory to the Chief Inspector and accepted by him.]

5. Authority to sign certificate of stability

No person except in the case of building owned by any Government shall be authorised to sign a certificate of stability or to certify plans and specifications who is in the employment of the owner or builder of the building in respect of which the certificate is given.

6. Internal height of work-rooms

ii (i) The internal height of a workroom shall be not less than 4.25 m. measured from the floor level to the lowest part of the roof and if the roof is of corrugated iron which is neither covered with tiles nor has an inner ceiling of lining of heat-resisting material with an air space of

at least 10 cm. Between it and the corrugated iron, the internal height shall be not less than 5 m:

Provided that in the case of building having a brick or concrete roof, or a combination of the two, the minimum height may be 3.75 m. if approved by the Chief Inspector of Factories:
Provided further that in case of factories employing less than 50 workers, the Chief Inspector may, where he is satisfied that the conditions of work are reasonably good., exempt such factories from the provisions of this sub-rule.

iii (ii) There shall be provided at all times for each person employed in any room of a factory where mechanical or electrical power is used, at least 36 square feet (3.35 square meter) of floor space exclusive of that occupied by machinery and a breathings space of at least 500 cubic feet (14 cubic meter).

iv (iii) Particulars of each workroom of the factory [15](except the factories declared and defined as such under Section 85 of the Act) in which persons are regularly employed shall be entered in Form 1-D which shall be shown to the Inspector when required.

The provisions of sub-rule (i) of rule 6 shall not apply to rooms intended for storage, go downs and like purposes and also rooms intended solely for office purposes where only clerical work is done,

7. Application for registration and grant of licenses

3 (1) The occupier of every factory shall submit to the Chief Inspector an application in Form No. 2 [16][in triplicate] for the registration of the factory and for the grant of license [17][****].

4 (2) The responsibility under this rule shall entirely lie with the occupier himself of the factory.

8. 18[Grant of licence

3 (1) A licence for a factory shall be granted by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government in Form No. 4 prescribed for the purpose for a period of [19][one year or further period up to ten years] as may be requested in the application for registration and grant of licence and on payment of the fees specified in sub-rule (2).

4 (2) The fees for grant of licence for one year shall be as specified in the Schedule given below. In case an application for licence has been made for a period of [20][more than one year], the licence fees shall be [21][multiplied by the number of years] the fees payable for grant of licence for one year, as specified in the said Schedule:

[22][SCHEDULE

Fees for the grant of licence for a factory for one year

Quantity kilo watt installed [Max kilo watt]						Maximum number of workers to be employed on any day during the year
Up to 20	From 21 to 50	From 51 to 100	From 101 to 250	From 251 to 500	From 501 to 1000	Above 1000
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Up to 20	450	750	1500	3000	4500	7500	10,500
21 up to 50	675	1500	2250	4500	7500	10,500	15,000
51 up to 100	1500	2250	3000	7500	10500	15000	18000
101 up to 250	2250	3000	6000	105000	15000	18000	22500
251 up to 500	3000	4500	7500	12000	18000	22500	30000
501 up to 1000	4500	6000	10500	15000	22500	30000	37500
Above 1000	6000	10500	15000	22500	30000	37500	45000]

3 (3) A licence granted under this rule may be at the request of licensee, be renewed for [23][one year, or any number or any number of years up to ten years], as the case may be, in accordance with the provisions of rule 10.

4 (4) Every licence granted or renewed shall remain in force upto the 31st December of the year for which the licence is granted or upto the period for which it is renewed.]

9. [24]Amendment of Licence

6 (1) A licence granted under rule 8 may be amended by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government.

7 (2) No licensee shall:

8 (i) change the name of his factory; or

9 (ii) employ persons in excess of the number as specified in the licence; or

10 (iii) use motive power in excess of the limits of horse power specified in the licence;

without getting his licence amended.

3 (3) A licensee who desires to have his licence amended, shall submit it to the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, an application stating the nature of the amendment and reasons therefore.

4 (4) The fee for the amendment of a licence shall be twenty-five rupees plus the amount, if any, by which the fee which would have been payable for issuing the licence in amended form originally.]

10. 25Renewal of licence

4 (1) A licence shall be renewed by the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government.

5 (2) Every application for the renewal of the licence shall be made in triplicate, in Form No. 2 together with the receipt of the payment of fees for a period of 26[one year, or any number of years up to ten years] as the case may be, and shall be submitted not less than thirty days before the date on which the licence expires. If the application, complete in all respects, is so made, the premises shall be held to be duly licensed until such date as the Chief Inspector or as the case may be the officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, renews the licence.

6 (3) The fees for renewal of licence for one year shall be the same as for the grant thereof. In case an application for renewal has been made for a period of five years, the renewal fees shall be five times the fees payable for renewal of licence for one year, as specified in the Schedule given below sub-rule (2) of rule 8:

Provided that if the application for renewal, compete in all respects, is not received with in the time specified in sub-rule (2), the licence shall be renewed only on payment of a fee twenty five percent in excess of the fees ordinarily payable for the renewal of a licence for one year or five year, for which the application has been received late.]

10-A. 27[Automatic Renewal of License

2 (1) A license shall be renewed for one year digitally through automatic mode if there is no change in particulars of license from the previous granted or renewed license and other conditions required by Government.

3 (2) For the purposes of sub-rule (1), every application for the renewal of license shall be made in Form 2-B together with the fees for a period of one year, and shall be submitted on departmental portal “pblabour.gov.in” not less than thirty days before the date on which the license is to expire.

4 (3) The fees for renewal of license for one year shall be as specified in the Schedule given under sub-rule (2) of rule 8:

Provided that if the application for renewal, complete in all respects, is not submitted on the portal within the time specified in sub-rule (2), a late fee of twenty-five percent of the fees payable for the renewal of a license for one year shall be chargeable.

2 (4) The license generated under this rule shall have the same sanctity as renewed under rule 10.]

11. 28Transfer of licence

4 (1) the holder of a licence may, at any time before the expiry of the licence, apply for permission to transfer his licence to another person.
5 (2) Such application shall be made to the Chief Inspector or any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government, who shall, if he approves of the transfer, enter upon the licence under his signature, and endorsement to the effect that the licence has been transferred to the person named in the application.
6 (3) A fee of twenty-five rupees shall be charged on each such application.]

12. Procedure on death or disability of licensee

If a licensee dies or becomes insolvent, the person carrying on the business of such licensee shall not be liable to any penalty under these rules for exercising the powers granted to the licensee by the licence during such time as may reasonably be required to allow him to make an application for the amendment of the licence under Rule 9 in his own name for the unexpired portion of the original licence.

13. 29Loss of Licence

Where a licence granted under these Rules is lost or accidentally destroyed, a duplicate may be granted on payment of a fee of twenty-five rupees.]

14. 30Payment of Fees

3 (1) Every application under these rules shall be accompanied by a treasury receipt showing that the appropriate fee has been paid into the authorised branch of the State Bank of India under the head of account, affixed by the office of Chief Inspector.
4 (2) If an application for the grant, renewal or amendment of licence is rejected, the fee paid shall be refunded to the applicant.]

14-A. 31Prohibition running of a factory without a valid licence

An occupier shall not use any premises as a factory or carry on any manufacturing process in a factory, unless a licence has been issued in respect of such premises and is force for the time being:

Provided that if a valid application for grant of a licence or renewal of a licence has been submitted and the required fee has been paid, the premises shall be deemed to be fully licensed until such date as the Chief Inspector or as the case may be, any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government grants or renews the licence or refuses in writing, with reasons, to grant of renew licence:
Provided further that if the Chief Inspector or as the case may be, any other officer appointed under sub section (2-A) of Section 8 of the Act and specially empowered in this behalf by the State Government fails to grant or renew the licence or fails to refuse to do so, for reasons to be communicated in writing, to the applicant, within sixty days from the date of the application, the licence shall be deemed to have been granted or renewed.]

15. Notice of occupation

The notice of occupation required to be given to the Chief Inspector under sub-section (1) of Section 7, shall be in 32[Form No. 2] 33[and shall be submitted in triplicate.]

15-A. Notice of change of Manager

The notice of charge of Manager referred to be given under sub-section (4) of Section 7 of the Act shall be in Form No. 2-A.

15-B. 34Guidelines instructions and records

3 (1) Without prejudice to the general responsibility of the occupier to comply with the provisions of section 7-A, the Chief Inspector of Factories may, from time to time, issue guidelines and instructions regarding the general duties of the occupier relating to health, safety and welfare of all workers while they are at work in the factory.

4 (2) The occupier shall maintain such records, as may be specified by the Chief Inspector of Factories in respect of monitoring of working environment in the factory.]

CHAPTER II

THE INSPECTING STAFF

16. 35Qualifications of Inspector of Factories

No person shall be appointed as an Inspector of Factories for the purpose of the Act, unless he possesses the qualifications specified for an Inspector of Factories in the Punjab Labour (Class II) Service Rules, 1982 as amended from time to time.

16-A. 36Powers of Inspectors

An Inspector shall, for the purpose of the execution of the powers assigned to him under the Act within the local limits of his jurisdiction have power to do all or any of the following things, that is to say:

(a) to photograph any worker, to inspect, examine, measure, copy, photograph, sketch or test, as the case may be, any building or room, any plant, machinery, appliance or apparatus any register or document or anything provided for the

purpose of securing the health, safety or welfare of the worker employed in a factory;

(b) in the case of an Inspector who is a duly qualified medical practitioner, to carry out such medical examinations as may be necessary for the purposes of his duties under the Act

(c) to prosecute, conduct or defend before a Court any complaint or other proceeding arising under the Act or in discharge of his duties as an Inspector:

Provided that the powers of the district magistrates and such other public officers as are appointed to be Additional Inspectors shall be limited to the inspection of factories for the purposes notified under sub-section (5) of Section 8.

17. Duties of Certifying Surgeon

8 (1) For purposes of the examination and certification of young persons who wish to obtain certificate of fitness, the Certifying Surgeon shall arrange a suitable time and place for the attendance of such persons, and shall give previous notice in writing of such arrangements to the managers of factories situated within the local limits assigned to him. He may also arrange where possible to get the women workers examined by a Lady Doctor.

9 (2)

10 (a) The Certifying Surgeon shall issue his certificates in Form No. 5. The foil and counterfoil shall be filled in and the left thumb mark of the person in whose name the certificate is granted shall be taken on them. On being satisfied as to the correctness of the

entries made therein and of the fitness of the person examined, he shall sign the foil and initial the counter-foil and shall deliver the foil to the person in whose name the certificate of fitness granted under section 69 of the Act. All counterfoils shall be kept by the Certificate Surgeon for a period of at least 2 years after the issue of the certificate.

11 (b) On the request of an Inspector, Certifying Surgeon or medical practitioner authorised under Section 10(2) of the Act shall examine any person produced before him and issue certificate regarding his age and fitness. No fee shall be charged for such examination or for the grant of certificate in pursuance thereof.

12 (c) A Certifying Surgeon revoking a certificate under sub-section (4) of Section 69 of the Act, shall stamp the work "Revoked" in red ink on the foil and counterfoil.

13 (d) If a Certifying Surgeon refuses to grant to any person a certificate under the rule, no fresh application for certificate shall be made on behalf of that person until a period of three months has elapsed, unless the Certifying Surgeon when he refuses to grant the certificate, gives permission in writing, for an application to be made at an earlier date.

14 (e) Every practitioner authorised under sub-section (2) of Section 10 of the Act to exercise provisionally the powers of a Certifying Surgeon shall grant certificates in the manner provided under this rule, Certificates issued by him shall be valid for a period of 6 months unless countersigned by the

Certifying Surgeon. The word "Provisional" shall be printed or stamped in red ink at the top of each foil and counterfoil.

(f) When a person to whom a certificate under Section 62(2) has been granted loses such certificate, he may apply to the Certifying Surgeon for a copy of the certificate, and the Certifying Surgeon, after making such enquiry from his employer or if he is unemployed from his last employer and from such other sources as he deems fit, may grant a duplicate thereof. The word "Duplicate" shall be clearly written in red ink across such certificate and initialled by the Certifying Surgeon. The counterfoil in the bound book of forms shall be similarly marked "Duplicate" and initialled

(g) For every copy of a certificate granted under clause (f) of this rule a fee of anna four [37][25 paise] which shall be credited to Government, shall be charged. The Certifying Surgeon shall maintain a register of all fees paid for this issue of copies of certificate and shall initial each entry made therein.

(h) No duplicate of a certificate granted under Section 69 of the Act shall be granted to any person otherwise than in accordance with the provisions of this rule.

(i) No child, adolescent or a young person shall be certified as fit to work in a factory unless he or she:

(i) is free from organic disease:

(ii) has a good physique;

(iii) is capable of enduring of the kind of work that has to be performed in the factory;

(iv) is mentally sound; and

(v) is protected against small-pox by vaccination.

(j) The examination of children and adolescents under the Act shall be carried out by the Certifying Surgeon free of charge in cases where such examination is required either by the

Factory Inspector or by the manager or occupier of the factory where the candidate concerned is either already employed or accepted for employment:

Provided that usual fees shall be charged from candidates brought for examination for purposes of the Act by the candidate's guardians or from candidates appearing on their own.
4 (3) The Certifying Surgeon shall, upon request by the Chief Inspector, carry out such examination and furnish him with such report as he may indicate, for any factory or class or description of factories where:
5 (a) cases of illness have occurred which is reasonable to believe are due to the nature of the manufacturing process carried on or other conditions of work prevailing therein, or
6 (b) by reason of any change in the manufacturing process carried on, or in the substances used therein, or by reason of the adoption of any new manufacturing process or of any new substance for use in a manufacturing

process, there is likelihood of injury to the health of workers employed in that manufacturing process, or
(c) young person who are, or are about to be, employed in any work which is likely to cause injury to their health.
(4) For the purpose of the examination of persons employed in processes covered by the rules relating to dangerous operations, the Certifying Surgeon shall visit the factories within the local limits assigned to him at such intervals as are prescribed by the rules relating to such dangerous operations.
(5) 38[At such visits, the Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form No. 32 and the record of examination and re-examinations carried out shall be kept in custody of the Manager of the factory and the record of each examination carried out under sub-rules (1), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form No. 17.]
(6) If the Certifying Surgeon finds as a result of his examination that any person employed in such process is no longer fit for medical reasons to work in that process, he shall suspend such person from working in that process, for such time as he may think fit and no person after suspension shall be employed in that process without the written sanction of the Certifying Surgeon in the Health Register.
(7) The manager of a factory shall afford to the Certifying Surgeon facilities to inspect any process in which any person is employed or is likely to be employed.
(8) The manager of a factory shall provide for the purpose of any medical examination which the Certifying Surgeon wishes to conduct at the factory (for his exclusive use on the occasion of an examination) a room which shall be properly cleaned and adequately ventilated and lighted and furnished with a screen, a table (with writing materials) and chairs.

CHAPTER III
HEALTH
18. Record of whitewashing etc.
The record of dates on which whitewashing, colour-washing, varnishing, etc., are carried out shall be entered in a register maintained in Form No. 7.

19. 39[Disposal of trade wastes and effluents

The arrangements made in every factory for the disposal of wastes and effluents due to the manufacturing processes carried on therein shall be in accordance with those approved by the Punjab State Board for the Prevention and Control of Water and Air Pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and control of Pollution) Act, 1981 and other appropriate authorities.]

19-A.

2 (1) Limits of temperature and air movements

In any factory the maximum wet-bulb temperature of air in a workroom at a height of 1.5 meter (5 feet) above the floor level shall not exceed 30 degrees C (86 degrees F) and adequate air movement of at least 30 meters per minute (100 feet per minute) shall be provided; and in relation to dry bulb temperature the wet bulb temperature in the work-room at the said height shall not exceed that shown in intermediate between the two dry bulb readings (that) specified in relation to the higher of these two dry-bulb readings:

SCHEDULE

Dry-bulb	Temperature	Wet-bulb	Temperature
oC	(oF)	oC	(oF)
30	(86)	29.0	(84.2)
31	(87.8)	28.9	(84.0)
32	(89.6)	28.8	(83.8)
33	(91.4)	28.7	(83.6)
34	(93.2)	28.6	(83.5)
35	(95)	28.5	(83.4)
36	(96.8)	28.4	(83.2)
37	(98.6)	28.3	(83.0)
38	(100.4)	28.2	(82.7)
39	(102.2)	28.1	(82.6)
40	(104)	28.0	(82.5)
41	(105.8)	27.9	(82.3)
42	(107.6)	27.8	(82.1)
43	(109.4)	27.7	(81.9)
44	(111.2)	27.6	(81.7)
45	(113)	27.5	(81.5)
46	(114.8)	27.4	(81.3)

47	(116.6)	27.3	(81.1)

Provided that if the temperature measured with a thermometer inserted in a hollow globe of 15 cm (6 in.) dia-coated mat block outside and kept in the environment for not less than 20 minutes exceeds the dry bulb temperature of air, the temperature so recorded by the globe thermometer shall be taken in place of the dry bulb temperature:
Provided further that when the reading of the wet-bulb temperature out-side in the shade exceeds 27 ^{o}C (80.6 ^{o}F) the value of the wet-bulb temperature allowed in the schedule for a given dry-bulb temperature may be correspondingly exceeded to the same extent:

Provided further that this requirement shall not apply to the factories covered by section 15 and to factories where the nature of work carried on involves production of excessively high temperature referred to in clause (ii) of sub-section (1) of section 13 to which workers are exposed for short periods of time not exceeding one hour followed by an interval of sufficient duration in thermal environments not exceeding those otherwise laid down in this rule;
Provided further that the Chief Inspector, having due regard to the health of the workers, may in special and exceptional circumstances by an order in writing exempt any factory from the foregoing requirement, in so far as restricting the thermal conditions within the limits laid down in the Schedule are concerned, to the extent that he may consider necessary, subject to such conditions as he may specify.

6 (2) Provision of Thermometers

7 (a) If it appears to the Inspector that in any factory, the temperature of air in a workroom is sufficiently high and is likely to exceed the limits prescribed in rule 19 A, he may serve on the manager of the factory an order requiring him to provide sufficient number of whirling hygrometers or any other type of hygrometers and direct that the dry-bulb and wet-bulb readings in each such a work-room shall be recorded at such positions as approved by the Inspector twice during each working shift by a person especially nominated for the purpose by the manager and approved by the Inspector.

8 (b) If the Inspector has reason to believe that a substantial amount of heat is added inside the environment of a work-room by radiation from walls, roof or other solid surroundings, he may serve on the manager of the factory an order requiring him to provide one or more globe thermometers referred to in the first proviso in rule 19-A and further requiring him to place the globe thermometers at places specified by him and keep a record of the temperatures in a suitable register.

9 (3) Ventilation

10 (a) In every factory, the amount of ventilating opening in a workroom below the eyes shall, except where mechanical means of ventilation as required by sub-rule (2) are provided, be of an aggregate area of not less than 15 per cent of the floor area and so located as to afford a continued supply of fresh air:

Provided that the Chief Inspector may relax the requirements regarding the amount of ventilating openings if he is satisfied that having regard to the location of the factory, orientation of the workroom, prevailing winds, roofs height and the nature of manufacturing

process carried on, sufficient supply of fresh air into the workroom is afforded during most part of the working time:
Provided further that these requirements shall not apply in respect of workrooms of factories:
iii (i) covered by section 15; or
iv (ii) in which temperature and humidity are controlled by refrigeration.

(b) Where in any factory, owing to special circumstances such a situation with respect to adjacent buildings and the height of the building with respect to floor space, the requirements of ventilation openings under sub-rule (1) cannot be complied with or in the opinion of the Inspector the temperature of air in a workroom is sufficient high and is likely to exceed the limits prescribed in rule 1 he may serve on the manager of the factory an order requiring him to provide additional ventilation either by means of roof ventilators or by mechanical means.
(c) The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the cubic capacity of the workroom and shall be distributed evenly throughout the work-room without air-pockets or undue draughts caused by high inlet velocities.
(d) In regions where in summer (15th March---15th July) dry-bulb temperatures of outside air in the shade during most part of the day exceed 35 degrees (95 degrees) and simultaneous wet bulb temperatures are 25 degrees (67 degrees) are below and in the opinion of the Inspector the manufacturing process carried on in the workroom of a factory permits thermal environments with relative humidity of 50 per cent or more the Inspector may serve on the manager of the factory an order to have sufficient supply of outside air for ventilation cooled by passing it through water sprays either by means of unit type of evaporative air coolers (desert coolers) or, where supply of outside air is provided by mechanical means through ducts in a plenum system by means of central air washing plants.]

20. When artificial humidification not allowed
There shall be no artificial humidification in any room of a cotton spinning or weaving factory:
(a) by the use of steam during any period when the dry bulb temperature of that room exceeds 85 degrees.
(b) at any time when the wet bulb reading of the hygrometer is higher than that specified in the following Schedule annexed hereto in relation to the dry bulb reading of the hygrometer at the time; or as regards a dry bulb reading intermediate between any two dry bulb readings indicated consecutively in the Schedule when the dry bulb reading does not exceed the wet bulb reading to the extent indicated in relation to the lower of these two dry bulb readings.

SCHEDULE

Dry bulb	Wet bulb	Dry bulb	Wet bulb	Dry bulb	Wet bulb
60.0	58.0	77.0	75.0	94.0	86.0
61.0	59.0	78.0	76.0	95.0	87.0
62.0	60.0	79.0	77.0	96.0	87.5

63.0	61.0	80.0	78.0	97.0	88.0
64.0	62.0	81.0	79.0	98.0	88.5

65.0	63.0	82.0	80.0	99.0	89.0
66.0	64.0	83.0	80.5	100.0	89.5
67.0	65.0	84.0	81.0	101.0	90.0
68.0	66.0	85.0	82.0	102.0	90.0
69.0	67.0	86.0	82.5	103.0	90.5
70.0	68.0	87.0	83.0	104.0	90.5
71.0	69.0	88.0	83.5	105.0	91.0
72.0	70.0	89.0	84.0	106.0	91.0
73.0	71.0	90.0	84.5	107.0	91.5
74.0	72.0	91.0	85.0	108.0	91.5
75.0	73.0	92.0	85.5	109.0	92.0
76.0	74.0	93.0	86.0	110.0	92.0

Provided, however, that clause (b) shall not apply when the difference between the wet bulb temperature as indicated by the hygrometer in the department concerned and the wet bulb temperature taken with a hygrometer outside in the shade is less than 3.5 degrees.

21. Provision of Hygrometer

In all departments of cotton spinning and weaving mills wherein artificial humidification is adopted, hygrometers shall be provided and maintained in such positions as are approved by the Inspector. The number of hygrometer shall be regulated according to the following scale:
(a) Weaving Department - One hygrometer for departments with less than 500 looms, and one additional hygrometer for every 500 or part of 500 looms in excess of 500.
(b) Other Departments - One hygrometer for departments with less than 8400 cubic meter capacity and one extra hygrometer for each 5600-cubic meter or part thereof, in excess of this.
(c) One additional hygrometer shall be provided and maintained outside each cotton spinning and weaving factory wherein artificial humidification is adopted and in a position approved by the Inspector for taking hygrometer for each 5600-cubic meter or part thereof hygrometer shade readings.

22. Exemption from maintenance of hygrometers

When the Inspector is satisfied that the limits of humidity allowed by the Schedule to rule 21 [Rule 20 for Haryana] are never exceeded, he may, for any department other than the weaving

department, grant exemption from the maintenance of the hygrometer. The Inspector shall record such exemption in writing.

23. Copy of Schedule to rule 18 to be affixed near every hygrometer

A legible copy of the schedule to Rule 18 [Rule 20 for Haryana] shall be affixed near each hygrometer.

24. Temperature to be recorded at each hygrometer

At each hygrometer maintained in accordance with Rule 22, [Rule 21 for Haryana] correct wet and dry bulb temperatures shall be recorded thrice daily during each working day by competent persons nominated by the manager and approved by the Inspector. The temperature shall be taken between 7a.m. and 9 a.m., between 11 a.m. and 2 p.m. (but not in the rest interval) and between 4 p.m. and 5.30 p.m. in exceptional circumstances, such additional readings and between such hours, as the Inspector may specify, shall be taken. The temperatures shall be entered in a Humidity Register in the prescribed Form No. 6, maintained in the factory. At the end of each month, the persons who have taken the readings shall sign the register and certify the correctness of the entries. The register shall always be available for inspection by the Inspector.

25. Specifications of hygrometer

11 (1) Each hygrometer shall comprise two mercurial thermometers of wet bulb and dry bulb of similar construction, and equal in dimensions, scale and divisions of scale. They shall be mounted on a frame with a suitable reservoir containing water.

12 (2) Two wet bulbs shall be closely covered with a single layer of muslin, kept by means of a wick attached to it and dropping into the water in the reservoir. The muslin covering and the wick shall be suitable for the purpose, clean and free from size of grease.

13 (3) No part of the wet bulb shall be within 7.62 cm. from the dry bulb or less than 2.54 cm. from the surface of the water in the reservoir and the water reservoir shall be below it, of the side of it away from the dry bulb.

14 (4) The bulb shall be spherical and of suitable dimensions and shall be freely exposed on all sides to the air of the room.

15 (5) The bores of the stems shall be such that the position of the top of the mercury column shall be readily distinguishable at a distance of 0.6 m.

16 (6) Each thermometer shall be graduated so that accurate readings may be taken between 50 and 120 degrees.

17 (7) Every degree from 50 degrees up to 120 degrees shall be clearly marked by horizontal lines on the stem, each fifth and tenth degree shall be marked by longer marks than the intermediate degrees and the temperature marked opposite each tenth degree, i.e. 50, 60, 70, 80, 90, 100, 110 and 120.

18 (8) The markings as above shall be accurate, that is to say, at no temperature between 50 and 120 degrees shall be indicated readings be in error by more than two-tenths of a degree.

19 (9) A distinctive number shall be indelibly marked upon the thermometer.

20 (10) The accuracy of each thermometer shall be certified by the National Physical Laboratory, London, or some competent authority appointed by the Chief Inspector and such certificate shall be attached to the Humidity Register.

26. Thermometers to be maintained in efficient order

Each thermometer shall be maintained at all times during the period of employment in efficient working order so as to give accurate indications and in particular:

(a) the wick and the muslin covering of the wet bulb shall be renewed once a week;
(b) the reservoir shall be filled with water which shall be completely renewed once a day. The Chief Inspector may direct the use of distilled water or pure rain water in any particular mill or mills in certain localities;
(c) no water shall be applied directly to the wick or covering during the period of employment.

27. An inaccurate thermometer not to be used without fresh certificate

If an Inspector gives notice in writing that a thermometer is not accurate it shall not, after one month from the date of such notice, be deemed to be accurate unless and until it has been re-examined as prescribed and a fresh certificate obtained which certificate shall be kept attached to the Humidity Register.

28. Hygrometer not to be affixed to wall, etc. unless protected by wood

3 (1) No hygrometer shall be affixed to a wall pillar, or other surface unless protected there from by wood or other non-conducting material at least half an inch in thickness and distant at least 2.5 cm from the bulb of each thermometer.

4 (2) No hygrometer shall be fixed at a height of more than 1.65 m from the floor to the top of thermometer stem or in the direct draughts from a fan, window, or ventilating opening.

29. No reading to be taken within 15 minutes of renewal of water

No reading shall be taken for record on any hygrometer within 15 minutes of the renewal of water in the reservoir.

30. How to introduce steam for humidification

In any room in which stem pipes are used for the introduction of steam for the purpose of artificial humidification of the air, the following provisions shall apply:
(a) The diameter of such pipe shall not exceed two inches and in the case of pipes are installed after 1st day of January, 1949, the diameter shall not exceed 2.5 centimeter.
(b) Such pipes shall be as short as is reasonably practicable.
(c) All hangers supporting such pipes shall be separated from the bare pipes by an efficient insulator not less than (12 mm) in thickness.
(d) No uncovered jet from such pipe shall project more than (11.25 cm) beyond the outer surface of any cover.
(e) The steam pressure shall be as low as practicable and shall not exceed 4.9 kg. per square centimeter.
(f) The pipe employed for the introduction of steam into the air in a department shall be effectively covered with such non-conducting material, as may be approved by the Inspector in order to minimise, the amount of heat radiated by them into the department.

31.

[Rule 31 omitted vide Punjab Govt. Gazette Legislature Supplement Part III dated 19.3.1991.]

32. Lighting of interior parts

2 (1) The general illumination over these interior parts of a factory where persons are regularly employed shall be not less than [40][six feet candles] measured in the horizontal plane at a level of 90 cm. above the floor:

Provided that in any such parts in which the mounting height of the light source for general illumination necessarily exceeds 7.5 m. measured from the floor or where the structure of the room or the position or construction of the fixed machinery or plant prevents the uniform attainment of this standard, the general illumination at the said level shall be not less than [41][two feet candles] and where work is actually being done the illumination shall be not less than [42][six feet candles].

3 (2) The illumination over all other interior parts of the factory over which persons employed pass shall when and where a person is passing, be not less than 0.5 foot candles at floor level.

4 (3) The standard specified in this rule shall be without prejudice to the provision of any additional illumination required to render the lighting sufficient and suitable for the nature of the work.

33. Prevention of glare

3 (1) Where any source of artificial light in the factory is less than 480 cm above floor level, no part of the light source or of the lighting fitting having a brightness greater than 10 candles per square centimeter shall be visible to persons whilst normally employed within 33 meter of the source or part of the fitting as the case may be exceeds 20 degrees.

4 (2) Any local light, that is to say, an artificial light designed to illuminate particularly the area or part of the area of work of a single operative or small group of operatives working near each other, shall be provided with a suitable shade of opaque material to prevent glare or with other effective means by which the light source is completely screened from the eyes of every person employed at a normal working place, or shall be so placed that no such person is exposed to glare there from.

34. Power of Chief Inspector to exempt

Where the Chief Inspector is satisfied in respect of any particular factory or part thereof or in respect of any description of workroom or process that any requirement of the foregoing rules for suitable lighting is inappropriate or is not reasonably practicable, he may be order in writing, exempt the factory or part thereof, or description or workroom or process from such requirement to such extent and subject to such conditions as he may specify.

35.

[Rule 35 and Schedule omitted by Punjab Govt. Gazette L.S.P. III dated 19.3.1991.]

36. Quantity of drinking water

The quantity of drinking water to be provided for the workers in every factory shall be a minimum of 5 litres per worker per day and shall be readily available at all times during working

hours. The Chief Inspector may, however, allow variation in the quantity of drinking water if local conditions so warrant.

37. Source of supply

The water provided for drinking shall be supplied:

(a) [43][from a public water supply system; or]

(b) from any other source approved in writing by the Health Officer.

38. [Means of supply

If drinking water is not supplied directly from public water supply system or water supply system of the factory approved by the Health Officer, it shall be kept in suitable vessels, receptacles or tanks fitted with taps and having dust proof covers placed on raised stands or platforms in shade and having suitable arrangement of drainage to carry away the spilt water. Such vessels or receptacles and tanks shall be kept clean and the water shall be replaced at least once every day. All practicable measures shall be taken to ensure that the water is not contaminated.][44]

39. Cleanliness of well or reservoir

3 (1) Drinking water shall not be supplied from any open well or reservoir unless it is so constructed, situated, protected and maintained as to be free from the possibility of pollution by chemical or bacterial and extraneous impurities.

4 (2) Where drinking water is supplied from such well or reservoir the water in it shall be sterilized once a week or more frequently if the Inspector, by written order, so requires, and the date of which sterilizing is carried out shall be recorded:

Provided that this requirement shall not apply to any such well or reservoir if the water therein is filtered and treated to the satisfaction of the Health Officer before it is supplied for consumption.

40. Report from Health Officer

The Inspector may be order in writing, direct the Manager to obtain, at such time or at such intervals as he may direct, a report from the Health Officer as to the fitness for human consumption of the water supplied to the workers, and in every case to submit to the Inspector a copy of such report as soon as it is received from the Health Officer.

41. Cooling of water

In every factory wherein more than two hundred and fifty workers are ordinarily employed:

(a) the drinking water supplied to the workers shall from the 1st May to the 30th September in every year be cooled, so that the temperature of drinking water is below 80 degrees F:

Provided that, if ice is placed in the drinking water, the ice shall be clean and wholesome and shall be obtained only from a source approved in writing by the Health Officer;

(b) the cooled drinking water shall be supplied in every canteen, lunch-room and rest-room and also at conveniently accessible points throughout the factory which for the purpose of these rules shall be called "Water Centres";

(c) the water centres shall be sheltered from the weather and adequately drained;

(d) the number of water centres to be provided shall be one "centre" for every 150 persons employed at any one time in the factory:

Provided that in the case of a factory where the number of persons employed exceeds 500, it shall be sufficient if there is one such "centre" as aforesaid for every 150 persons upto the first 500 and one for every 500 persons thereafter;
[45][Provided further that the distance between the place of work and the water centre shall not be more than fifty metres or the distance as may be specified by the Inspector].
(e) every "water centre" shall be maintained in a clean and orderly condition.
(f) [the means of supply of cold drinking water shall be either directly through taps connected to water coolers or any other system for cooling the water, or by means of vessels, receptacles or tanks fitted with taps and having dust proof covers and placed on raised stand or platform in shade, and having suitable arrangement of drainage to carry away the spilt water and the vessels, receptacles or tanks shall be kept clean and water shall be replaced at least once every day][46].

Clause (f) shall not apply to any factory in which suitable mechanically-operated drinking water refrigerating units are installed to the satisfaction of the Chief Inspector.

42. Latrine Accommodation

Latrine accommodation shall be provided in every factory on the following scale:
(a) Where females are employed, there shall be at least one latrine seat for every 25 females.
(b) Where males are employed, there shall be at least one latrine seat for every 25 males; provided that, where the number of males employed exceeds 100, it shall be sufficient if there is one latrine for every 25 males up to the first 100 and one for every 50 thereafter.

In calculating the number of latrines required under this rule, any odd number of workers less than 25 or 50, as the case may be, shall be reckoned as 25 or 50 and the number of workers to be considered shall be maximum number employed at any time during the day.

43. Latrines to conform to public health requirements

Latrines other than those connected with an efficient water-borne sewerage system shall comply with the standard laid down by the Public Health Authorities with respect of the designs, air- space and fixations, and use of disinfectants.

44. Privacy of latrines

Every latrine shall be under cover and to partitioned off as to secure privacy, and shall have a proper door and of the design approved by the Chief Inspector.

45. Signboards to be displayed

Where workers of both sexes are employed there shall be displayed outside each latrine-block a notice in the language understood by the majority of the workers 'For Men only" or "For Women only", as the case may be. The notice shall also bear the figure of a man or of a woman, as the case may be.

46. Urinal accommodation

Urinal accommodation shall be provided for the use of workers and shall not be less than 0.6 metre in length for every 50 males; provided that, where the number of males employed

exceeds 500, it shall be sufficient if there is one urinal for every 50 males upto the first 500 employed and one for every 100 thereafter.
Where women are employed, separate urinal accommodation shall be provided for them on the same scale as mentioned above.
In calculating the urinal accommodation required under this rule any odd number of workers less than 50 or 100, as the case may be, shall be reckoned as 50 or 100 and the number of workers to be considered shall be the maximum number employed at any time during the day.

47. Urinals to conform to public health requirements

Urinals, other than those connected with an efficient water-borne sewerage system, and urinals in a factory wherein more than two hundred and fifty workers are ordinarily employed, shall comply with the standard laid down by the Public Health Authorities with respect to designs, and use of water and disinfectants for flushings.

48. Certain latrines and urinals to be connected to sewage system

(a) When any general system of underground sewerage with an assured water-supply for any particular locality is provided in a municipality all latrines and urinals of factory situated in such locality shall, if the factory is situated within 33 metres of an existing sewer, be connected with that Sewerage system.
(b) When no underground sewerage system exists, the design of latrines and urinals will take into account the problem of disposal either by way of sewerage pits or by sanitary receptacles contents of which can be disposed of without causing any insanitary of unhygienic condition in the locality.

49. White-washing and colour washing of latrines and urinals

The walls, ceilings and partitions of every latrine and urinal shall be white-washed and the whitewashing shall be repeated at least once in every period of four months. The dates on which the white-washing is carried out shall be entered in the prescribed register Form No. 7:
Provided that this rule shall not apply to latrines and urinals, the walls, ceiling, or partitions of which are laid in glazed tiles or otherwise finished to provide a smooth polished impervious surface and that they are washed with suitable detergents and disinfectants at least once in every period of four months.

50. Construction and maintenance of drains

All drains carrying waste or sullage water shall be constructed with impermeable materials suitably surfaced to ensure smoothness and resistance to wearing away and shall be regularly flushed and the effluent disposed of by connecting such draining with a suitable drainage line without causing in sanitary or unhygienic condition in the locality:
Provided that where there is no such drainage line the effluent shall be deodorized and rendered innocuous and then disposed of in suitable manner to the satisfaction of the Health Officer.

51. Water taps in latrines

3 (1) Where piped water-supply is available a sufficient number of water taps conveniently accessible shall be provided in or near such latrine accommodation.
4 (2) If piped water supply is not available, sufficient quantity of water shall be kept stored in suitable receptacles near the latrines.

52. Number and location of spittoons

The spittoons in each factory shall be located in a manner that would not violate with sanitary requirements and their number will be according to such standard laid down for the locality and nature of industry as the Health Officer may determine for each factory.

53. Type of spittoons

The spittoons shall be of the approved designs and either of the following types:

(a) a galvanized iron container with a conical funnel-shaped cover, A layer of suitable disinfectant liquid shall always be maintained in the container;

(b) a container filled with dry, clean sand and covered with a layer of suitable thickness of lime or bleaching powder;

(c) any other type approved by Health Officer.

54. Cleaning of spittoons

The spittoons mentioned in clause (a) of rule 53 shall be emptied, cleaned and disinfected at least once every day, and the spittoon mentioned in clause (b) of rule 53 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER IV

SAFETY

55. Further safety precautions

2 (1) Without prejudice to the provisions of sub-section (1) of section 21 in regard to the fencing of machines, the further precautions specified in Schedules [47][I to VII][48] annexed hereto shall apply to the machines noted in each Schedule.

SCHEDULE I

(TEXTILE MACHINERY EXCEPT MACHINERY USE IN JUTE MILLS)

9 1. Application: This Schedule shall apply to the machinery in factories engaged in manufacturing or processing of textiles other than jute textiles excluding the machinery in factories engaged exclusively in the manufacture of synthetic fibres.

10 2. Definitions: For the purposes of this Schedule,

11 (a) “Calendar” means a set of heavy roller mounted on vertical side frames and arranged to pass cloth between them which may have two to ten rollers or bowls some of which may be heated;

12 (b) “Card” means a machine consisting of cylinders’ various sizes and includes flats. covered with card clothing and set in relation to each so that fibres in; staple form may be Separated into individual relationship

13 (c) “Card clothing” means the material with which the surfaces of the cylinder, Doffer flats, etc. of a card are covered and consists of a thick foundation material made of either textile fabrics, through which many fine closely spaced specially bent wires or mounted saw toothed wires are passed;

14 (d) “Comber” means a machine for combing fibres of cotton. wool etc. the essential parts whereof are device for feeding forward a fringe of fibres at regular intervals and an

arrangement of combs or pins, which at the right time, pass through the fringe and by which tangled fibres. Short fibres, and nips are removed and the long fibres are laid parallel;
15 (e) “Combing machinery” means a general classification of machinery, including combers, silver lap machines. Ribbon lap machines and gill boxes, but excluding cards;
16 (f) “Continuous bleaching range” means a machine used for bleaching of cloth in rope or open-width form;

Explanation: (1) The cloth after wetting out, passes through a squeeze roll into a saturator, containing a solution of caustic soda and then to an enclosed J. Box. A V- shaped arrangement is attached to the front part of J. Box uniform and rapid saturation of the cloth, with steam before it is packed down in the J. Box; the cloth, in a single strand rope form passes over a guide roll down the first arm of the “V” at the upper end of the second arm so that the cloth is rapidly saturated with steam at this point; the J. Box capacity is such that cloth wiI remain hot for a sufficient time to complete the scouring action; it then passes through a series of washers with a squeeze roll in between; the cloth then passes through a second set of saturator, J-Box and washer, where it is treated with the peroxide solution;
Explanation:(2) by slight modification of the form of the unit, the same process as is explained in Explanation (1), can be applied to open-width cloth;
(g) “embossing calendar” means a calendar with two or more rolls, one of which is engaged for producing figure effects of various kinds on a fabric;
(h) “garnet machine” means any number of types of machines for opening hard twisted waste of wool, cotton, silk, etc., essentially consisting of a locker- in-

one or more cylinders each having a complement worker and stringer rolls, and a fency roll and doffer.

Explanation: - The action of such machines is somewhat like that of a wool card, but it is much more severe in that the various rolls are covered with granett wire instead of card clothing;
(i) “gill box” means a machine used in the worsted system of manufacturing yarns which functions to arrange it in a parallel order and essentially, it consists of a pair of feed rolls and a series of follower where the followers move at a faster surface speed and perform as combine action;
(j) “in-running rolls” means any pair of rolls or drums between which there is a ‘nip’;
(k) “Inter-locking arrangement” means a device that prevents the setting in motion of a dangerous part of a machine or the machine itself while the guard, cover or door provided to safe- guard against danger is open or un-locked, and which will also hold the guard, cover or door closed and locked- while the machine or the dangerous part thereof is in motion;
(l) “Kier” means large metal vat, usually a pressure type in which fabrics may be boiled out, bleached etc.
(m) “loom” means a machine for effecting the interlocking of two series of yarns crossing one another at right angles by which the warp yarns are wound on a warp beam and pass through headless and reads and the filling is shot across in a shuttle and settled in place by read and slay, and the fabric is wound on a cloth beam;

(n) “mule” means a type of spinning frame having a head stock and a carriage as its two main sections, the head stock is stationery and the carriage is movable and its carries the spindles which draft and spin the roving into yarn and extends over the whole of the machine, moves slowly toward and away from the head stock during the spinning operation;
(o) “mercerizing range” means a 3-bowl mangle, a tenter frame, and a number of boxes for washing and scouring, the whole set up where of is in a straight line and all parts operate continuously;

Note: The combination is used to saturate the cloth with sodium hydroxide, stretch it while saturated and washing out most of the caustic before releasing tension;
(p) ‘Nip” means the danger zone between two rolls or drums, which by virtue of their positioning and movement create a nipping hazard;
(q) “Openers and pickers” means a general classification of machinery, which includes breaker pickers, intermediate pickers, finisher pickers, single process pickers, willow machines, card and picker waste cleaners, thread extractors shredding machines, roving waste openers, shoddy pickers, bale breakers, feeders, vertical openers, lattice cleaners horizontal cleaners and any similar machinery equipped with either cylinders, screen section

calendar section, rollers or beaters used for the preparation of stock for further processing;
(r) “paddler” means a trough for a solution and two or more squeeze rolls between which cloth passes after being passed through a mordent or dye bath;
(s) “Plating machine” means a machine used to lay cloth into folds of regular length for convenience of subsequent process or use;
(t) “ribbon lapper” means a machine or a part of a machine used to prepare laps for feeding a cotton comb the purpose of which is to provide a uniform lap in which the fibers have been straightened as much as possible;
(u) “rotary staple cutter” means a machine consisting of one or more rotary blades used for the purpose of cutting textile fibres into staple lengths;
(v) “roller printing machine” means a machine used for printing fabrics and consisting of a large central cylinder, or pressure bowl around the lower part of the perimeter of which is placed a series of engraved color rollers (each having a color trough), a furnisher roller, doctor blades, etc.;
(w) “silver lapper” means a machine or a part of a machine in which a number of parallel card silvers are drafted slightly, laid side by side in a compact sheet and wound into a cylindrical package;
(x) “starch mangle” means a mangle which is use specifically for starching cotton goods, and generally consists of two large rolls and a shallow open vat with several immersion rolls;
(y) “sanforizing machine” means a machine consisting of a large steam-heated cylinder and endless, thick woollen felt blanket which is in close contact with the cylinder for most of its perimeter and an electrically heated shoe which presses the cloth against the blanket while the later is in a stretched condition as it curves around feed-in roll;
(z) “shearing machine” means a machine used for shearing cloth in which cutting action is provided by a number of steel blades spirally mounted on a roller which rotates in close contact with a fixed edge blade.

(aa) “singeing machine” means a machine which comprises of a heated roller a plate, or an open gas flame by which the cloth or yarn is rapidly passed over the roller or the plate or through the open gas flame to remove fuzz of hairiness by burning;
(bb) “slasher” means a machine used for applying a size mixture to warp yarns which essentially consists of a stand for holding section beams a size box, one or more cylindrical dryers or an enclosed hot air dryer, and a beaming end for winding the yarn on the loom beams;
(cc) “tenter frame” means a machine for drying cloth under tension which essentially consists of a pair of endless traveling chains fitted with clips of fine pins and carried on tracks and the cloth is firmly held at the selvages by

the two chains which diverge as they move forward so that the cloth is brought to the desired width;
(dd) “warper” means a machine for preparing and arranging the yarn intended for the warp of fabric, specifically a beam warper; and
(ee) “Water mangle” means a calendar having two or more rolls used for squeezing water form fabrics before drying or for the finishing of various fabrics.
3. General safety requirements
(1) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machines and the belt shifter on machines driven by belts and shafting should be provided with a belt shifter lock or an equivalent positive locking device.
(2) Stopping and starting handles or other controls shall be of such design and so positioned as to prevent the operator’s hand or fingers from striking against any moving part or any other part of the machine.
(3) All belts, pulleys, gears, chains, sprockets wheel and other dangerous moving parts of machinery which either form part of the machinery or are used in association with it, shall be securely guarded.
4. Openers and pickers
(1) In all operating or picker machinery:
(i) Beaters and other dangerous parts shall be securely fenced by guards so as to prevent contact with them; and
(ii) Guards and doors or covers of openings giving access to any dangerous part of the machinery shall be provided with inter-locking arrangement:

Provided that in the case of doors or covers of openings giving access to any dangerous part, other than beater covers, instead of the inter, locking arrangement. such openings may be so fenced by guards which prevent access to any such dangerous part and which is either kept positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.
3 (2) The feed rolls on all opening and picking machinery shall be covered with a guard designed to prevent the Operator from reaching the nip while the machinery is in operation.
4 (3) The lap forming rollers shall be fitted with a guard or cover which shall prevent access to the nip at the intake of the lap roller and fluted roller as long as the weighted rack is down and the guard or cover shall be so locked that it cannot be raised until the machine is stopped, and machine cannot be started until the Cover of guard is closed:

Provided that the foregoing provision shall not apply to the machines equipped with automatic lap forming devices:

Provided further that any such machine equipped with automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.

3 5. Cotton Cards

4 (1) All cylinder doors shall be secured by an interlocking arrangement which shall prevent the door being opened until the cylinder has ceased to revolve and shall render it impossible to restart the machine until the door has been closed:

Provided that the latter requirement in respect of the automatic locking device shall not apply while stripping or grinding operations are carried out:

Provided further that stripping or grinding operation shall be carried out only by specially trained adult workers wearing tight “fitting clothing, whose names have been recorded in the register specified in sub-section (1) of section 22 of the Act.

9 (2) The licker-in shall be guarded so as to prevent access to the dangerous parts.

10 (3) Every card shall be equipped with an arrangement that would enable the card cylinder to be driven by power during stripping or grinding operations without having to either shift the main belt to the fast pulley of the machine or dismantle the interlocking mechanism and such an arrangement shall be used only for strip or grinding operations.

11 6. Garnett Machines

12 (1) Garnett licker-ins shall be enclosed and the garnet fancy rolls shall be enclosed by guards and shall be installed in a way that keeps work rolls reasonably accessible for removal or adjustment.

13 (2) The underside of the garnet shall be guarded by a screen mess or other form of enclosures to prevent access.

14 7. Gill boxes

15 (1) The feed and shall be guarded so as to prevent fingers being caught in the pins of the intersecting fillers.

16 (2) All nips of in-running rolls shall be guarded by Suitable nip guards conforming to the following specifications:

Any opening which the guard may permit when fitted in position shall be so restricted with respect to the distance of the opening from any nip point through that opening from any nip point through that the maximum width of the opening shall not exceed the following:

Distance of opening from nip point	Maximum width of opening
0 to 38 mm	6 mm
39 to 63 mm	10 mm
64 to 88 mm	13 mm
89 to 140 mm	15 mm

141 to 165 mm	19 mm
166 to 190 mm	22 mm
191 to 215 mm	32 mm

5 8. Silver aid ribbon lappers (cotton): The cylinder drums and the laps pool shall be provided with a guard to prevent access to the nip between the in-running rolls.
6 9. Speed frame: Jack Box wheels at the head stock shall band guard shall have interlocking arrangement.
7 10. Spinning Mules: Wheels on spinning mule carriages shall be provided with substantial wheel guards, extending to within 6 mm of the rails.
8 11. Warpers: Swiveled double-bar gates shall be installed on all warpers operating in excess of 410 meters minimum and shall have interlocking arrangements, except for the purpose of inching or jogging.

Provided that top and bottom bars of gates shall be at least 1.05 and 0.53 meters high from the floor or working plate form, and gate shall be locked 38 mm from vertical tangement to the bean head.
10 12. Slashers
11 (1) Cylinder dryers:
12 (a) All open nips of in running rolls shall be guarded by nip guards conforming to the requirements in clause 7.
13 (b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170mm above the floor to control the operation from any point.
14 (c) Slashers operated by such button control shall have stop and start buttons located at each end of the machine, and additional buttons located on both sides of the machine at the size box and the delivery end and if calendar rolls are used, additional buttons shall be provided at both sides of machines at points near the nips, except when slashers are equipped with an enclosed dryer as in such clause (b).
15 (2) Enclosed hot air dryer
16 (a) All open nips of the top squeezing rollers shall be guarded by nip guards conforming to the requirement specified in sub-clause (2) of clause 7.
17 (b) When slashers are operated by control layers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point.
18 (c) Slashers operated by push-button control shall have stop and start buttons located at each end of the machine and additional stop and start buttons located on both sides of the machine at intervals spaced not more than 1.83 meters on centres.

19 13. Looms

20 (1) Each loom shall be equipped with suitable guards designed to minimize the danger from flying shuttles.
21 (2) Beam weights for tension in beam shall be of such construction so as prevent it from falling during its adjustment.
22 14. Valves of Kiers, tanks, and other containers
23 (1) Each valve controlling the flow of steam injurious gases or liquids into a kier or any other tank or container into which a person is likely to enter in connection with a process, operation, maintenance or for any other purpose, shall be provided with a suitable lock the valve securely in the closed position and retain the key with him before entering the kier tank or container.
24 (2) Wherever boiling tanks, caustic tanks and any other containers from which liquids, which are hot, corrosive or toxic, may overflow or splash, are so located that the operator cannot see the contents from the floor or working areas, emergency shut off valves which can be controlled from a point not subject to danger of splash shall be provided to prevent danger.
25 15. Shearing machines: All revolving blades on shearing machines shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.
26 16. Continuous bleaching range (cotton and rayon): The nip of all in running rolls on open-width bleaching machine rolls shall be protected with a guard to prevent the worker from being caught at the nip and the guard shall extend across the entire length of the nip.
27 17. Mercerizing range (piece goods)
28 (1) A stopping device shall be provided at each end of the machine.
29 (2) A guard shall be provided at each end of the frame between the in- running chain and the clip opener.
30 (3) A nip guard shall be provided for the in-running rolls of the mangle and washers and the guard shall conform to the requirements specified in sub-clause (2) of clause 7.
31 18. Tender frames
32 (1) A stopping device shall be provided at each end of the machine.
33 (2) A guard shall be provided at each end of the machine frame at the in- running chain and clip opener.
34 19. Paddlers: Suitable nip guards conforming to the requirements specified in sub clause (2) of clause 7 shall be provided to all dangerous in-running rolls.
35 20. Centrifugal extractors
36 (1) Each extractor shall be provided with a guard for the basket, and the guard shall have interlocking arrangement.

16 (2) Each extractor shall be equipped with a mechanically or electrically operated brake to quickly stop the basket when the power driving the basket is shut off.
17 21. Squeezer of wringer extractor, water mangle, starch mangle, back washer (worsted yarn) crabbing machines and decanting machine: All in-running rolls shall be guarded with nip guards conforming to the requirements specified in sub-clause (2) of clause 7.
18 22. Sanforizing and palmer machine
19 (1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements specified in sub-clause (2) of clause 7.

(2) Access from the sides to the nips of running rolls should be fenced by suitable side guards.

(3) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the face of the cylinder, which operate readily whether pushed or pulled and the safety trip shall not be more than 170 cm. above the level at which the operation stands and shall be readily accessible.

23. Rope washers

(1) Splash guards shall be installed in all rope washers unless the machine is so designed as to prevent the water or liquid from splashing the operator, the floor or working surface.

(2) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all rope was hers extending the length of the face of the washer which shall operate readily whether pushed or pulled and the safety trip shall be not more than 170 cm. above the level on which the operator stands and shall be readily accessible.

24. Laundry washer tumbler or shaker

(1) Each drying tumbler, each double cylinder shaker or clothes tumbler, and each washing machine shall be equipped with an interlocking arrangement which will prevent the power operation of the inside cylinder when the outer door on the case or shall is open, and which will also prevent the outer door in the case or shall from being opened without shutting off the power and the cylinder coming to a stop but which should not prevent the movement of the inner-cylinder by means of a hand operated mechanism or an inching device.

(2) Each closed barrel shall also be equipped with adequate means for holding open the doors or covers of the inner and outer cylinders, of shells while it is being loaded or unloaded.

25. Printing machine (roller type):

(1) Everything in-running rolls shall be guarded by nip guards conforming to the requirements specified in sub-clause (2) of clause 7.

(2) The engraved roller gears and the large crown wheel shall be guarded.

26. Calendars: The Nip at the in-running side of the rolls shall be provided with a guard extending across the entire length of the nip and arranged to prevent the fingers of the workers from being pulled in between the rolls or between the guard and the rolls, and so contracted that the cloth can be fed into the rolls safely.

27. Rotary staple cutters: The cutter shall be protected by a guard to prevent hands reaching the cutting zone.

28. Plating machines: Access to the trap between the knife and card bar shall be prevented by a guard.

29. Hand baling machine: An angle iron handle-stop guard shall be installed at right angle to the frame of the machine, the stop guard of which shall be so designed and so located that it will prevent the handle from traveling beyond the vertical position should be handle slips from the operator's hand when the pawl has been released from the teeth of the take-up gear.

30. Flat-Work ironer: Each flat-work or collar ironer shall be equipped with a safety bar or other guard across the entire from of the feed or first pressure rolls, so arranged that the striking of the bar or guard by the hand of the operator or other person will stop the machine. The guard shall be such that the operator or other person cannot reach into the rolls without removing the guard. This may be either a vertical guard on all sides or a complete cover. If a

vertical guard is used, the distance from the floor or working platform to the top of guard shall not be less than 1.83 meters."

SCHEDULE II
(COTTON GINNING)

Line shaft: The line shaft or second motion in cotton ginning factories, when below floor level shall be completely enclosed by a continuous wall or unclimbable fencing with only so many openings as are necessary for access to the shaft for removing cotton seed, cleaning and oiling and such openings shall be provided with gates or doors which, shall be kept closed and locked.

SCHEDULE III
(WOODWORKING MACHINERY)

6 1. Definitions: For the purposes of this Schedule,

7 (a) Woodworking machine means a circular saw, band saw, planning machine, chain mortising machine or vertical spindle moulding machine, operating on wood or cork.

8 (b) Circular saw means a circular saw working in a bench (including rack bench) but does not include a pendulum or similar saw which is moved towards the wood for the purpose of cutting operation.

9 (c) Band saw means a band saw, the cutting portion of which runs in vertical direction but does not include a log saw or band resaving machine.

10 (d) Planning machine means a machine for overhand planning or thickening or for both operations.

14 2. Stopping and starting device: An efficient stopping and starting device shall be provided on every woodworking machine. The control of this device shall be in such a position as to be readily and conveniently operated by the person in charge of the machine.

15 3. Space around machine: The space surrounding every woodworking machine in motion shall be kept free from obstruction.

16 4. Floors: The floor surrounding every woodworking machine shall be maintained in good and level condition, and shall not be allowed to become slippery, and as far as practicable shall be kept free from chips or other loose material,

17 5. Training and Supervision

18 (1) No person shall be employed at a woodworking machine unless he has been sufficiently trained to under the adequate supervision of a person who has a thorough knowledge of the working of the machine.

19 (2) A person who is being, trained to work woodworking machine shall be fully and carefully and the precautions to be observed to secure safe working of the machine.

20 6. Circular Saws: Every circular saw shall be fenced as follows:

21 (a) Behind and in direct line with the saw there shall be a riving knife, which shall have a smooth Surface, shall be strong, rigid and easily adjustable and shall also conform to the following conditions:

22 (i) The edge of the knife nearer the saw shall form as are of a circle having a radius of not exceeding the radius of largest saw used on bench.

23 (ii) The Knife shall be maintained as close as practicable to the saw, having regard to the nature of the work being done at the time and at the level of the bench table the distance between the front edge of the knife and the teeth of the saw shall not exceed 12 mm.
24 (iii) For a saw of a diameter of less than 0.6 meter, the knife extends upwards from the bench t able to within 25 mm3 of the top of the saw, and for a saw of a diameter of 0.6 meter or over shall extend upwards from the bench teeth of the saw shall not exceed 12 mm.
25 (b) The top of the saw shall be covered by a strong and easily adjustable guard with a flange at the side of the saw farthest from the fence. The guard shall be kept so adjusted that the said flange shall extend below the roots of the teeth of the saw. The guard shall extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.
26 (c) The part of the saw below the bench table shall be protected by two plates of metal or other Suitable material one on each side of the saw; such plates shall not be more than 15 cm apart, and shall extend from the axis of the outwards to a distance of not less then.5cm. Beyond the teeth of the saw- Metal plates, if not headed, shall be of a thickness of at least .25 cm. or if headed be of a thickness of at least.125 centimetres.

19 7. Push Sticks: A push stick or other suitable appliance shall be provided for use at every circular saw and at every vertical spindle moulding machine to enable the work to be done without unnecessary risk.
20 8. Band Saws: Every band saw shall be guarded as follows:
21 (a) Both sides of the bottom pulley shall be completely encased by sheet or expanded metal or other suitable material.
22 (b) The front of the top pulley shall be covered with sheet or expanded metal or other suitable material.
23 (c) All portions of the blade shall be enclosed or otherwise securely guarded except the portion of the blade between the bench table and the top- guide.
24 9. Planning Machines
25 (1) A planning machine (other than a planning machine which is mechanically fed) shall not be used for overhand planning unless it is fitted with a cylindrical cutter block.
26 (2) Every planning machine used for over hand planning shall be provided with a “bride” guard capable of covering the full length and breadth of the cutting slot in the bench, and so constructed as to be easily adjusted both in a vertical and horizontal director.
27 (3) The feed roller of every planting machine used for thicknessing except the combined machine for overhand planning and thicknessing, shall be provided with an efficient guard.
28 10. Vertical spindle moulding machines
29 (1) The cutter of every vertical spindle moulding machine shall be guarded by the most efficient guard having regard to the nature of the work being performed.
30 (2) The wood being moulded at vertical spindle moulding shall. If practicable be held in a jig or holder of such construction as to reduce as for as possible the risk of accident to the worker.
31 11. Chain mortising machines: The chain of every chain mortising machine shall be provided with a guard which shall enclose the cutters as far as practicable.
32 12. Adjustment and maintenance of guards: The guards and other appliances required under this Schedule shall be:

33 (a) maintained in an efficient state.
34 (b) Constantly kept in position while the machinery in motion, and
35 (c) So, adjusted as to enable the work to be done without unnecessary risk.
36 13. Exemption: Paragraphs 6,8,9, and 10 shall not apply to an woodworking machine in respect of which it can be proved that other safeguards are provided, maintained and used which render the machine as safe as it would be if guarded in the manner prescribed in this Schedule.

SCHEDULE IV
(RUBBER MILLS)

8 1. Installation of machines: Mills for breaking down, cracking, grating, mixing, refining and warming rubber or rubber compounds shall be so installed that the top of the front roll is not less than 85cm. above the floor or working level. Provided that in existing installations where the top of the front roll is below this height a strong rigid distance bar shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the rolls.
9 2. Safety devices
10 (1) Rubber Mills shall be equipped with,
11 (a) Hoppers so constructed or guarded that it is impossible for the operator to come into contact in any manner with the nip of the rolls.
12 (b) Horizontal-safety trop rods or tight wire cables across both front and rear which will when pushed or pulled, operate instantly to disconnect the power and apply the brakes or to reverse the rolls.
13 (2) Safety trip rods or tight wire cables on rubber mills shall extend across the entire length of the face of the rolls and shall be located not more than 1.75 meter above the floor or working level.
14 (3) Safety-trip rods and tight wire cables on all rubber mills shall be examined and tested daily in the presence of the Manager or other responsible person and if any defect is disclosed by such examination and test the mill shall not be used until such defect has been remedied.

SCHEDULE V49
CENTRIFUGAL MACHINES

9 1. Definition: “Centrifugal Machines” includes centrifugal extractors, separators and driers.
10 2. Every part of a centrifugal machine shall be:
11 (a) of good design and construction and of adequate strength;
12 (b) properly maintained; and
13 (c) examined thoroughly by a competent person at regular intervals.
14 3. Interlocking guard for drum or basket
15 (1) The cage housing, the rotating drum or basket of every centrifugal machine shall be provided with a strong lid. The design, construction of the cage as well as the lid should be such that no access is possible to the drum or basket when the lid is closed.
16 (2) Every centrifugal machine shall be provided with an efficient interlocking device that will effectively prevent the lid referred to in sub-paragraph (1) from being opened while the

drum or basket is in motion and prevent the drum or basket being set in motion while the lid is in the open position.

4 4. Braking arrangement: Every centrifugal machine shall be provided with an effective arrangement capable of bringing the drum or basket to rest within as short a period of time as reasonable practicable after the power is cut off.
5 5. Operating speed: No centrifugal machine shall be operated at a speed in excess of the manufacturers rating which shall be legibly stamped at easily visible places both on the outside of the machine casing.
6 6. Exceptions: Sub-paragraph (2) of paragraph 3, paragraphs 4 and 5 shall not apply in case of top lung machines or similar machines used in the sugar manufacturing industry.

SCHEDULE VI50
(POWERS PRESSES)
3 1. Application: This Schedule shall apply to all types of power presses including press brakes, except when used for working hot metal.
4 2. Definition

For the purpose of this Schedule,
(a) “approved” means approved by the Chief inspector;
(b) “fixed fencing” means fencing provided for the tools of a power press being fenced which has no moving part associated with or dependent upon the mechanism of a power and includes that part of a closed tool which acts as a guard;
(c) “power press” means a machine used in metal or other industries for moulding, pressing, blanking, raising, [drawing and similar other purposes;
(d) “safety device” means the fencing and any other safeguard provided for the tools of a power press.
3. Starting and stopping mechanism: The starting and stopping mechanism shall be provided with a safety stop so as to prevent over running of the press or descent of the ram during tool shutting. etc.
4. Protection of tool and die
(1) Each press shall be provided with a fixed guard with slip plate on the underside enclosing the front and all sides of the tool.
(2) Each die shall be provided with a fixed guard surrounding its front and sides, and extending to the back in the form of a tunnel through which the pressed article falls to the rear of the press.
(3) The design, construction and mutual position of the guards referred to in sub-Para-graphs (1) and (2) shall be such as to preclude the possibility of the worker’s hand or fingers reaching the danger zone.
(4) The machine shall be fed through a small aperture at the bottom of the dye guard, but a wider aperture may be permitted for second or subsequent operations if feeding is done through a chute.

16 (5) Notwithstanding anything contained in sub-paragraphs (1) and (2) an automatic or an interlocked guard may be used in place of a fixed guard, but where such guards are used they shall be maintained in an efficient working condition and if any guard develops a defect, the power shall not be operated unless the defect guard is removed.

17 5. Appointment of persons to prepare power presses for use,

18 (1) Except as provided in sub-paragraph (4) of paragraph 4, no person shall set, re-set, adjust or try out the tools on a power press or install or adjust any safety device thereon, being installation or adjustment preparatory to production of die proving, or carry out an inspection and test of any safety device thereon required by paragraph 8 unless he

19 (a) has attained the age of eighteen years;

20 (b) has been trained in accordance with the sub-paragraph (2); and

21 (c) has been appointed by the occupier of the factory to carry out those duties in respect of the class or description of power press or the class or description of safety device, as the case may be belongs; and the name of every such person shall be entered in a register in Form 7A.

22 (2) The training shall include suitable and sufficient practical instructions in the matter in relation to each type of power press and safety device in respect of which it is proposed to appoint the person being trained.

23 6. Examination and testing of power presses and safety devices

24 (1) No power press or safety device shall be taken into use in any factory for the first time in that factory or in case of a safety device for the first time on any power press, unless it has been thoroughly examined and tested, in the case of a power press, after installation in the factory or in the power press in connection with which it is to be used.

25 (2) No power press shall be used unless it has been thoroughly examined and tested by a competent person within the immediately preceding period of twelve months.

26 (3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding period of six months when in position on that power press, been thoroughly examined and tested by a competent person.

27 (4) The competent person carrying out an examination and test under the foregoing provision shall make a report of examination and test containing the following particulars and every such report shall be kept readily available for inspection;

28 (a) Name of the occupier of the factory;

29 (b) Address of the factory;

30 (c) Identification number or mark sufficient to identify the power press or the safety device, as the case may be;

(d) Date on which the power press or the safety device was first taken into use in the factory;
(e) The date of each periodical thorough examination carried out as per requirements of sub-paragraph (2) above;
(f) Particulars of any defects affecting the safe working of the power press or the safety device found during such thorough examinations and steps taken to remedy such defects.

11 7. Defect disclosed through examination and tests

12 (1) Where any defect is disclosed in any power press or in any safety device by any examination and test under paragraph 6 and in the opinion of the competent person carrying out the examination and test, either

13 (a) the said defect is a cause of danger to workers and in consequence the power press or safety device, as the case may be ought not to be used until the said defect has been remedied; or

14 (b) the said defect may become a cause of danger to workers and in consequence the power press or safety device as the case may be, ought not to be used after the expiration of a specified period unless the said defect has been remedied, such defect shall, as soon as possible after the completion of the examination and test, be notified in writing by the competent person to the occupier of the factory and in the case of a defect falling within clause (b) of this sub-paragraph, such notification shall include the period within which, in the opinion of the competent person, the defect ought to be remedied.

15 (2) In every case where notification has been notified under this paragraph, a copy of the report made under sub-paragraph, a copy of the report made under sub-paragraph (4) of paragraph 6 shall be sent by the competent person to the inspector of the concerned area within fourteen days of the completion of the examination and test.

16 (3) Where any such defect is notified to the occupier in accordance with the foregoing provisions of this paragraph, the power press or safety device as the case may be, having the said defect, shall not be used;

17 (a) in the case of a defect falling within clause (a) of sub-paragraph (1) until the said defect has been remedied; and

18 (b) in the case of defect falling within clause (b) of sub-paragraph (1) until the said defect has been remedied after the expiration of the specified period.

19 (4) As soon as is practicable, after any defect of which notification has been notified under sub-paragraph (1), has been remedied, a record shall be made by or on behalf of the occupier stating the measures by which and the date on which the defect was remedied.

20 8. Inspection and test of safety devices

2 (1) No power press shall be used after the setting, resetting or adjustment of the tools thereon unless a person appointed or authorized for the purpose under paragraph 5 has inspected and tested every safety device thereon while it is in position on the said power press and has certified it to in order:

Provided that no inspection, test and certificate shall be required where any adjustment of the tools has not caused or resulted in any alteration to or disturbance of any safety device on the power press, and, if after the adjustment of the tools, the safety device remain, in the opinion of the said person in efficient working order.

11 (2) Every power press and every safety devices thereon while it is in position on the said power press shall be inspected and tested by a trained person every day.

12 9. Defects disclosed during an inspection and test

13 (1) Where it appears to any person as a result of any inspection and test carried out by him under paragraph 8 that any necessary safety device is not in proper position on a power

press or that any safety device which is in position on a power press, is not in his opinion suitable he shall notify the same to the manager forthwith.

14 (2) Except as provided in sub-paragraph (3) where any defect is disclosed in a safety device any inspection and test under paragraph 8, the person carrying out the inspection and test shall notify the same to the manager forthwith.

15 (3) Where any defect in a safety device is the subject of a notification in writing under paragraph 7 by virtue of which the use of the safety device may be continued during the specified period without the said defect having been remedied, the requirement in sub-paragraph (2) of this paragraph shall not apply to the said defect until the said period has expired.

16 10. Identification of power presses and safety devices: For the purpose of identification every power press and every safety device provided for the same, shall be distinctively and plainly marked.

17 11. Training the instructions to operators: The operators shall be trained and instructed in the safe method of work before starting work on any power press.

18 12. Exemptions

19 (1) If in respect of any factory, the Chief Inspector of Factories is satisfied that owing to the circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule are not necessary for the protection of the workers employed on any power press or in the factory, the Chief Inspector of Factories may by a certificate in writing (which he may in his discretion revoke at any time), exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

20 (2) Where such exemption is granted, a legible copy of the certificate, showing the conditions if any, subject to which it has been granted, shall be kept

2 posted in the factory on a place where it may be conveniently read by the persons employed.

SCHEDULE VII51

SHEARS SLITTERS AND GUILLOTINE MACHINES

7 1. Definitions: For the purpose of this schedule

8 (a) “guillotine” means a machine ordinarily equipped with straight, bevel edged blade operating Vertically against a stationery resisting edge and used for cutting metallic or non-metallic or non-metallic substances;

9 (b) “Shears” or “shearing machine” means a machine ordinarily equipped with straight, bevel edged blades operating vertically against resisting edged, or with rotary, overlapping cutting wheels and used for shearing metals or non- metallic substances; and

10 (c) “Slitter” or slitting machine” means a machine ordinarily equipped with circular disc-type knives, and used for trimming or cutting into metal or non- metallic substances or for slitting them into narrow strips; for the purpose of this schedule, this term includes bread or other food slices equipped with rotary knives or cutting discs.

11 2. Guillotine and Shears

12 (1) Where practicable, a barrier metal guard of adequate strength shall be provided at the front of the knife, fastened to the machine frame and shall be so fixed as would prevent any

part of the operator's body to reach the descending blade from above, below or through the barrier guard or from the sides:

Provided that in case of machines used in the paper printing and allied industries, where a fixed barrier metal guard is not suitable on account of the height and volume of the material being bed, there shall be provided suitable staring devices which require simultaneous action of both the hands of the operator or an automatic device when will remove both the hands of the operator from the danger zone at every descent of the blade.

5 (2) At the back of such machines, an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as would prevent a person at the back from reaching the descending bladed

6 (3) Power-driven guillotine cutters, except continuous feed trimmers, shall be equipped with:

7 (a) starting devices which require the simultaneous action of both hands to start the cutting motion and of at least one hand control during the complete stroke of the knife: or

8 (b) an automatic guard will remove the hands of the operator from the danger zone at every decent of the blade, used in conjunction with one hand starting devices which require two distinct movements of the device to start the cutting motion, and so designed as to return

positively to the non-starting position after each complete cycle of the knife.

(4) Where two or more workers are employed at the same time on the same power driven guillotine cutter equipped with two-hand control, the device shall be so arranged that each worker shall be required to use both hands simultaneously on the safety trip to start the cutting motion, and at least one hand on a control to complete the cut.

(5) Power-driven guillotine cutters, other than continuous trimmer, shall be provided, in addition to the brake or other stopping mechanism, with an emergency device which will prevent the machine from operating in the event of failure of the brake when the starting mechanism is in the non-starting position.

3. Slitting Machine

(1) Circular disc type knives on machines for cutting metal and leather, paper, rubber, textile or other non-metallic substances shall, if within reach of operators standing on the floor of working level, be provided with guards enclosing the knife edges at all times as near as practicable to the surface of the material, and which may either

(a) automatically adjust themselves to the thickness of the material; or

(b) be fixed or manually adjusted so that the space between the bottom of the guard and the material will not exceed 6 mm (1/4inch) at any time.

(2) Portions of blades underneath the tables or benches of slitting machines shall be covered by guards.

4. Index cutters and Vertical Paper Slitters: Index cutter, and other machines for cutting strips from the ends of books, and for similar operations, shall be provided with fixed guards, so arranged the fingers of the operators cannot come between the blades and the tables.

5. Corner Cutters: Corner cutters used in the manufacture of paper boxes, shall be equipped with,

(a) suitable guard, fastened to the machines in front of the knives and provided with slots or perforations to afford visibility of the operations; or
(b) other guards equally efficient for the protection of the fingers of the workers.
6. Band Knives: Band Wheels on band knives, and all portions of the blades except the working side between the sliding guide and the table on vertical machines, or between the wheel guards on horizontal machines, shall be completely enclosed with hinged guards of sheet metal not less than 1 mm (0.04 inch) in think-ness or of other material of equal strength.

SCHEDULE VIII
Thermic fluid Heaters

22 (1) All heaters shall be of such construction that coils are removal for periodic cleaning, visual inspection and hydraulic test.
23 (2) Suitable arrangements shall be made for cooling the furnace effectively in case of power failure.
24 (3) Before restarting the furnace, it shall be effect purged.
25 (4) Velocity or flow of the thermic fluid shall not be allowed to fall below the minimum recommended by the manufactures while the heater is in operation.
26 (5) The thermic fluid shall be circulated in a closed-circuit formation with an expansion–cum-deaerator tank. This tank shall be located outside the shed where the heater is installed.
27 (6) Every heater shall be provided with a photo-resistor actuated auto-visual alarm to indicate flame failure and automatic burner cut.
28 (7) The stack temperature monitor-cum-controller with audio visual alarm shall be provided so as to warn operator in case the outlet temperature exceeds the specific minimum.
29 (8) Where inspection doors are provided on the furnace they shall be interlocked with the burner itself so that they cannot be opened until burner is shut off and furnace is cooled sufficiently.
30 (9) All heaters shall also be provided with the following safety devices:
31 (i) Level control in the expansion tank ;
32 (ii) temperature control of thermic fluid;
33 (iii) differential pressure switch on the outlet line of the heater tubes; and
34 (iv) temperature control device for the fuel oil supply to the burner.
35 (10) All devices specified in paragraph (9) shall have interlocking arrangement with burner so that in case of any predetermined limits being crossed, the supply of fuel and air shall automatically be cut-off.
36 (11) All safety interlock when operated shall be indicated on the control panel of the heater by a suitable audio visual alarm.
37 (12) Every heater unit shall be provided as a standard accessory an arrangement for shifting with low pressure steam or nitrogen for putting out the fire.
38 (13) Electoral panel for the heater shall be located near the heater but not so close as to be exposed to spilling or leaking oil.
39 (14) The heater shall be located in a place partitioned off with fire proof material from other manufacturing activities.
40 (15) Explosion vent shall be installed that release thanks place at safe location.

41 (16) The heater coil shall be subjected to pressure test by competent person once at least in every twelve months. The test pressure shall not be less than twice the operating pressure.
42 (17) If repairs are carried out to the coil, it shall be tested before taking it into use.

8 (18) The thermic fluid shall conform to the specifications specified by the manufacturers and shall be tested by competent person for suitability at least once in every three months' period. Such test shall include test for acidity, suspended matter, ash contents, viscosity and flash point.
9 (19) Cleaning of internal surface of the heater so at check-up of refractory surface on the inside shall be carried out every month or as often as required depending upon working conditions. The coils shall be removed and surface of the coils cleaned thoroughly once at least in a period of six months. The burner, nozzles, oil filters and pumps shall be cleaned once a week during the period of use.
10 (20) A separate register containing the following information shall be maintained:
11 (a) weekly checks carried out confirming the effectiveness of the interlock;
12 (b) weekly checks confirming that all accessories are in good state of repairs; and
13 (c) information regarding fuel, oil temperature, pressure, thermic fluid inlet/outlet pressure and temperature, fuel gas temperature, recorded at four hourly intervals.
14 (21) The heater when in operation shall always be kept in charges of a trained operator."

56. [Employment of Young Persons on dangerous machines
The machines specified in Sections 28, 29 and 30 and the machines mentioned below shall be deemed to be of such dangerous character that young persons shall not work at them unless the provisions of sub-section (1) of Section 23 are complied with:
9 1. Power presses other than hydraulic presses.
10 2. Milling machines used in the metal trades.
11 3. Circular saws.
12 4. Platen printing machines.
13 5. Guillotine machines.
14 6. Decorticator and oil expeller
15 7. Rubber mills.
16 8. Calendering machines.][52]

56-A. [53]Water-sealed Gasholder
5 (1) The expression "Gasholder" means a water-sealed gasholder which has a strange capacity of not less than 141.5 cubic meters (5,000 cft.)
6 (2) Every gasholder shall be of adequate material and strength, sound construction and properly maintained.
7 (3) Where there is more than one gasholder in the factory every gasholder shall be marked in a conspicuous position with a distinguishing number of better.
8 (4) Every gasholder shall be thoroughly examined externally by a competent person at least once in a period of 12 months.

2 (5) In the case of gasholder of which any lift has been in use for more than 10 years, the internal state of the sheeting shall, within one year of the coming into operation of these rules and thereafter at least every period of four years, be examined by a competent person by means of electronic or other accurate devices:

Provided that if the Chief Inspector is satisfied that such electronic or other accurate devices are not available, he may permit the cutting of samples from the crown and the sides of the holder:
Provided further, that if the above inspection raises a doubt, an internal visual examination shall be made.
9 (6) All possible steps shall be repaired or demolished except under the direct supervision of a person who by his training and experience and his knowledge of the necessary precautions against risks of explosion and of persons being overcome by gas is competent to supervise such work.
10 (7) No gasholder shall be repaired or demolished except under the direct supervision of a person who by his training and experience and his knowledge of the necessary precautions against risks of explosion and of persons being overcome by gas is competent to supervise such work.
11 (8)
12 (i) All samples discs cut under sub-rule (5) shall be kept readily available for inspection.
13 (ii) A permanent register duly signed by the occupier and manager shall be maintained in Form No. 33.
14 (iii) The result of examination by a competent person carried out under sub-rules (4) and (5) shall be in Form No. 33-A.
15 (iv) A copy of the report in Form No. 33-A shall be kept in the register in Form No. 33 and both the register and the report shall be readily available for inspection.
16 (9) [Omitted by Punjab Notification No. G.S.G. 74/C.A. 63/48/S-112/Amd. (II)/71, dated the 18.11.1971.]

57.
The following parts of machines will be deemed to be machinery guarded by the markers for the purpose of section 26(1) of the Act:
8 (1) Back gears, change wheels and cog driver of lathes.
9 (2) Back gear and level gearing of drilling machines.
10 (3) Gear wheels and level drives of planning, shaping, slotting and milling machines.
11 (4) All cog and level drives of oil expellers.
12 (5) 54[Beater and spikers of the as hers.
13 (6) Blades and gear and chaff cutters.
14 (7) Nips of rollers of rubber mixing machines.]

58. Register of specially trained adult workers
Registers of workers attending to machinery as provided in sub-section (1) of Section 22 of the Act shall be in Form 7'A'.

59. Belts, etc., to be regularly examined

All belts shall be regularly examined to ensure that the joints are safe and the belts at proper tension.

60.

3 (1) [55][Examination of hoists and lifts: A register shall be maintained to record particulars of examinations of hoists and lifts in Form 23.]

4 (2) Exemption of certain hoists and lifts: In pursuance of the provisions of sub-section (4) of Section 28 of the Act in respect of any class or description of hoists or lift specified in the first column of the Schedule annexed hereto, the requirements of this section as specified in the second column of the said Schedule and set opposite to that class or description of hoists or lift shall not apply:

SCHEDULE

I	II
Class or description Hoists or lift	Requirements which shall not apply
Hoist or lifts mainly used for raising material for charging blast furnaces or lime-kilns	sub-section 1(b) in so far as it requires a gate at the bottom landing sub-section (d), sub-section 1(e)
Hoist not connected with mechanical power and which are not used for carrying persons	Sub-section 1 (b) in so far as it requires the hoist way or lift-way enclosure to be so constructed as to prevent any person or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part, subsection 1(e).

60-A. [Lifting machine, chains, ropes, and lifting tackles

5 (1) No lifting machine and no chain, rope or lifting tackle, except fibre 'rope or a fibre rope sling, shall be taken into use in any factory unless it has been tested and all parts have been thoroughly examined by a competent person and certificate to that effect, specifying the safe working load or loads, has been obtained from that person and is kept available for inspection.

6 (2)

7 (a) Every jib-crane, which is so constructed that the safe working load varies with raising or lowering of the jib, shall have attached thereto either an automatic indicator of safe working loads or an automatic jib angle indicator and a table indicating the safe working loads at the corresponding inclinations of the jib, or corresponding radii of the load.

8 (b) A table showing the safe working loads of every kind and size of chain, rope or lifting tackle in use, and, in the case of a multiple sling, the safe working loads at different angles of the legs, shall be posted in the store-room of

place where, or in which, the chains, ropes or lifting tackles are kept, and in prominent positions, on the premises, and no rope, chain or lifting tackle, not shown in the table, shall be used:

Provided that the foregoing provisions of this paragraph shall not apply in respect of such lifting tackle in the safe working load thereof, or in the case of a multiple sling, the safe working load at different angles of the legs, is plainly marked upon it.

16 (3)

17 (a) the register to be maintained under sub-clause (iii) of the clause (a) of sub-section (1) of Section 29 of the Act shall contain the following particulars:

18 (i) Name of occupier of the factory.

19 (ii) Address of the factory.

20 (iii) Distinguishing number of mark, if any, and description sufficient to identify the lifting machine, chain, rope, or the lifting tackle.

21 (iv) Date when the lifting machine, chain, rope, or lifting tackle was first taken into use in the factory.

22 (v) Date and number of the certificate relating to any test and examination made under sub-rules (1) and (7) together with the name and address of the person who issued the certificate.

23 (vi) Date of each periodical thorough examination made under-clause (iii) of clause (a) of sub- section (1) of Section 29 of the Act and sub-rule (6) any by whim it was carried out.

24 (vii) Date of annealing or other heat treatment of the chain and other lifting tackle made under sub-rule (5) and by whom it was carried out.

25 (viii) Particulars of any defects affecting the safe working load found at any such thorough examination or after annealing and at the step taken to remedy such defects.

26 (b) The register shall be kept readily available for inspection.

27 (4) All rails on which a travelling crane moves and every track on which the carriage of a transporter or runway moves shall be of proper size and adequate strength and have an even running surface and every such rail or track shall be properly laid, adequately supported and properly maintained.

28 (5) All chains and lifting tackle except a rope sling shall, unless they have been subjected to such other heat treatment as may be approved by Chief Inspector of Factories, be effectively annealed under the supervision of a competent person at the following intervals:

29 (i) All chains, slings, rings, hooks, shackles and swivels used in connection with molten metal or molten slag or when they are made of half inch bar or smaller once at least in every six months.

30 (ii) All other chains, rings, hooks, shackles and swivels in general use once at least in every twelve months:

Provided that chains and lifting tackle not in frequent use shall, subject to the Chief Inspector's approval be annealed only when necessary. Particulars of such annealing shall be entered in a register prescribed under sub-rule (3).

10 (6) Nothing in the foregoing sub-rule (5) shall apply to the following classes of chains and lifting tackles:

11 (i) Chains made of malleable cast iron.
12 (ii) Plate link chains.
13 (iii) Chains, rings, hooks, shackles and swivels made of steel or of any non-ferrous metal.
14 (iv) Pitched chains, working on sprocket or pocketed wheels.
15 (v) Rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks or weighing machines.
16 (vi) Hooks and swivels having screw threaded parts or ball bearing or other case hardened parts.
17 (vii) Socket shackles secured to wire ropes by white metal capping.
18 (viii) Bordeaux connections.

Such chains and lifting tackle shall be thoroughly examined by a competent person once at least in every twelve months, and particulars entered in the register kept in accordance with sub-rule (3).
3 (7) Every lifting machine, chain, rope and lifting tackle, except a fibre rope, or fibre rope sling, which has been lengthened, altered or repaired by welding or otherwise shall before being again taken into use, be adequately re-tested and re-examined by a competent person and a certificate of such test and examination be obtained and particulars entered in the register kept in accordance with sub-rule (3).
4 (8) No person under eighteen years of age and no person who is not sufficiently competent and reliable shall be employed as driver of a lifting machine, whether driven by mechanical power or otherwise, or to give signals to a driver.

60-B. 56[Passageways for cranes
3 (1) To provide access to rail track of overhead travelling cranes suitable passageways of at least fifty centimetre (twenty inches) width with the board and double hand rails ninety centimetre (three feet) high shall be provided alongside, and clear of, the rail track of over-head travelling cranes, such that no moving part of the crane can strike persons on the ways, and the passageway shall be at a lower level than the crane track itself. Safe access ladders shall be provided at suitable intervals to afford access to these passageways, and form passageways to the rail tracks.]
4 (2) [The State Government may for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane form the operation of any, provision of sub-rule (1) subject to such conditions as it may specify.]57

2 (3) The State Government may for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane form the operation of any, provision of sub-rule (1) subject to such conditions as it may specify.

61. 58[Pressure plant
13 (1) Every plant or machinery other than the working cylinders of prime movers used in a factory and operated at a pressure greater than atmospheric pressure shall be:
14 (a) of good construction, sound material, adequate strength and free from any patent defect;
15 (b) properly maintained in a safe condition;
16 (c) Fitted with:
17 (i) a suitable safety valve or other effective device to ensure the maximum permissible working pressure of the vessel shall not be exceeded;
18 (ii) a suitable pressure gauge easily visible and designed to show, at all time, the correct internal pressure in kilogram per square centimetre and marked with a prominent red mark at the safe working pressure of the vessel;
19 (iii) a suitable stop valve or valves by which the vessel may be isolated from other vessels or source of supply of pressure; and

20 (iv) a suitable drain cock or valve at the lowest part of the vessel for the discharge of connected liquid;
21 (d) thoroughly examined by a competent person:
22 (i) externally, once in every period of six months, to ensure general condition of the vessel and the working of its fitting;
23 (ii) internally, once in every period of twelve months, to ensure condition of the walls, seams and ties both inside and outside of the vessel, soundless of the part of the vessel and the effects of corrosion. If by reason of construction of the vessel thorough internal examination is not possible this examination may be replaced by a hydraulic test which shall be carried out once in every two years; provided that for the vessels in continuous processes which cannot be frequently opened, the period of internal examination may be extended to four years; and
24 (iii) hydraulically tested at intervals of not more than four years; provided that in respect of pressure vessels with thin walls such as sizing cylinders made of copper or any other non- ferrous metal periodic hydraulic test may be dispensed with in the condition that the requirements laid down in clause (2) are fulfilled:

Provided further that it shall be sufficient for the purposes of clause (c) in the safety valve, pressure gauge and stop valve mounted on a pipeline immediately adjacent to the vessel and where there is a range

of two or more similar vessels in a place served by the same pressure load only one set of such mountings need be fitted provided they cannot be isolated.
11 (2)
12 (a) In respect of pressure vessels of thin walls such as sizing cylinders made of copper or any other non-ferrous metals, the safe working pressure shall be reduced at the rate of 5 per cent of the original working pressure for every year of its use after the first five years and no such cylinder shall be continued to be used for more than twenty years after it was first taken into use.
13 (b) If no information as to the date of construction thickness of walls and safe working pressure is available, the age of the sizing cylinder shall be determined by the competent person in consultation with the Chief Inspector form any other particulars available with the manager.
14 (c) Every new and second-hand cylinder of thin walls to which repairs, which may affect its working its safety have been carried out shall be tested before use to at least one and a half times its working pressure.
15 (3) Every vessel other than a part of a prime mover operated at a pressure greater than atmospheric pressure, and not so constructed as to withstand with safety the maximum permissible working pressure at the source of supply or the maximum pressure which can be obtained in the pipe connecting the vessel with any other source of supply fitted with a suitable reducing valve or other suitable automatic device to prevent the safe working pressure of the vessel being exceeded.
16 (4) In the cases where owing to the nature of the process or the action of the contents of the vessels, a pressure gauge or safety valve or both cannot work reliably a tested and reliable working thermometer with a sufficiently large scale, on which shall be clearly marked the maximum permissible temperature in the vessels or hygrometers or rupture disc in addition to the pressure gauge and safety valve, may be fitted as, may be directed by the Chief Inspector.
17 (5) If during through examination a doubt arises as to ability of vessel to work safety until the next examination provided for these rules when the competent person shall enter in the register prescribed a reasoned statement, to authorise the vessel for further work subject to a lowering of pressure or to more frequent inspection or subject to both of these requirements.
18 (6) No vessel which has undergone alteration or repairs shall be taken into use unless it is thoroughly examined by a competent person.
19 (7) A report of the result of every examination made shall be completed in Form No. 8 and signed by the person making the examination, and shall be kept available for perusal by the Inspector at any time while the vessel is in service.
20 (8) No vessel which has previously been used shall be taken into use in any factory for the first time until it has been examined and reported in accordance with the foregoing sub-rules and no new vessel shall be taken into use unless there has been obtained from the maker of the vessel, or from a competent person, a

9 certificate specifying the maximum permissible working pressure thereof, and stating the nature of the tests to which the vessel and its fitting (if any) has been subjected, and the certificate is kept available for perusal by an Inspector, and the vessel is so marked as to enable it to be identified as the vessel to which the certificate relates.
10 (9) Where the report of any examination under this rule specifies conditions for securing the safe working of a vessel, the vessel shall not be used except in accordance with these conditions.
11 (10) The competent person making the report of any examination under this rule shall within seven days of the completion of the examination, send to the Inspector a copy of the report in every case where the maximum permissible working pressure is reduced, or the report in every case where the maximum permissible working pressure is reduced, or the examination shows that the vessel cannot continue to be used with safety unless certain repairs are carried out immediately or within a specified time.
12 (11) The requirements of this rule shall be in addition to and not in derogation of the requirements of any other Act, rules or regulations.
13 (12) Nothing in this rule shall apply to:
14 (a) any vessel which comes within the scope of the Indian Boilers Act.
15 (b) metal bottles of cylinder used for the storage or transport of compressed gases or liquefied or dissolved gases under pressure.
16 (13) If the Chief Inspector of factories has reason to believe that the construction or use of pressure vessels is such that inspection is not necessary or practicable he may, subject to such conditions, if any, exempt such pressure vessels from any or all of the provisions of this rule.

Explanation: Competent person for the purpose of Sections 28 and 29 of the Act and rules 60, 61 and 67-A shall mean a person who is a degree holder or a diploma-holder in Mechanical Engineering of recognised university or institution and has at least two years practical experience in examining testing and safe working of hoists and lifts, lifting machines and pressure vessels, and belts.

62. Excessive weights

2 (1) No woman or young person shall unaided by another person, lift, carry or move by hand or on head, any material, article, tool or appliance exceeding the maximum limit in weight set out in Schedule annexed hereto.

SCHEDULE

Persons	Maximum weight or material article tool or appliance
(a) Adult female	29 Kilogram
(aa) Adult male	55 Kilogram
(b) Adolescent male	29 Kilogram
(c) Adolescent Female	20 Kilogram
(d) Male child	16 Kilogram
(e) Female child	13.5 Kilogram

2 (2) No woman or young person shall engage, in conjunction with others, in lifting carrying or moving by hand or on head, any material, article tool for appliance, if the weight thereof exceeds the lowest weight fixed by the Schedule to sub-rule (1) for any of the persons engaged, multiplied by the number of the persons engaged.

63. Protection of eyes

Effective screens or suitable goggles shall be provided for the protection of persons employed in or in the immediate vicinity of the following processes:

(a) The processes specified in Schedule 1 annexed hereto, being processes which involve risk of injury to the eyes from particles of fragments thrown off in the course of the process.

(b) The processes specified in Schedule II annexed hereto, being processes which involve risk of injury to the eyes by reason of exposure to excessive light (or infra-red or ultra-violet radiations.]

SCHEDULE I

Added by Punjab Government Notification No. G.S.R. 94/C.A.63/48/S/ 112/Amd. (20)/84, dated 31st October, 1984.

9 (1) [The breaking cutting dressing or carving of bricks, stone, concrete, slag or similar material by means of a hammer, a chisel, pick or similar hand tool, or by means of a portable tool driven by mechanical power and the dry grinding of surface of any such materials by means of a wheel or disc driven by mechanical power, where in any of the foregoing cases particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

10 (2) The dry grinding of surface of metal by applying them by hand to a wheel, disc or hand driven by means of a portable tool driven by mechanical power.

(3) The dividing into separate parts of metal, bricks, stone concrete or similar material by means of a high-speed saw driven by mechanical power or by means of an abrasive cutting off wheel or disc driven by mechanical power.

(4) The turning of metal, or articles of metals where particles of fragments are liable to be thrown off towards the face of the operator in the course of the process.

(5) Drilling by means of portable tools, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

(6) The welding and cutting of metal by means of an electricity oxy-acetylene of similar process.

(7) The hot fettling of steel castings by means of a flux injected burner or air torch, and the deeming of metal.

(8) The fettling of metal casting involving the removal of metal, including runners, gates and risers and the removal of any other material during the course of such fettling.

(9) The chipping of metal, and the chipping, knocking out, cutting our or cutting off of cold rivets bolts, nuts lugs, pins, collars or similar articles from any structure or plant or from part of any structure or plant by means of a hammer chisel, punch, or similar hand tools, or by means of a portable tool driver by mechanical power.

(10) The chipping, or scuffing of paint, scale, slag, rust or other corrosion from the surface of metal and other hand materials by means of a hand tools, or by means of a portable tool driver by mechanical power.

(11) The breaking of scrap metal by means of a hammer or by means of a tool driven by mechanical power.

(12) The routing of metal, where particles of fragments are liable to be thrown off towards the face of the operator in the course of the process.

(13) Work with drop hammers and power hammers used in either case for the manufacture of forgings, and work by any person not working with such hammers whose work is carried on in such circumstances and in such a position that particles or fragments are liable to be thrown off towards his face during work by drop hammers or power hammers.

(14) Work at a furnace where there is a risk to the eyes from molten.

(15) Pouring or skimming of molten metal.

(16) Work involving risk to the eyes from hot sand being thrown off.

(17) Turning or dressing of an abrasive wheel.

(18) The handling in open vessel or manipulation of strong acids or dangerous corrosive liquids or materials and the operation, maintenance or dismantling of plant or any part of plant being plant or a part of plant which contains or has contained such acids, liquids or materials unless the plant or part of plant has been so prepared by isolation, reduction of pressure or otherwise, treated or designed or constructed so as to prevent risk or injury.

(19) Any other process wherein there is risk or injury to eyes from particles or fragments thrown off during the course of the process.]

SCHEDULE II

(1) Welding or cutting of metals by means of an electrical oxyacetylene or similar process.

6 (2) All work on furnaces where there is risk of exposure to excessive light or infrared radiations.
7 (3) Process such as rolling casting or forging of metals where there is risk of exposure to excessive light or infra-red radiations.
8 (4) Any other process wherein there is a risk of injury to eyes from exposure to excessive light or infrared ultraviolet radiations.

64. Minimum dimensions of manholes
Every chamber, tank, vat, pipe, flue or other confined space which persons may have to enter and which may contain dangerous fumes to such an extent as to involve risk of the

persons being overcome thereby shall unless there is other effective means of egress, be provided with a manhole which may be rectangular, oval or circular in shape, and which shall:
(a) in the case of rectangular or oval shape, be not less than 40-centimeter-long and 30 centimetre wide;
(b) in the case of a circular shape, be not less than 40 centimeter in diameter.

65. Exemption
The requirements of sub-section (4) of section 37 of the Act shall not apply to the following processes carried on in any factory:
(a) The operation of repairing a water-sealed gas-holder by the electric welding process, subject to the following conditions:
(i) The gas-holder shall contain only the following gases, separately or mixed at a pressure greater than atmospheric pressure, namely, town gas, coke-oven gas, producer gas, blast furnace gas, or gases other than air used in their manufacture:

Provided that this exemption shall not apply to any gas-holder containing acetylene or mixture of gases to which acetylene has been added intentionally;
ix (ii) Welding shall only be done by the electric welding processes and shall be carried out by experienced operatives under the constant supervision of a competent person.
x (b) The operations of cutting or welding steel or wrought iron gas mains and services by the application of heat subject to the following conditions:
xi (i) the main or service shall be situated in the open air, and it shall contain only the following gases, separately or mixed at a pressure greater than atmospheric pressure, namely gas, coke oven gas, producer gas, blast furnace gas, or gases other than air used in their manufacture.
xii (ii) the main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been added intentionally;
xiii (iii) the operation shall be carried out by an experienced person or persons and at least 2 persons (including those carrying out the operations) experienced in work on gas mains and over 18 years of age shall be present during the operations;
xiv (iv) the site of the operation shall be free from any inflammable or explosive gas or vapour;

xv (v) where acetylene gas is used as source of heat in connection with an operation, it shall be compressed and contained in a porous substance in a cylinder; and
xvi (vi) prior to the application of any flame to the gas main or service this shall be pierced or drilled and the escaping gas ignited.

(c) The operation of repairing on oil tank on any ship by the electric welding process shall be subject to the following conditions:
(i) the only oil contained in the tank shall have a flash point of not less than 150 degrees F (close test) and a certificate to this effect shall be obtained from a competent analyst;
(ii) the analyst's certificate shall be kept available for inspection by Inspector or by any person employed or working on the ship;
(iii) the welding operation shall be carried out only on the exterior surface of the tank at a place (a) which is free of oil leakage in inflammable quantities and (b) which is not less than one foot below the nearest part of the surface of the oil within the tank; and
(iv) welding shall be done only by the electric welding and shall be carried out by experienced operatives under the constant supervision of a competent person.

66. 59[Fire protection
10 (1) Processes, equipment, plants, etc., involving serious explosion and serious fire hazards:
11 (a) All processes, storages, equipment, plants etc. involving serious explosion and flash fire hazards shall be located in segregated buildings where the equipment shall be so arranged that only a minimum number of employees are exposed to such hazards at any one time.
12 (b) All industrial processes involving serious fire hazards shall be located in buildings or work places separated from one another by walls of fire resistant construction.
13 (c) Equipment and plant involving serious fire of flash fire hazards shall, wherever possible be so constructed and installed that in case of fire, they can be easily isolated.
14 (d) Ventilation ducts, pneumatic conveyers and similar equipment involving a serious fire risk shall be provided with flame-arresting or automatic fire extinguishing appliance or fire resisting damps, electrically interlocked with heat sensitive or smoke detectors and the air conditioning plant system.
15 (e) In all work places having serious fire or flash fire hazards, passages between machines, installations or piles of material should be at least ninety centimetres wide and for storage piles, the clearance between the ceiling and the top of the pile should not be less than two metres.
16 (2) Access for fire fighting
17 (a) Building and plants shall be so laid and roads, passage-ways etc. so maintained as to permit unobstructed access for fire fighting.
18 (b) Doors and windows opening shall be located in a suitable position on all external walls of the building to provide easy access to the entire area within the building for the fighting.

18 (3) Protection against lighting: Protection from lighting shall be provided for,

19 (a) buildings in which explosive or highly flammable substances are manufactured, used, handled or stored;
20 (b) storage tanks containing oils, paints or other flammable liquid;
21 (c) grain elevators;
22 (d) buildings, tall chimneys or stacks where flammable gases, fumes dust or lint are likely to be present; and
23 (e) sub-station buildings and outdoor transformers and switch-yards.
24 (4) Precautions against ignition: Whenever there is danger of fire of explosion from accumulation of flammable or explosive substances in air,
25 (a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition:
26 (b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
27 (c) workers shall wear shoes without iron or steel nails to cause sparks by friction;
28 (d) smoking lighting or carrying of matches, lighters, or smoking materials shall be prohibited.
29 (e) Transmission belts with iron fasteners shall not be used; and
30 (f) All other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physico-chemical reaction and radiant heat.
31 (5) Spontaneous ignition: Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The materials susceptible to spontaneous ignition shall be stored in dry condition and shall be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and store in the open shall be at a distance not less than ten metres away from process of storage building.
32 (6) Cylinders containing compressed gas: Cylinders containing compressed gas may only be stored in open, if they are protected against excessive variation of temperature direct rays of sun or continuous dampness. Such cylinders shall never be stored near highly flammable substance furnaces, or hot processes. The room where such cylinders are stored shall have adequate ventilation.
33 (7) Storage of flammable liquids
34 (a) the quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room. Flammable liquids shall be stored in suitable containers with close fitting cover:

Provided that not more than twenty litres of flammable liquids having a flash point of 2000 C or less shall be kept or stored in any work room.
(b) Flammable liquids shall be stored in closed containers and in limited quantities in well ventilated rooms of fire resisting construction which are isolated from the remainder of the building by fire walls and self-closing fire doors.

(c) Large quantities of such liquids shall be stored in an isolated and adequately ventilated building of fire resisting construction or in storage tanks preferably underground and at distance from any building as required in Petroleum Rule, 1976.
(d) Effective steps shall be taken to prevent leakage of such liquids into basements, sumps or drains and to confine any escaping liquid within safe limits.
(8) Accumulation of flammable dust, gas, fume or vapour in air of flammable waste material on the floors:
(a) Effective steps shall be taken for removal or prevention of the accumulation in the air of flammable dust gas, fume or vapour to an extent which is likely to be dangerous.
(b) No waste material of a flammable nature shall be permitted to accumulate on the floors and shall be removed at least once in a day or shift and more often, when possible. Such materials shall be placed in suitable metal containers with covers wherever possible.
(9) Fire exits
(a) In this rule:
(i) "horizontal" means an arrangement which allows alternative egress from a floor area to another floor at or near the same level in an adjoining building or an adjoining part of the same building with adequate separation; and
(ii) "travel distance" means the distance an occupant has to travel to reach an exist.
(b) An exit may be a doorway, corridor, passageway to an external stairway or to a verandah or to an internal stairway segregated from the rest of building by fire resisting walls which shall provide continuous and protected means of egress to the exterior of a building or to an exterior open space. An exit may also include a horizontal exist leading to an adjoining building at the same level.
(c) Lifts, escalator and revolving doors shall not be considered as exits for the purpose of this sub-rule.
(d) In every room of a factory exist sufficient to permit safe escape of the occupants in case of fire or other emergency shall be provided which shall be free of any obstruction.

(e) The exits shall be clearly visible and suitable illuminate with suitable arrangements irrespective of the fact that whatever artificial lighting is to be adopted for this purpose, to maintain the required illumination in case of failure of the normal source of electric supply.
(f) The exist shall be marked in language understood by the majority of the workers.
(g) Iron rung ladders or spiral staircases shall not be used as exit staircases.
(h) Fire resisting doors or roller shutter shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stars where funnel or flue effect may be created inducing an upward spread of fire.
(i) All exists shall provide continuous means of agrees to the exterior of a building or to an exterior open space leading to a street.
(j) Exits shall be so located that the travel distance to reach at least one of them on the floor shall not exceed thirty metres.
(k) In of those factories where high hazard materials are stored or used, the travel distance to the exit shall not exceed twenty-two-and-half metres and there shall be at least two ways of escape from every room, however small except toilet rooms, so located that the points of access thereto, are out of, or suitably shielded from areas of high hazard.

(l) Wherever more than one exit is required for any room, space of floor exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate direction from any point in the area served.
(m) The unit of exit width used to measure capacity of any exit shall be fifty centimetres. A clear width of twenty-five centimetres shall be counted as an additional half unit. Clear width of less than twenty-five centimetres shall not be counted for exit width.
(n) Occupants per unit width shall be fifty for stairs and seventy-five for doors.
(o) For determining the exits required, the occupant load shall be reckoned on the basis of actual number of occupants within any floor area of ten square metres per person, whichever is more.
(p) There shall not be less than two exits serving every floor area above and below the ground floor, and at least one of them shall be an internal enclosed stairway.
(q) For every building of structure used for storage only, and every section thereof considered separately, shall have access to at least one exit so arranged and located as to provide suitable means of escape for any person employed therein, and in any such room wherein ten persons may be normally present, at least two separate means of exit shall be available as remote from each other as practicable.

(r) Every storage area shall have access to at least one means of exit which can be readily opened.
(s) Every exit doorway shall open into an enclosed stairway, a horizontal exit on a corridor or passageway providing continuous and protected means of egress.
(t) No exit doorway shall be less than one hundred centimetres width. Doorways shall not be less than two hundred centimetres in height.
(u) Exit doorways shall open outwards, that is, away from the room but shall not obstruct the travel along any exit. No door when opened, shall reduce the required width of stairway of landing to less than ninety centimetres. Overhead or sliding doors shall not be installed for this purpose.
(v) An exit door shall not open immediately upon a flight of stair. A landing at least 1.5 metre x 1.5 metre in size shall be provided in the stairway at each doorway.
(w) The exit doorways shall be openable from the side which they serve without the use of a key.
(x) Exit corridors and passageways, shall be of a width not less than the aggregate required width of exit doorways leading from there in the direction of travel to the exterior.
(y) Where stairways discharge through corridors and passageways, the height of the corridors and passageways shall not be less than 2.4 metres.
(z) A staircase shall not be arranged round a lift shaft unless the latter is totally enclosed by a material having a fire-resistance rating not lower than that of the type of construction of the former.
(aa) Hollow combustible construction shall not be permitted.
(bb) The minimum width of an internal staircase shall be one hundred centimetres.
(cc) The minimum width of treads without nosing shall be twenty-five centimetres for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping.

(dd) The maximum height of a riser shall be nineteen centimetres and the number of risers shall be limited to twelve per flight.
(ee) Hand rails shall be provided with a minimum height of one hundred centimetres and shall be firmly supported.
(ff) The use of spiral staircase shall be limited to low occupant load and to a building of height of nine metres, unless they are connected to platforms such as balconies and terraces to allow escapees to pause. A spiral staircase shall be not less three hundred centimetres in diameter and have adequate head room.
(gg) The width of a horizontal exit shall be the same for the exit doorways.

(hh) The floor area on the opposite of refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor areas served, allowing not less than 0.3 square metre per person. The refuge area shall be provided with exits adequate to meet the requirements of this sub-rule. At least one of the exits shall lead directly to the exterior or street.
(ii) Where there is different in level between connected areas for horizontal exit, ramps not more than one in eight slope shall be provided. For this purpose steps shall not be used.
(jj) Doors in horizontal exits shall be open able at all times.
(kk) Ramps with a slope of not more than one in ten may be substituted for the requirements of staircase. For all slopes exceeding in ten and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with non-slipping material.
(ll) In any building not provided with automatic fire alarm, a manual fire alarm system shall be provided if the total capacity of the building is over five hundred persons, or if more than twenty- five persons are employed above or below the ground floor, except that no manual fire alarm shall be required in one storey buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.
(10) First-aid fire fighting arrangements
(a) In every factory there shall be provided and maintained adequate and suitable fire fighting equipment for fighting fires in the early stages, those being referred to as first-aid fire fighting equipment in this rule.
(b) The types of first aid fire fighting equipment to be provided shall be determined by considering the different types of fire risks which are classified as follows.
(1) "Class A fire" - Fire due to combustible materials such as wood textiles, paper, rubbish and the like;
(i) "light hazard" - Occupancies like offices, assembly halls, canteens rest-rooms, ambulance room and the like;
(ii) "ordinary hazard"- Occupancies like saw mills, carpentry shop, small timber yards, book binding shops, engineering workshop and the like;
(iii) "extra hazard"- Occupancies like large timber yards, go downs, storing, fibrous materials, flour mills, cotton mills, jute mills, large wood working factories and the like;
(2) "Class B fire"- Fire in flammable liquids like oil petroleum products, solvents, grease, paint etc.;
(3) "Class C fire"- Fire arising out of gaseous substances;
(4) "Class D fire"- Fire from reactive chemicals, active metals and the like;

17 (5) "Class F fire"- Fire involving electrical equipment and delicate machinery and the like.
18 (c) The number and types of first-aid fire fighting equipment to be provided for `light hazard' occupancy shall be as given in Schedule 1 to this rule. For `ordinary hazard' or `extra hazard' occupancies, as the case may be, equipment as given in paragraph 12 shall be provided, in addition to that given in Schedule 1 to this rule.
19 (d) The first aid fire fighting equipment shall conform to the relevant Indian Standards.
20 (e) As far as possible the first-aid fire fighting equipment shall be similar in shape and appearance and shall have the same method of operation.
21 (f) All first-aid fire fighting equipment shall be placed in a conspicuous position and shall be readily and easily accessible for immediate use. Generally, these equipment shall be placed as near as possible to the exits or stair landing or normal routes of escape.
22 (g) All water buckets and bucket pump type extinguisher shall be filled with clean water. All sand buckets shall be filled with clean, dry and fine sand.
23 (h) All other extinguishers shall be charged appropriately in accordance with the instructions of the manufacturer.
24 (i) Each first-aid fire fighting equipment shall be allotted a serial number by which it shall be referred to in the records. The following details shall be pointed with white paint on the body of each equipment:
25 (1) Serial number;
26 (2) Date of last refilling; and
27 (3) Date of last inspection.
28 (j) First-aid fire fighting equipment shall be placed on platforms or in cabinets in such a way that their bottom is seven hundred and fifty millimetres above the floor level. Fire buckets shall be placed on hooks attached to a suitable sand or wall in such a way that their bottom is seven hundred and fifty metres above the floor level. Such equipment if placed outside the building, shall be under sheds or covers.
29 (k) All extinguishers shall be thoroughly cleaned and re-charged immediately after discharge. Sufficient refill material shall be kept readily available for this purpose at all times.
30 (l) All first-aid fire fighting equipment shall be subjected to routine maintenance inspection, and testing to be carried out by properly trained persons. Periodicity of the routine maintenance, inspection and test shall conform to the relevant Indian Standards.
31 (11) Other fire fighting arrangements
32 (a) In every factory, adequate provision of water supply for fire fighting shall be made and where the amount of water required in litres per minute, as

calculated from the formula A+B+C+D divided by 20, is 550, or more power driven trailer pumps of adequate capacity to meet the requirements of water as calculated above shall be provided and maintained. In the above formula

A - the total area in square metres of all floors including galleries in all building of the factory;
B - the total area in square metres of all floors and galleries including open spaces in which combustible materials are handled or stores;
C - the total area in square metres of all floors over fifteen metres above ground level; and

D - the total area in square metres of all floors of all buildings other than those of fire resisting construction.
Provided that in areas where the fire risk involved does not required use of water, such areas under B, C or D may, for the purpose of calculation be halved:
Provided further that where the areas under B, C or D are protected by permanent automatic fire fighting installation approved by any fire association or fire insurance company, such areas may, for the purpose of calculation by halved;
Provided further that where the factory is situated at not more than three kilometres from an established city or town fire services, the pumping capacity based on the amount of water arrived at by the formula above, may be reduced by twenty-five per cent but no account shall be taken of this reduction in calculating water supply required under this clause.
(b) Each trailer pump shall be provided with equipment as per schedule II appended to this rule. Such equipment shall conform to the relevant Indian Standards.
(c) Trailers pumps shall be housed in a separate shed or sheds which shall be sited close to a principal source of water supplies in the vicinity of the main risks of the factory.
(d) In factories where the area is such as cannot be reached by man hauling of trailer pumps within reasonable time, vehicles with towing, attachment shall be provided at the scale of one for every four trailer pumps with a minimum of one such vehicle kept available at all times.
(e) Water supply shall be provided to give flow of water as required under clause (a) for at least one hundred minutes. At least fifty per cent of this water supply or four lac and fifty thousand litres whichever is less, shall be in the form of static tanks of adequate capacities (not less than four lac and fifty thousand litres each) distributed round the factory with due regard to the potential fire risks in the factory. Where pipes supply is provided, the size of the main shall not be less than fifteen hundred litres per minutes at a pressure of not less than seven kilograms per square centimetre.

7 (12) Personnel in charge of equipment and for fire fighting, fire drills, etc.,
8 (a) The first-aid and other fire fighting equipment to be provided as required in sub-rules (10) and (11) shall be in the charge of a trained responsible person.
9 (b) Sufficient number of persons shall be trained in the proper handling of fire fighting equipment as referred to in clause (a) and their use against the types of fire for which they are intended to ensure that adequate number of persons are available for fire fighting both the means of first-aid fire fighting equipment and by other means. Such persons shall be provided with clothing and equipment including helmets, belts and boots, preferably gum-boots. Wherever vehicles with towing attachment are to be provided as required in clause (d) of sub-rule (11), sufficient number of persons shall be trained in driving these vehicles to ensure that trained persons are available for driving them whenever the need arises.
10 (c) Fire fighting drills shall be held as often as necessary and at least once in every period of two months.
11 (13) Automatic sprinkles and fire hydrants shall be in addition and not in substitution of the requirements of sub-rules (10) and (11).
12 (14) If the Chief Inspector is satisfied in respect of any factory or any part of the factory that owing to the exceptional circumstances such as inadequacy of water supply or infrequency of the manufacturing process or for any other reason, to be recorded in writing, all or any of the

requirements of the rules are impracticable or not necessary for the protection of workers, he may be order in writing (which he may at his discretion revoke) exempt such factory or part of the factory from all or any of the provisions of the rules subject to the conditions as he may by such order impose.

SCHEDULE I

FIRST-AID FIRE FIGHTING EQUIPMENTS

2 (1) The different types of fires and fire fighting equipments suitable for use on them as under:

Class of fire		Suitable type of equipment
1		2
A.	Fires in ordinary combustible (wood, vegetable fibres, paper & like)	Chemical extinguishers of soda-acid, gas expelled water and anti-freeze types and water buckets
B.	Fires inflammable liquids, paints, grease, solvents and like	Chemical extinguishers of foam, carbon-dioxide and dry powder types sand buckets
C.	Fires in gaseous substances under pressure	Chemical extinguishers of carbon-dioxide and dry powder types
D.	Fires in reactive chemicals, active metals and like	Special type of dry powder extinguishers and sand buckets
E.	Fires in electric equipments	Chemical extinguishers of carbon-dioxide and dry powder types sand buckets

3 (2) One nine litres water bucket shall be provided for every one hundred square metre of the floor area or part therefore and one nine litres water type extinguisher shall be provided to six buckets or part thereof with a minimum of one extinguisher and two buckets per compartment of the buildings. Buckets may be dispensed with provided supply of extinguishers is double than that of the indicated above.

4 (3) Acceptable replacements for water buckets and water type extinguishers in occupancies where class B fires are anticipated, are an under:

Acceptable Replacements	Bucket of water	Water type extinguishers

For one bucket	For three buckets		For each nine litres (or tow gallons) extinguishers
Dry sand	One bucket		Three bucket
carbon dioxide extinguishers	Three kilogram (or seven pounds)	Nine kilograms or twenty pounds (in not less than two extinguishers)	Nine kilogram (or twenty pounds)
Dry powder	Two kilogram (or five pounds)	Five kilogram (or eleven pounds) In one or more extinguishers)	Five kilogram (or eleven pounds)
Foam extinguishers	Nine litres (or two gallons)	Nine litres (or two gallons)	Nine litres (or two gallons)

5 (4) The following provisions shall be complied with where class E fires are anticipated:
6 (a) For rooms containing electrical transformers: switch-gears, motors and/or other electrical apparatus only, not less than two kilograms try power or carbon dioxide type extinguishers shall be provided within fifteen metres of the apparatus.
7 (b) Where motors and/ or other electrical equipments are installed in rooms other than those containing such equipment only one five-kilogram dry powder or carbon dioxide extinguisher shall be installed within fifteen metres of such equipment in addition to the requirements mentioned in paras (3) and (4) above. For this purpose, the same extinguisher may be deemed to afford protection to all apparatus within fifteen metres thereof.
8 (c) Where electrical motors are installed one platforms, one, two kilograms dry powder or carbon dioxide type extinguisher shall be provided on or below each platform. In cash of a long platform with a number of motors, one

extinguisher shall be acceptable as adequate for every three motors, on the common platform. The above requirements shall be in addition to the requirements mentioned in paras (3) and (4) above.
(5) The first-aid firefighting equipment shall be so distributed over the entire floor area that a person has to travel not more than fifteen metres to reach the nearest equipment.
(6) Selection of sites for the installation of first aid fire fighting equipments:
(a) While selecting sites for first aid firefighting equipment due consideration to be covered. The equipments shall be placed in conspicuous positions and shall be readily accessible for immediate use in all parts of the occupancy, it should always be borne in mind while selecting sites that first aid fire fighting equipment are intended only for use on incipient fire and their values may be negligible if the fire is not extinguished or brought under control in the early stages.

(b) Buckets and extinguishers shall be placed at convenient and easily locations either on hangers or on stands in such a way that their bottom is seven hundred and fifty millimeters above ad floor level.
(7) The operating instructions of the extinguishers shall not be defaced of obliterated. In case the operation instructions are obliterated or have become illegible due to passage of time, fresh transfers of the same shall be obtained from the manufacturers of the equipment sand affixed to the extinguishers.

SCHEDULE II
EQUIPMENT TO BE PROVIDED WITH TRAILER PUMP
(A) For light trailer pump of a capacity of six hundred and eighty litres per minute

One Armoured suction hose of nine metres length, with wrenches.
Two Metal suction strainers.
One Basket strainer.
One Two-way suction collecting-head.
One suction adaptor
Ten Unlined or rubber lined seventy milimetres delivery house of twenty-five metres length complete with quick-release couplings.
One Dividing breaching – piece
Two Branch-pieces with fifteen milimetres nozzles
One diffuser nozzle.
One standpipe with blank cap.
One Hydrant key
Four Collapsible canvas buckets.
One fire hook (preventor) with cutting edge.

One Twenty-five millimetre manila rope of Thirty metres length.
One Extension ladder of nine metres length (Where necessary)
One Heavy axe.
One spade,
One Pick axe
One Crowbar
One Saw

One Hurricane lamp
One Electric torch.
One pair rubber gloves.

(B) For large trailer pump of a capacity of one thousand and eight hundred litres/minute

One Armoured suction hose of nine metres length, with wrenches.
One metal strainer.
One basket strainer.
One three-way suction collection head.
One suction adapter.
Fourteen unlined or rubber lined seventy Millimetres delivery hoses of twenty-five Metres length complete with quick-release couplings
One dividing breaching piece.
One collecting breaching piece
Four branch pipes with one twenty-five Millimetre, two twenty millimetre and one Diffuser nozzle.
Two standpipes with blank caps.
Two hydrant keys.
Six collapsible canvas buckets.
One ceiling hook (preventer) with cutting edge.
One fifty millimetre manilla rope of thirty metres length.
One extension ladder of nine metres length (Where necessary)
One heavy axe.
One spade,
One pick axe.
One crowbar,

One saw
One hurricane lamp
One electric torch

One pair rubber gives.

Note: If, it appears to the Chief Inspector of Factories that in any factory the provisions of breathing apparatus are necessary, he may, by order in writing require the occupier to provide suitable breathing apparatus in addition to the equipment for light trailer pump or large trailer pump as the case may be"

66-A. [60][Building and Structures

No building wall, chimney, bridge, tunnels, road, gallery, stairway, ramp, floor, platform, staging or other structure, whether of a permanent or temporary character, shall be constructed, situated or maintained in any factory, in such a manner as to cause risk of bodily injury.

66-B. Machinery and plant

No machinery, plant or equipment shall be constructed, situated, operated or maintained in any factory in such a manner as to cause risk of bodily injury.

66-C. Method of work

No process or work shall be carried on in any factory in such a manner as to cause risk of bodily injury.

66-D. Stacking and storing of materials etc.

No materials or equipment shall be stacked or stored in such a manner as to cause risk of bodily injury.]

66-E. 61[

5 (1) Safety Officer: There shall be one Safety Officer for factories employing between one thousand and two thousand workers. There shall be an additional Safety Officer for every two thousand workers or a fraction thereof in excess of two thousand workers.

6 (2) Qualifications

7 (a) A person shall not be eligible for appointment as a Safety Officer, unless he:

8 (i) possesses a degree of a recognised university or institution in any branch of Engineering or Technology and has practical experience of working in a factory in a supervisory capacity for a period of not less than two years or possesses a degree in Physics or Chemistry from a recognised university or institution and has practical experience of working in a factory in a supervisory capacity for a period of not less than five years, or possesses a recognised diploma in any branch of engineering or technology and has practical experience of working in a factory in a supervisory capacity for a period of not less than five years;

vi (ii) possesses a degree or diploma in industrial safety recognised by the State Government in this behalf; and

vii (iii) has adequate knowledge of language spoken by majority of the workers in the region in which the factory where he is to be appointed, is situated;

viii (b) Notwithstanding anything contained in clause (a), any person who:

ix (i) possesses a degree or diploma in Engineering or Technology of a recognised university or institution and has experience of not less than five years in a department of the Central Government or State Government which deals with the administration of the Factory Act, 1948 or the Indian Dock Labourers Act, 1934, or

x (ii) possesses a degree or diploma in Engineering or Technology of a recognised university or institution and has experience of not less than five years of full time of training, education, consultancy, or research in the field of accident prevention in an industry or in any institution, shall also be eligible for appointment as a Safety Officer:

Provided that the Chief Inspector may, subject to such conditions as he may specify, grant exemption from the requirements of this sub-rule, if in his opinion a suitable person possessing the necessary qualifications and experience is not available for appointment;
Provided further that in the case of a person who has been working as a Safety Officer in a factory for a period of not less than three years on the date of commencement of these rules, the Chief Inspector may, subject to conditions as he may specify, relax all or any of the above said qualifications.
8 (3) Conditions of service
9 (a) Where more than one Safety Officer are appointed in a factory, one of them shall be designated as the Chief Safety Officer and shall be the overall in charge of the Safety functions as envisaged in sub-rule (4).
10 (b) The Chief Safety Officer or the Safety Officer in the case of factories where only one Safety Officer is required to be appointed, shall be given the status of a senior executive and shall work directly under the control of the Chief Executive of the factory.
11 (c) The scales of pay and the allowances to be granted to the Safety Officers including the Chief Safety Officer, and the other conditions of their service shall be the same as those of the officers of corresponding status in the factory.
12 (d) Against the order of dismissal or discharge a Safety officer shall have a right of appeal to the Government.
13 (4) Duties of Safety Officer
14 (a) The duties of a Safety Officer shall be to advise and assist the factory management in the fulfilment of its obligations, statutory or otherwise,

concerning prevention of personal injuries and maintenance of a safe working environment.
(b) Without prejudice to the generality of duties in clause (a) a Safety Officer shall have the following duties, namely:
(i) to advise the concerned departments in planning and organising measures necessary for the effective control of person injuries;
(ii) to advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs;
(iii) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;
(iv) to advise the purchase and stores departments in ensuring high quality and availability of personal protective equipment;
(v) to advise on matters relating to plant safety inspections;
(vi) to carry out plant safety inspections in order to observe the physical conditions of work and the work and the work practices and procedures followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers;

(vii) to tender advice on matter relating to reporting and investigation of industrial accidents and occupational diseases;
(viii) to investigate accidents;
(ix) to investigate the cases of occupational diseases contracted and dangerous occurrences reportable under rule 103;
(x) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and occupational diseases;
(xi) to promote setting up of safety committees and act as advisor and convener to such committees;
(xii) to organise in association with the concerned departments of the factory campaigns, competitions, contests and other activities which will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures; and
(xiii) to design and conduct either independently or in collaboration with the training department of the factory, suitable training and educational programmes for the prevention of personal injuries.
(5) Facilities to be provided to Safety Officers: An occupier of the factory shall provide each Safety Officer with such facilities, equipment and information as are necessary to enable him to discharge his duties effectively.
(6) Prohibition of performance of other duties: No Safety Officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of the duties prescribed in sub-rule (4).]

66-F. [62][Safety Committee

24 (1) In every factory,
25 (a) wherein two hundred and fifty or more workers are ordinarily employed; or
26 (b) which carries on hazardous process as defined in section 2 (cb) of the Act; or
27 (c) which carries on any manufacturing process or operation declared to be dangerous under section 87 of the Act; there shall be set up a safety committee, by the occupier.
28 (2) The representatives of the management on Safety Committee shall include,
29 (a) a senior official, who by virtue of his position in the organisation can contribute effectively to the functioning of the Committee. Such a senior official shall be the Chairman of the safety Committee;
30 (b) a Safety Officer and Factory Medical Officer, wherever available and the Safety Officer in such a case shall be Secretary of the Committee;
31 (c) a representative each from the production, maintenance and purchase departments.
32 (3) The workers' representatives on this Committee shall be elected by the workers.
33 (4) The tenure of the Committee shall be two years.
34 (5) Safety Committee shall meet as often as necessary but at least once in every quarter. The minutes of the meeting shall be recorded and produced to the Inspector on demand.
35 (6) Safety Committee shall have the right to,
36 (a) ask for necessary information concerning health and safety of the workers; and
37 (b) seek any relevant information concerning health and safety of the workers.
38 (7) Functions and duties of the Safety Committee shall include,

39 (a) assisting and co-operating with the management in achieving the aims and objects outlined in the `Health and Safety Policy' of the occupier;
40 (b) dealing with all matters concerning health safety and environment and to arrive at practicable solutions to problems encountered;
41 (c) creating safety awareness amongst all workers;
42 (d) undertaking educational training and promotional activities;
43 (e) deliberating on reports of safety environmental and occupational health surveys, emergency plans, safety audits, risk assessment and implementation of the recommendations made in the reports;
44 (f) carrying out health and safety surveys and identify causes of accidents;
45 (g) looking into any complaint made on the likelihood of an imminent danger to the safety and health of the workers and suggest corrective measures; and
46 (h) reviewing the implementation of the recommendations made by it.

2 (8) Where owing to the size of the factory, or any other reason, the functions referred to in sub- rule (7) cannot be effectively carried out by the Safety Committee it may establish sub-committees as may be required to assist it.]

67. Ladders

All ladders used in replacing belts shall be specially made and reserved for that work and provided with hooks or an effective non-skid device. Ladders provided with hooks must have hooks fitted in such suitable position that they rest on the shaft when the bottom end of the ladder is resting on the floor.

67-A. [63][Safety belts and other safety equipment

When any person is required or allowed to work at a place not affording adequate hold and foothold and from which he is liable to fall through a height of or more than 1.80 metre, he shall be provided with a safety belt fitted with leather shoulder straps of not less than 5 cm. In width with a `D Ring at the back and a rope fastened thereon. The other end of the rope shall be securely tied or hooked to same suitable rigid fixture to ensure the safety of the workers. In case it is not possible to tie or hook the other end of the rope of the safety belt to a suitable rigid fixture. The worker shall be provided with some other type of safety belt to ensure the safety of the worker. It shall be the responsibility of the occupier and manager of the Factory to ensure that every worker engaged on such operation shall use these belts and other safety equipment. These belts and other equipment shall be examined and declared fit for use every six months by a competent person. The record of examination of these belts and other equipment by the said competent person shall be maintained in a bound register which shall be produced on demand by an inspector.

67-B. [64][Fragile roofs-Provisions of crawling boards etc.

In any factory, no person shall be required to stand or pass over or work on or near any roof or ceiling covered with fragile material through which he is liable to fall, in case it breaks or gives way, a distance of more than three metres, unless:
(a) suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, are provided and used; and

(b) a permit to work on the fragile roof is issued to him each time he is required to work thereon by a responsible person of the factory concerned.

67-C. 65Electricity Rules

3 (1) Definitions

4 (a) "authorised person" means a person over 21 years of age who may be- (i) either a supplied or a consumer or (ii) a contractor for the time being under contract with the supplier or the consumer to carry out duties incidental to the generation, transformation, transmission, conversion, distribution or use of energy or (iii) any person authorised by the said supplier, consumer or contractor for the purposes specified by him, being the person who is competent to perform the duties specified in this rule and whose name has been entered in a list maintained at the office or premises of the person authorising him and giving the purposes for which such person is authorised,

and the entry has been attested by the authorised person and the person authorising him;
(b) "Apparatus" means electrical apparatus, and includes all apparatus machines and fitting in which conductors are use or of which they form a part;
(c) "bare" means not covered with insulating material;
(d) "circuit" means an electrical circuit forming a system or branch of a system;
(e) "conductor" means an electrical conductor arranged to be electrically connected to a system;
(f) "covered with insulating material" means adequately covered with insulating material of such quality and thickness that there is no danger;
(g) "danger" means danger to health or danger to life or limb from stock, burn or other injury, to persons employed or from fire attendant upon the generation, transformation, distribution or use of electrical energy;
(h) "dead" means at, or about, zero potential, and disconnected from any live system;
(i) "earthed" means connected to the general mass of each in such manner as well ensure all times an immediate discharge of electrical energy without danger.
(j) "live" means electrically charged;
(k) "pressure" means the difference of electrical potential between any two conductors or between a conductor and each as ready by a hot wire and electrostatic voltmeter;
(l) "low pressure" means a pressure in a system normally not exceeding 250 volts (where the electrical energy is used);
(m) "medium pressure" means a pressure in a system normally above 250 volts but not exceeding 620 volts, where electrical energy is used;
(n) "switch board" means the collection or switches or fuses, conductors and other apparatus in connection therewith, used for the purpose of controlling the current or pressure in any system or part of a system;
(o) "system" means an electrical system in which all the conductors and apparatus are electrically connected to a common source of electromotive force.
(2) All apparatus and conductors shall be adequate in size and power for the work they are called upon to do and so constructed, installed, protected, worked and maintained as to prevent danger so far as is reasonably practicable.

(3) All accessible metallic portions of electrical plant or apparatus which though normally not (forming) of an electrical circuit, may become alive, accidentally, shall (be protected by an insulating covering or by other adequate) means or shall be connected to each by a conductor of adequate size.

8 (4) Adequate working space and means of access, free from danger shall be provided for all apparatus which have to be worked or attended to by any person.
9 (5) The general arrangement of switch boards shall, so far as reasonably practicable, be such that:
10 (a) all parts which may have to be adjusted or handled are readily accessible;
11 (b) the course of every conductor may, where necessary, be readily traced;
12 (c) conductors arranged for connection to the same system are kept well apart, and can, where necessary, be readily distinguished;
13 (d) all bare conductors are so placed or protected as to prevent danger from accidental short circuit.
14 (6) Every switch board having bare conductors normally so exposed that they may be touched, shall, if not located in an area or areas set apart for the purpose thereof, where necessary be suitably fenced or enclosed.

No person except an authorised person, or a person acting under his immediate supervision, shall for the purpose of carrying out his duties, have access to any part of an area so set apart.
2 (7) Every flexible wire for portable apparatus shall be connected to the system either by efficient permanent joints or connections or by a properly constructed connector.

In all cases where the person handling portable apparatus or pendent lamps with switches, is liable to get a shock through a conducting floor or conducting work or otherwise, if the metal work of the portable apparatus becomes charged, the metal work must be efficiently earthed and any flexible metallic covering of the conductor shall itself be efficiently earthed and shall not itself be the only earth connection for the metal of the apparatus.
A lamp holder shall not be in metallic connection with the guard or other metal work of a portable lamp.
In such places the portable apparatus and its flexible wire shall be controlled by efficient means suitably located and capable of cutting off the pressure, and the metal work shall be efficiently earthed independently of any flexible metallic cover of the conductors and any such flexible covering shall itself be independently earthed.
4 (8) In plug and socket connection for transportable apparatus the socket shall be connected to the conductor and the plug to the appliance side.
5 (9) Plug for connecting movable conductors shall be of such construction that they do not get in the socket connections meant for higher current. Plug and socket connection shall be of such construction that the plug cannot be inserted or withdrawn while the current is on.
6 (10) All conductors and apparatus exposed to the weather; wet-corrosion, inflammable surroundings or explosive atmosphere, or used in any process or for any special purpose other than for lighting or power shall be so constructed or protected, and

6 such special precautions shall be taken as maybe necessary to prevent danger in view of such exposure or use.
7 (11) Adequate precautions shall be taken to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon.
8 (12) Instructions, both in English and in the vernacular of the district, as to the treatment of persons from electric shock, shall be affixed in all premises where electrical energy is generated, transformed, converted, switched, controlled, regulated, distributed or used.
9 (13) Exemptions
10 (i) Nothing in this rule shall apply to any service lines or apparatus on the supply side of the consumer's terminal or to any chamber containing such service lines or apparatus where the supply is obtained from an outside authority;

provided always that no live metal is exposed so that it may be touched.
ii (ii) If the occupier can show, with regard to any requirements of this rule, that the special conditions in his premises are such as adequately prevent danger, that requirement shall be deemed to be satisfied and the Chief Inspector may by order in writing direct that any class to special conditions defined in the requirements of this rule adequately to prevent danger are satisfied, and may revoke such order. In particular, the following shall be deemed for all the purposes of this rule adequately to prevent danger.

Room in which,
(a) the floor is of wood or otherwise insulated;
(b) there is no machinery or other earthed metal with which a person handling any non-earthed lamp fittings or any portably lamp is liable to be in contact;
(c) no process rendering the floor wet is carried on; and
(d) no live conductor is normally exposed so that it may be touched.
(14) This rule shall apply to all factories. They are in addition, and not derogatory, to the Indian Electricity Act, 1910 and the Indian Electricity Rules, 1956.

67-D. 66[Supply of personal protective equipment
The Inspector may, having regard to the nature of the hazards involved in work and process being carried out, orders the occupier or the manager in writing to supply to the workers exposed to a particular hazard any personal protective equipment as he may deem necessary.
67-E. Quality of personal protective equipment
All personal protective equipments provided to workers as required under any of the provisions of the Act or the rules shall have certification by Bureau of Indian Standards.

67-F. Examination of eye-sight of certain workers
5 (1) No person shall be employed to operate a crane, locomotive of fork-lift truck, or to give signals to a crane or locomotive operator unless his eye-sight and colour vision has been examined and declared fit by a qualified ophthalmologist to work whether with or without the use of corrective glasses.

6 (2) The eye-sight and colour vision of the person employed as referred to in sub-rule (1) shall be examined at least once in every period of twelve months upto the age of forty-five years and once in every six months beyond that age.
7 (3) Any fee payable for an examination of a person under this sub-rule shall be paid by the occupier and shall be recoverable from that person.
8 (4) The record of examination carried out as required under sub-rules (1) and (2) shall be maintained in Form 8-A.

67-G. Railways in factories
5 (1) This rule shall apply to railways in the precincts of a factory which are not subject to Indian Railways Act, 1980.
6 (2) Gateways- A gateway through which a railway track passes shall not be used for the general passage of workers into or out of a factory.
7 (3) Barriers and Turn gates
8 (a) Where building or walls contain doors or gates, which open to a railway track a barrier about one metre high shall be fixed parallel to and about sixty centimetres away from the building or walls outside the opening and extending several feet beyond it at either end, so that any person passing out may become aware of an approaching train when his pace is checked at the barrier.

If the traffic on the nearest track is all in one direction, the barrier shall be in the Form of "L" with the end of the short leg abutting on to the wall and the other opening towards the approaching train.
(b) If the distance between wall and track cannot be made to accommodate such a barrier the barrier, or a turn gate shall be placed at the inside of the opening.
(c) Where a footway passage close to a building or other obstruction as it approached a railway track a barrier or a turn gate shall be fixed in such a manner that a person approaching the track is compelled to move away from the building or obstruction and thus obtain timely sight of an approaching locomotive or wagon.
(4) Crowds
(a) Workers pay windows, first aid stations and other points where a crowd may collect, shall not be placed near a railway track.
(b) At any time of the day when workers are starting or ending work, all railway traffic shall cease for not less than five minutes.
(5) Locomotives

(a) No locomotive shall be used in shunting operations unless it is in good working order.
(b) Every locomotive and tender shall be provided with efficient brakes, all of which shall be maintained in good working order. Brake shoes shall be examined at suitably fixed intervals and those which are worn out shall be replaced at once.
(c) Water-gauge glasses of every locomotive, whatever its boiler pressure may be, shall be protected with substantial glass or metal screens.
(d) Suitable stops and hand-holds shall be provided at the corners of the locomotive for the use of shunters.

(e) Every locomotive crane shall be provided with lifting and jacking pads at the four corners of the locomotive for assisting in re-railing operations.
(f) It shall be clearly indicated on every locomotive crane in English and in the language understood by the majority of the workers in the factory, for what weight of load and at what radius the crane is safe.
(6) Wagons
(a) Every wagon (and passenger coach, if any) shall be provided either with self-acting brakes, capable of being applied continuously or with efficient hand brakes which shall be maintained in good working order. The brakes shall be capable of being applied by a person on the ground and fitted with a device for retaining them in the applied position.
(b) No wagon shall be kept standing within three metres of any pinch bars.
(7) Riding on locomotive, wagon or other rolling stock: No person shall be permitted to be upon (whether inside or outside) any locomotive wagon or after rolling stock except where secure foothold and hand are provided.
(8) Attention to brakes and doors
(a) No locomotive, wagon or other rolling stock shall be kept standing unless its brakes are firmly applied and, where it is on a gradient, without sufficient number of properly constructed scotches placed firmly in position.
(b) No train shall be set in motion until the shunting jamadar has satisfied himself that all wagon doors are securely fastened.
(9) Projecting loads and cranes
(a) If the load on wagon projects beyond its length, a guard of dummy truck shall be used beneath the projection.
(b) No loco-crane shall travel without load unless the jib is completely lowered and positioned in line with the track.
(c) When it is necessary for a loco-crane to travel with a load, the jib shall not be swung until the loco-crane has come to test.
(10) Loose shunting: Loose shunting shall be permitted only when it cannot be avoided. It shall never be performed on a wagon not accompanied by a man capable of

17 applying and pinning down the brakes. A wagon not provided with brakes in good working order and capable of being easily pinned down shall not be loose shunted unless there is attached to it at least another wagon with such brakes. Loose shunting shall not be performed with, or against a wagon containing passengers, livestock or explosives.
18 (11) Fly-shunting: Fly-shunting shall not be permitted on any factory railway.
19 (12) The shunting jamadar
20 (a) every locomotive or wagon is motion in a factory shall be in charge of a properly trained jamadar.
21 (b) Before authorising a locomotive or wagon to be moved, the shunting jamadar shall satisfy himself that no person is under or in between or in front of the locomotive or wagon.
22 (13) Hand signals: The hand signals used by the shunting jamadar, by day and night shall be those prescribed by the shunting rules of railways, framed under the Indian Railways Act, 1890 (IX of 1890).
23 (14) Night work and fog

24 (a) In factories where persons work at night, no movement of locomotive, wagon or other rolling stock otherwise than by hand shall be permitted between sunset and sunrise unless the tracks and their vicinity are lighted on a scale of not less than ten lux as measured at the horizontal plane at the ground level.
25 (b) In no circumstances, shall any locomotive or train be moved between sunset and sunrise or at any time when there is fog, unless it carried a white head light and a red rear light.
26 (15) Speed control
27 (a) A locomotive or train shall not be permitted to move at a speed greater than seven kilometres per hour.
28 (b) A train locomotive, wagon or other rolling stock shall not be moved by mechanical or electrical power unless it is preceded at a distance of not less than ten metres during the whole of its journey by a shunting jamadar. He shall be provided with signalling flags or lamp and whistle necessary for calling the attention of the driver.
29 (16) Tracks
30 (a) The distance (i) between tracks, and (ii) between tracks and buildings, blind walls or other structures and (iii) between tracks and materials deposited on the ground shall respectively be not less than:
31 (i) from centre to centre of parallel tracks, the overall width of the widest wagon of that gauge plus twice the width of the door of such a wagon when opened directly outward plus one metre.
32 (ii) from a building or structure other than a loading platform to the centre of the nearest track, half the overall width of the widest wagon of that

xv gauge; plus, the width of its door when opened outward, plus one and a half metres.
xvi (iii) from material stacked or deposited alongside the track, on the ground or on a loading platform, to the centre of the nearest track, half the overall width of the widest wagon of that gauge, plus half the width of its door when opened directly outward plus one metre.
xvii (b) Sleepers of a track shall be in level with the ground and at all crossings of the track with a road or walkway, the surface of the road or walkway shall be in level with the top of the rails.
xviii (c) All track ends shall be equipped with buffer stops of adequate strength.
xix (d) Barriers of substantial constructions shall be securely and permanently fixed across and doorway or gateway in a building or in a wall which conceals an appropriating train view, between the building and the track as prescribed in clause (a) of sub-rule (3).
xx (e) Where tracks are carried on gantry or other elevation, a footway or footways with hand rails and too-boards shall be provided at all positions where persons work or pass on foot; and where there is an opening in the stage of an elevated track for the dropping of materials to a lower level, the position shall be adequately fenced or the opening itself provided with a grill through which a person cannot fall.
xxi (f) All point levers shall have their movement parallel to not across, the direction of the track.
xxii (g) All loading platforms which are move than sixty centimetres above the level of the ground on which the track is laid and more than fifteen metres in length, shall be provided with

stops at intervals not greater than fifteen metres apart to enable the platform to be easily mounted from the track.

xxiii (h) Turn tables on plan railways shall be provided with locking devices which will prevent the tables from turning while locomotive or wagons are being run on or off the tables.

xxiv (i) Workers shall be prohibited from passing under between or above railway wagons.

xxv (17) Crossings

xxvi (a) At all crossings of a track with a road for walkway, danger or crossing signs and wherever reasonably practicable, blinking lights or alarm lights shall be provided. At all important crossings, gates, or barriers manned by watchman shall be provided. Swinging gates and barriers shall be secured against inadvertent opening or closing.

xxvii (b) All crossing, warning, signs, gates and barriers shall be illuminated during the hours of darkness.

xxviii (18) Duties of drivers and shunters: It shall be the duty of every driver of a locomotive, or a shunter including a shunting jamadar to report without delay to their superior any defect in permanent way, locomotive or rolling stock.

3 (19) Young person's not to be employed as drivers of locomotive or as shunters: No person who is below the age of eighteen years and no person who is not sufficiently competent and reliable shall be employed as a driver of a locomotive or as a shunter.

4 (20) The Chief Inspector may by an order in writing exempt a factory or part of it from all or any of the provisions of this rule to such extent and on such conditions as he deems necessary."

67-H. 67[Site Appraisal Committee

14 (1) The following provisions shall govern the functioning of the Site Appraisal Committee (hereinafter referred to be as the "Committee") in these rules namely:

15 (a) The State Government may constitute or reconstitute a Site Appraisal Committee as and when necessary;

16 (b) The State Government may appoint a senior official of the Factories Inspectorate, preferably having qualification in Chemical Engineering to be the Secretary of the Committee;

17 (c) The State Government may appoint the following as members of the Committee, namely:

18 (i) a representative of the Local Government wing of the Department of Local Government, Housing and Urban Development Department of the State Government;

19 (ii) a representative of the Department of Industries of the State Government; and

20 (iii) a representative of the Director General of Factory Advice Service and Labour Institute, Bombay.

21 (2) No member, unless required to do so by a court of law, shall disclose otherwise than in connection with the purposes of the Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a Member on this Committee.

22 (3) Application for Appraisal of Sites

23 (a) Applications for appraisal of sites in respect of the industries covered under clause (cb) of section 2 of the Act shall be submitted to the Chairman of the Site Appraisal Committee;

24 (b) The application for site appraisal along with fifteen copies thereof shall be submitted in Form 8-B. The Committee may dispense with furnishing of information on any particular item in the application Form, if it considers the same to be not relevant to the application under consideration.
25 (4) Functions of the Committee
26 (a) The Secretary shall arrange to register the applications received for appraisal of site in separate register and acknowledge the same within a period of seven days;

(b) The Secretary shall fix up the meetings in such manner that all the applications received and registered are referred to the Committee within a period of one month from the date of their receipt;
(c) The Committee shall adopt a procedure for its working keeping in view the need for expeditious disposal of applications;
(d) The Committee shall examine the applications for appraisal of a site with reference to the prohibitions and restriction on the location of an industry and the carrying on of processes and operations in different areas as per the provisions of rule 5 of the Environment (Protection) Rules, 1986 framed under the Environment (Protection) Act, 1986;
(e) The Committee may call for documents examine experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site; and
(f) Wherever the proposed site required clearance by the Ministry of Industries or by the Ministry Environment and Forests of Government of India, the application for Site Appraisal will be considered by the Site Appraisal Committee only after such clearance had been received.

67-I. Health and Safety Policy
5 (1) The occupier of every factory except as provided for in sub-rule (2), shall prepare a written statement of his policy in respect of health and safety of workers at work.
6 (2) All factories:
7 (a) covered under sub-clause (i) of clause (m) of section 2 of the Act but employing less than fifty workers;
8 (b) covered under sub-clause (ii) of the said clause (m) but employing less than one hundred workers;

shall be exempted from the requirements of sub-rule (1):
Provided that the factories specified in clauses (a) and (b) above are not covered in First Schedule under clause (cb) of section 2 of the Act and are not carrying out processes or operations declared to be dangerous under section 87 of the Act.
6 (3) Notwithstanding anything contained in sub-rule (2) the Chief Inspector may require the occupier of any of the factories or class or description of factories to comply with the requirements of the sub-rule (1) if in his opinion, it is expedient to do so.
7 (4) The Health and Safety policy should contain or deal with,
8 (a) the declared intention and commitment of the top management to health, safety and environment and compliance with the relevant statutory requirements;
9 (b) the organisational set up to carry out the declared policy clearly assigning the responsibility at different levels; and

10 (c) arrangements for making the policy effective.

17 (5) In particular, the policy should specify the following namely:
18 (a) the arrangements for involving the workers;
19 (b) the intentions of taking into account the health and safety performance of individuals at different levels while considering their career advancement;
20 (c) fixing the responsibility of the contractors, sub-contractors, transporters and other agencies entering the premises;
21 (d) providing a resume of health and safety performance of the factory in its annual report;
22 (e) relevant techniques and methods, such as safety audits and risk assessment for periodical assessment of the status on health, safety and environment and taking all remedial measures;
23 (f) stating its intentions to integrate health and safety in all decisions including those dealing with purchase of plant, equipment, machinery and materials as well as selection and placement of personnel; and
24 (g) arrangements for informing educating and training and retraining its own employees at different levels and the public, wherever required.
25 (6) A copy of the declared Health and Safety Policy duly signed by the occupier shall be made available to the Inspector having jurisdiction over the factory and to the Chief Inspector.
26 (7) The policy shall be made widely known by,
27 (a) making copies available to all workers including contract workers, apprentices, transport workers and suppliers, etc.
28 (b) displaying copies of the policy at conspicuous places, and
29 (c) any other means of communication.
30 (8) The occupier shall revise the Health and Safety Policy as often as may be appropriate, but it shall necessarily be revised under the following circumstances:
31 (a) whenever any expansion or modification having implications on safety and health of persons at work is made; or
32 (b) whenever new substance(s) or articles are introduced in the manufacturing process having implications on health and safety of persons exposed to such substances.

67-J. Collection, development and dissemination of information
3 (1)
4 (a) The occupier or every factory carrying on a hazardous process shall arrange to obtain or develop detailed information in the form the Material Safety Data Sheet (MSDS) prescribed in Form No. 8-C in respect of every hazardous substance or material handled in the manufacture, transportation and storage in the factory. It shall be accessible upon request to a worker for reference.

(b) The occupier while obtaining or developing a Material Safety Data Sheet in respect of a hazardous substance shall ensure that the information recorded accurately reflects the scientific evidence used in making that hazard determination. If he becomes newly aware of any significant information regarding the hazards, of a substance or ways to protect against the

hazards, this new information shall be added to the Material Safety Data Sheet as soon as practicable.
(2) Labelling. Every container of an hazardous substance shall be clearly labelled or marked to identity:
(a) the contents of the container;
(b) the name and address of the manufacturer or importer of the hazardous substance;
(c) the physical and health hazards; and
(d) the recommended personal protective equipment needed to work safely with the hazardous substance.
(3) In case a container is required to be transported by road outside the factory premises it should in addition be labelled or marked in accordance with the requirements laid down under sub-rule (2).

67-K. Disclosure of information to workers

12 (1) The occupier of a factory carrying on a hazardous process shall supply to all workers the following information in relation to handling of hazardous materials o substances in the manufacture, transportation, storage and other processes:

13 (a) requirements of section 41-B, 41-C and 41-H of the Act;

14 (b) a list of hazardous processes carried on in the factory;

15 (c) location and availability of all Material Safety Data Sheets as provided in rule 67-J;

16 (d) physical and health hazards arising from the exposure to or handling of substances;

17 (e) measures taken by the occupier to ensure safety and control of physical and health hazards;

18 (f) measure to be taken by the workers to ensure safe holding, storage and transportation of hazardous substances;

19 (g) personal protective equipment required to be used by workers employed in hazardous process or dangerous operations;

20 (h) meaning of various labels and markings used in the containers of hazardous substances as provided under rule 67-J;

21 (i) signs and symptoms likely to be manifested on exposure to hazardous substances and to whom to report;

22 (j) measure to be taken by the workers in case of any spillage of leakage of a hazardous substance; and

(k) role of workers vis-à-vis the emergency plan of the factory in particular the evacuation procedures.
(l) Any other information considered necessary by the occupier to ensure safety and health of workers.
(2) The information required by sub-rule (1) shall be complied and made known to workers individually through supply of booklets of leaflets and display of cautionary notices at the work places.
(3) The booklets, leaflets and the cautionary notices displayed in the factory will be in the language understood by the majority of the workers and also explained to them.

(4) The Chief Inspector of factories may direct the occupier to supply further information to the workers may be deemed necessary.

67-L. Disclosure of information to the Chief Inspector of Factories

4 (1) The occupier of every factory carrying on hazardous process shall furnish, in writing, to the Chief Inspector of Factories a copy of all the information furnished to the workers.

5 (2) A copy of the Material Safety Data Sheet prescribed in Form 8-C, in respect of the hazardous substances used, produced or stored in the factory shall be furnished to the Chief Inspector of Factories.

6 (3) The occupier shall also furnish any other information asked for by the Chief Inspector of Factories for the purpose of the Act and the rules.

67-M. Information on industrial wastes

4 (1) The information furnished under rule, 67-K, and 67-L shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method of treatment such as incineration of solid wastes, chemical and biological treatment or liquids wastes, and arrangements for their final disposal.

5 (2) It shall also include information on the quality and quantity of gaseous waste discharged through the stacks or other openings, and arrangements such as provision of scrubbers, cyclone separators, and electrostatic precipitators or similar such arrangements made for controlling pollution of the environment.

6 (3) The occupier shall also furnish information specified in sub-rules (1) and (2) to the State Board for the prevention and Control of Water Pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974 or the Air (Prevention and Control of Pollution) Act., 1891.

67-N. Review of the information furnished to workers etc.

3 (1) The occupier shall review once in every calendar year and modify, if necessary, the information furnished under rules 67-K and 67-L to the workers and the Chief Inspector of Factories.

4 (2) In the event of any change in the process or operations or methods of work or when any new substance is introduced in the process or in the event of a serious

2 accident taking place, the information so furnished shall be reviewed and modified to the extent necessary.

67-O. Confidentiality of information

3 (1) The occupier of a factory carrying on `hazardous process' shall disclose all information needed for protecting safety and health of the workers to (a) his workers; and (b) the Chief Inspector of Factories as required under rules 67-K and 67-L. If the occupier is of the opinion that the disclosure of details regarding the process and formulations will adversely affect his business interests, he may make a representation to the Chief Inspector of Factories stating the reasons for withholding such information. The Chief Inspector of Factories shall give an opportunity to the occupier of being heard and pass an order on the representation.

4 (2) An occupier aggrieved by the order of the Chief Inspector of Factories may refer an appeal before the State Government with him a period of thirty days. The State Government shall give an opportunity to the occupier of being heard and pass an order. The order of the State Government shall be final.

67-P. Medical Examination

7 (1) Workers employed in a hazardous process shall be medically examined by a qualified medical practitioner (hereinafter referred to as the Factory Medical Officer), in the following manner, namely:

8 (a) Once before employment, to ascertain physical fitness of the person to do the particular job;

9 (b) Once in a period of six months, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed; and in cases where in the opinion of the Factory Medical Officer it is necessary to do so at a shorter interval in respect of any worker; and

10 (c) The details of pre-employment and periodical medical examination carried out as aforesaid shall be recorded in the health register in Form 34.

11 (2) No person shall be employed for the first time without a certificate of Fitness in Form 32 granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being employed in any process covered under sub-rule (1), such a person shall have the right to appeal to the Inspector who shall refer the matter to the Certifying Surgeon whose opinion shall be final in this regard. If the Inspector of Factories himself is also a Certifying Surgeon, he may dispose of the application himself.

12 (3) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned worker and communicate his findings to the occupier within thirty days. If the Certifying Surgeon is of the opinion that the worker so examined is required to be taken away from the process for health protection, he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the worker so taken away be provided with alternate placement unless he is fully

2 incapacitated in the opinion of the Certifying Surgeon in which case the worker affected shall be suitably rehabilitated:

Provided that the Certifying Surgeon on his own may examine any worker when he considers it necessary to do so for ascertaining the suitability of his employment in the 'hazardous process' or for ascertaining the health status of any workers.

4 (4) The workers taken away from employment in any process under sub-rule (2) may be employed again in the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect in the health register.

5 (5) An Inspector may, if he deems it necessary to do so, refer a worker to the Certifying Surgeon for medical examination as required under sub-rule (1) or if he is Certifying Surgeon himself, conduct such medical examination. The opinion of the Certifying Surgeon in such a case shall be final. The fees required for this medical examination shall be paid by occupier.

6 (6) The worker required to undergo medical examination under these rules and for any medical survey conducted by or on behalf of the Central or the State Government shall not refuse to undergo such medical examination.

67-Q. Occupational Health Centres

10 (1) In respect of any factory carrying on hazardous process there shall be provided and maintained in good order an occupational Health Centre with the services and facilities as per scale laid down hereunder:

11 (a) For factories employing up to fifty workers:

12 (i) the services of a Factory Medical Officer on retainer ship basis in his clinic to be notified by the occupier. He will carry out the pre-employment and periodical medical examination as stipulated in rule 67-P and render medical assistance during any emergency;

13 (ii) at least five persons trained in first-aid procedures amongst whom at least one shall always be available during the working period; and

14 (iii) a fully equipped first-aid box.

15 (b) For factories employing fifty-one to two hundred workers:

16 (i) an occupational health Centre having a room with a minimum floor area of fifteen square metres with floors and walls made of smooth and impervious surface and with adequate illumination and ventilation as well as equipment and with adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule;

17 (ii) a part-time Factory Medical officer shall be in overall charge of the centre who shall visit the factory at least twice in a week and whose services shall be readily available during medical emergencies;

18 (iii) one qualified and trained dresser-cum-compounder on duty throughout the working period; and

viii (iv) a fully equipped first-aid box in all the departments.

ix (c) For factories employing above two hundred workers:

x (i) one full-time Factory Medical Officer for factories employing up to five hundred workers and one more medical officer for every additional one thousand workers or part thereof;

xi (ii) an Occupational Health Centre having at least two rooms each with a minimum floor area of fifteen square metres with floor and walls made of smooth and impervious surface and adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule.

xii (iii) There shall be one nurse, one dresser-cum compounder and one sweeper-cum-ward boy throughout the working period; and

xiii (iv) the Occupational Health Centre shall be suitably equipped to manage medical emergencies.

xiv (2) The Factory Medical Officer required to the appointed under sub-rule (1) shall have qualifications included in the Schedule to the Indian medical Degrees Act, 1916 or in the Schedules to the Indian Medical Council Act, 1956 and should possess a certificate of Training in industrial Health of minimum three months' duration recognised by the State Government:

Provided that:

(i) a person possessing a Diploma in Industrial Health or equivalent shall not be required to possess the certificate of training as aforesaid;

(ii) the Chief Inspector of Factories may, subject to such conditions as he may specify, grant exemption from the requirement of this sub-rule, if in his opinion a suitable person possessing the necessary qualification is not available for appointment; and

(iii) in case of a person who has been working as Factory Medical officer for a period of not less than three years on the date of commencement of this rule, the Chief Inspector of Factories may, subject to the condition that the said person shall obtain the aforesaid certificate of training within a period of three years, relax the qualification.

(3) The syllabus of the course leading to the above certificate and the organisations conducting the Sate course shall be approved by the Director General, Factory Advice Service and Labour Institute of the Government in accordance with the guidelines issued by the Director General Factory Advice Service and Labour Institute.

(4) Within one month of the appointment of a Factory Medical Officer, the occupier of the factory shall furnish to the Chief Inspector the following particulars, namely:

(a) Name and address of the Factory Medical Officer;

(b) Qualifications;

(c) Experience, if any; and

(d) The sub-rule under which appointed.

SCHEDULE

[See Rule 67-Q (1) (b) (i)]

Equipment for occupational Health Centre in Factories

1. A glazed sink with hot and cold water always available
2. A table with a smooth top at least 180 cm.x105 cm.
3. Means for sterilizing instruments.
4. A couch.
5. Two buckets or containers with close fitting.
6. A kettle and spirits stove or other suitable means of boiling water.
7. One bottle of spirits ammoniac aromatics (120 ml)
8. Two medium size sponges.
9. Two Kidney trays.
10. Four cakes of toilet, preferably antiseptic
11. Two glass tumblers and two wine glasses
12. Two clinical thermometers.
13. Two tea spoons.
14. Two graduated (120ml) measuring glasses.
15. One wash bottle (1000 cc) for washing eyes.
16. One bottle (one litre) carbolic lotion 1 in 20.
17. Three chairs.
18. One screen.
19. One electric hand torch.

20. An adequate supply of tetanus toxied.
21. Coramine liquid (60ml.).
22. Tablets: Antihistaminic, antispasmodic (25 each)
23. Syringes with needles -2 cc, and 10 cc.
24. Two needle holders big and small.
25. Suturing needles and materials.
26. One dissecting foreceps.
27. One dressing forceps
28. One scalpels.
29. One stethoscope.
30. Rubber bandage-pressure bandage.

31. Oxygen cylinder with necessary attachments.
32. One Blood Pressure apparatus,
33. One patellar Hammer.
34. One Peak-flow meter for lung function measurement.
35. One stomach wash set.
36. Any other equipment recommended by the Factory Medical Officer according to specific need elating to manufacturing process.
37. In addition:
(1) For factories employing 51 to 200 workers:
1. Four plain wooden splints 900 mmx00 mmx6mm
2. Four plain wooden splints 50 mm x 75 mm x 6mm.
3. Two plain wooden splints 250 mm x 50 mm x 12 mm.
4. One pair artery forceps.
5. Injections-morphia, pethidine, atropine, adrenaline, coramine, novacan (2 each).
6. One surgical scissors.
(2) For factories employing above 200 workers:
1. Eight plain wooden splints 900 mm x 100 mm x 6 mm.
2. Eight plain wooden splints 350 mm x 75 mm x 6 mm.
3. Four plain wooden splints 250 mm x 50 mm x 12 mm.
4. Two pairs artery forceps.
5. Injections –morphia, pethadine, atropine, adrenaline, coramine, novacan (4each).
6. Two surgical scissors.

67-R Ambulance Van

(1) In any factory carrying on hazardous process, there shall be provided and maintained I n good condition a suitably constructed ambulance van equipped with items as per sub-rule (2) and manned by a full-time Driver-cum-mechanic and helper trained in first-aid for the purposes of transportation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will normally be stationed at or near to the Occupational Health Centre:

Provided that a factory employing less than two hundred workers may make arrangements for procuring such facility at short notice from nearby hospital or other places, to meet any emergency.

3 (2) The ambulance should have the following equipments:

4 (a) General:

A wheeled stretcher with folding and adjusting devices; with the head of the stretcher capable of being tilled upward;
Fixed suction unit with equipment;
Fixed oxygen supply with equipment;
Pillow with case; -Sheets; -Blankets; -Towels;
Emesis bag; -Bed Pan; -Urinal; -Glass.
(b) Safety equipment:

Flares with life of thirty minutes;
Flood lights; -Flash lights; -Fire extinguisher dry powder type;
Insulated gauntlets.
(c) Emergency care equipments:
(i) Resuscitation:

Portable suction unit; Portable Oxygen units;
Bag-valve-mask, hand operated artificial ventilation unit;
Airways; -Mouth gases; -Tracheotomy adopters;
Short spine board; - I. V. Fluids with administration unit;
B.P. manometer; -Gugg; -Stethoscope

ii (ii) Immobilization:

Long and short padded boards; -Wire ladder splints;
Triangular bandage; -Long and short spine boards.

iii (iii) Dressings - -- Gauze pads - 4" x 4"; -- Universal dressing 10" x 36"; -- Roll of aluminium foils; -- Adhesive tape of 3"; -- Safety pins; -- Bandage sheets; -- Burn sheet.

iv (iv) Poisoning:

Syrup of lpecae; -Activated Charcoal pre-packed in doses; -Snake bite kit;
Drinking water.

ii (v) Emergency Medicines:

As per requirement (under the advice of Medical Officer only).

67-S. Decontamination facilities

In every factory carrying out `hazardous process' the following provisions shall be made to meet emergency:
(a) fully equipped first aid box;

(b) readily accessible means of water for washing, drenching clothing of workers as well as for those who have been contaminated with hazardous and corrosive substances and such means shall be as per scale shown in the table below:

No. of persons employed at any time		No. of drenching showers
(i)	Up to fifty workers	2
(ii)	Between fifty-one to two hundred workers.	2+1 for every additional fifty or part thereafter.
(iii)	Between two hundred and one to five hundred workers.	5+1 for every additional one hundred or part thereafter.
(iv)	Five hundred and one workers and above.	8+1 for every additional two hundred or part thereafter.

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

67-T. Making available Health Records to Workers

13 (1) The occupier of every factory carrying out hazardous process shall make accessible the health records including the records of workers exposure to hazardous process or, as the case may be, the medical records of any worker for his perusal under the following conditions:

14 (a) once in every six months or immediately after the medical examination whichever is earlier;

15 (b) if the Factory Medical Officer of the Certifying Surgeon, as the case may be, is of the opinion that the worker has manifested signs and symptoms of any notifiable disease as specified in the Third Schedule to the Act;

16 (c) if the worker leaves the employment;

17 (d) if any one of the following authorities so direct:

18 (i) the Chief Inspector of Factories;

19 (ii) the Health Authority of Central or State Government;

20 (iii) Commissioner of workmen's Compensation;

21 (iv) The Director General Employees' State Insurance Corporation;

22 (v) The Director, Employees State Insurance Corporation (Medical benefits); and

23 (vi) The Director General, Factory Advice Service and Labour Institutes.

24 (2) A copy of the upto date health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records shall be supplied to the worker on receipt of an application from him X-ray plates and other medical diagnostic reports may also be made available for reference to his medical practitioner.

67-U. Qualifications of Supervisors

5 (1) All persons who are required to supervise the handling of hazardous substances shall process the following qualifications and experience:
6 (a)
7 (i) A Bachelor's degree in Chemistry or Diploma in Chemical Engineering or Technology with five years' experience; or
8 (ii) A Master's Degree in Chemistry or a Degree in Chemical Engineering or Technology with two years' experience.

The experience stipulated above shall be in process operation and maintenance in the Chemical Industry.
2 (2) The syllabus and duration of the above training and the organisations conducting the training shall be approved by the Director General, Factory Advice Service and Labour Institute or the State Government in accordance with the guidelines issued by the Director General, Factory Advice Service and Labour Institute.

67-V. Issue of guidelines
For the purpose of compliance with the requirements of sub-sections (1), (4) and (7) of section 41-B or section 41-C, the Chief Inspector of Factories may if deemed necessary, issue guidelines from time to time to the occupiers of factories carrying on `hazardous process'. Such guidelines shall be based on national Standards, Codes of Practice, or recommendations of International Bodies such as International lab our Organization and World Health Organization.
CHAPTER V
WELFARE
68. Washing facilities
7 (1) There shall be provided and maintained in every factory according to the nature of factory for the use of employed persons adequate and suitable facilities for washing, depending on the nature of the industry and its operations. It shall include suitable means of clearing and the facilities shall be conveniently accessible and shall be kept in orderly condition.
8 (2) Without prejudice to the generality of the foregoing provisions the washing facilities shall be of the design standard laid down by Chief Inspector in case of each industry.
9 (3)
10 (a) Every container of water for washing facilities shall have a smooth, impervious surface.
11 (b) Suitable provisions will be made for sanitary disposal of the water from washings.
12 (4) For persons, whose work involves contact with any injurious or noxious substance there shall be at least one tape of every fifteen persons.

3 (5) If female workers are employed, separate washing facilities shall be provided and so enclosed or screened that the interiors are not visible from any place where persons of the other sex work or pass. The entrance to such facilities shall bear conspicuous notice in the language understood by the majority of the workers "For Women only" and shall also be indicated pictorially.
4 (6) The water-supply to the washing facilities in case of industries involving contact with injurious or obnoxious substance shall be capable of yielding at least two gallons a day for each

person employed in the factory and shall be from a source approved in writing by the Health Officer, provided that where the Chief Inspector is satisfied that such a yield is not practicable he may be certificate in writing permit the supply of a smaller quantity not being less than one gallon per day for every person employed in the factory.

The quantity of water required for other industries will be as approved by Chief Inspector of Factories.

68-A. [68][Facilities for storing and drying clothing

All classes of factories, mentioned in the schedule annexed hereto, shall provide facilities for keeping clothing not worn during the working hours and for the drying of wet clothing. Such facilities shall include the provisions of such arrangements as are ordered by the Chief Inspector of Factories, in writing.

SCHEDULE

1. Glass Works.
2. Engineering workshops
3. Iron and Steel Works
4. Metal Foundries
5. Oil Mills
6. Chemical Works
7. Automobiles Workshops
8. Dyeing Works
9. Printing Press]

69. [69][First-aid appliance

The first-aid boxes or cupboards shall be distinctively marked with a red cross on white background and shall contain the following equipment:

(a) For factories in which the number of persons employed does not exceed ten or in the case of factories in which mechanical power is not used such number does not exceed fifty persons:

(i) six small size sterilised dressings;

(ii) three medium size sterilised dressings;

(iii) three large-size sterilised dressings;

(iv) three large-size sterilised burn dressings;

xxix (v) one (60 ml) bottle of Certrimide solution (1 per cent) or a suitable anti-septic solution;

xxx (vi) one (60 ml.) bottle of mercurochrome solution (2 percent) in water;

xxxi (vii) one (30 ml) bottle containing sal-volatile having the dose and mode of administration indicated on the label;

xxxii (viii) one pair scissors;

xxxiii (ix) one roll of adhesive plaster (2 cms x 1 metre);

xxxiv (x) six pieces of sterilized eyepads in separate sealed packets;

xxxv (xi) one bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic;

xxxvi (xii) Polythene wash bottle (1/2 litre, i.e. 500 c.c,) for washing eyes;

xxxvii (xiii) one Snake-bite lancet;

xxxviii (xiv) one (30 ml.) bottle containing Potassium Permanganate crystals;
xxxix (xv) one copy of first-aid leaflet issued by the Director-General of Factory Advice Service and Labour Institutes, Government of India, Bombay.
xl (b) For factories in which mechanic power is used and in which the number of persons employed exceeds ten, but does not exceed fifty:
xli (i) twelve small size sterilized dressings;
xlii (ii) six medium size sterilized dressings;
xliii (iii) six large size sterilized dressings;
xliv (iv) six large size sterilized burn dressings;
xlv (v) six (15 gm.) packets of sterilized cotton wool;
xlvi (vi) one (120 ml.) bottle of certimide solution (1 per cent) or a suitable anti-septic solution;
xlvii (vii) one (120 ml.) bottle of mercurochrome solution (2 per cent) in water;
xlviii (viii) one (60 ml.) bottle containing sal-volatile having the dose and mode of administration indicated on the label;
xlix (ix) one pair scissors;
l (x) two rolls of adhesive plaster (2 cms x 1 metre);
li (xi) eight pieces of sterilized eye pads in separate sealed packets;
lii (xii) one tourniquet.
liii (xiii) one dozen safety pins;
liv (xiv) one bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic;
lv (xv) one polythene wash bottle (1/2 litre, i.e. 500 cc.) for washing eyes;
lvi (xvi) one Snake-bite lancet;

xxviii (xvii) one (30 ml, bottle containing Potassium Permanganate crystals,)
xxix (xviii) one copy of the First-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institutes, Government of India Bombay.
xxx (c) For factories employing more than fifty persons:
xxxi (i) twenty-four small sterilized dressings;
xxxii (ii) twelve medium size sterilized dressings;
xxxiii (iii) twelve large size sterilized dressings;
xxxiv (iv) twelve large size sterilized burn dressings;
xxxv (v) twelve (15 gm.) packets of sterilized cotton wool;
xxxvi (vi) one (200 ml.) bottle of certimide solution (1 per cent) or a suitable anti-septic solution;
xxxvii (vii) one (200 ml.) bottle of mercurochrome solution (2 per cent) in water;
xxxviii (viii) one (120 ml.) bottle containing sal-volatile having the dose and mode of administration indicated on the label;
xxxix (ix) one pair scissors;
xl (x) one rolls of adhesive plaster (6 cms x 1 metre);
xli (xi) two rolls of adhesive plaster (2 cms. X 1 metre);
xlii (xii) twelve pieces of sterilized eye pads in separate sealed packets;

xliii (xiii) one bottle containing (100 tablets each of 5 grains) of aspiring or any other analgesic;
xliv (xiv) one polythene wash bottle (500 c.c.) for washing eyes;
xlv (xv) twelve roller bandages 10 cms. Wide;
xlvi (xvi) twelve roller bandages 5 cms. Wide;
xlvii (xvii) six triangular bandages;
xlviii (xviii) one tourniquet;
xlix (xix) suitable splints;
l (xx) two packets of safety pins;
li (xxi) kidney tray;
lii (xxii) one snake-bite lancet;
liii (xxiii) One (30 ml) bottle containing Potassium Permanganate crystals;
liv (xxiv) one copy of the First-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institute, Government of India, Bombay.

[70]Provided that items (xiv) to (xxi) inclusive need not be included in the standard first-aid box or cupboard., (a) where there is a property

equipped ambulance room, or (b) if at least one box containing such items placed and maintained in accordance with the requirements of Section 45 of the Act is separately provided.
iii (xxv) [One set of resuscitator (for artificial respiration)].
iv (d) In lieu of the dressings required under items (i) and (ii) of clauses (a), (b) and (c there may be substituted adhesive wound dressings approved by the Chief Inspector and other equipment or medicines that may be considered essential and recommended by him from time to time.

70. 71[Ambulance Room
2 (1) [72][Every ambulance room shall be in the charge of at least one whole-time qualified medical practitioner (hereinafter referred to as Medical Officer) assisted by at least one qualified nurse or dresser-cum-compounder and one nursing attendant, in each shift. No Medical Officer shall be required or permitted to do any work which is inconsistent with or detriment to his responsibilities:

Provided that where a factory works in more than one shift, the Chief Inspector, if he is satisfied that on account of the size of factory, nature of hazardous or frequency of accidents, it is not necessary to employ a whole-time medical officer for each shift separately, he may, grant exemption from the provisions of this sub-rule and permit employment of only one whole-time Medical Officer for more than one or all shifts, subject to the conditions that:
xii (i) there shall be no relaxation in respect of nursing staff, and
xiii (ii) the Medical Officer is readily available on call during the working hours of the factory]
xiv (2) There shall be displayed in the ambulance room [73][-] a notice giving the name, address and telephone number of the medical practitioner in charge. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.

xv (3) The ambulance room [74][-] shall be separate from the rest of the factory and shall be used only for the purpose of first-aid treatment and rest. It shall have a floor area of at least 24 square metres and smooth, hard and impervious walls and floors shall be adequately ventilated and lighted by both natural and artificial means. [75][There shall be attached to it last one latrine and urinal of sanitary type.] An adequate supply of wholesome drinking water shall be laid on the room shall contain at least:

xvi (i) A glazed sink with hot and cold water always available.

xvii (ii) A table with a smooth top at least 180 cms. X 105 cms.

xviii (iii) Means for sterilizing instruments.

xix (iv) A couch.

xx (v) Two stretchers.

xxi (vi) Two buckets or containers with close fitting lids.

xxii (vii) Two rubber hot water bags.

xxxiii (viii) A kettle and spirit stove or other suitable means of boiling water.

xxxiv (ix) Twelve plain wooden splints 900 mm x 100 mm. x 6 m;

xxxv (x) Twelve plain wooden splints 320 mm. x 75 mm. x 6 m;

xxxvi (xi) Six plain wooden splints 250 mm. x 50 mm. x 12 mm.

xxxvii (xii) Six woolen blankets.

xxxviii (xiii) Three pairs artery forceps.

xxxix (xiv) One bottle of Spiritus Ammoniac Aromaticus (120 ml.)

xl (xv) Smelling salts (60 gms)

xli (xvi) Two medium size sponger.

xlii (xvii) Six hand towels.

xliii (xviii) Four "Kidney" traps.

xliv (xix) Four cakes of toilet, preferably anti-septic soap.

xlv (xx) Two glass tumblers and two wing glasses.

xlvi (xxi) Two clinical thermometers.

xlvii (xxii) Two Tea Spoons.

xlviii (xxiii) Two Graduated (120 ml.) measuring glasses,

xlix (xxiv) Two minimum measuring glasses.

l (xxv) One wash bottle (100 cc.) for washing eyes.

li (xxvi) One bottle (one litre) carbolic lotion 1 in 20.

lii (xxvii) Three chairs.

liii (xxviii) One screen.

liv (xxix) One electric hand torch.

lv (xxx) Four first-aid boxes or cupboard stocked according to the standard prescribed under clause (c) of rule 69.

lvi (xxxi) An adequate supply of anti-tetanus toxiod.

lvii (xxxii) Injection - Morphia, Pethidine, Atropine, Adrenaline, Coramine, Novocam - 6 each.

lviii (xxxiii) Coramine liquid (60 ml.)

lix (xxxiv) Tablets Antihistaminic, Antispasmodic - 25 each

lx (xxxv) Syringes with needles - 2 c.c, 5 c.c., 10 c.c., 50 c.c.

lxi (xxxvi) Three Surgical Scissors.
lxii (xxxvii) Needle holder.
lxiii (xxxviii) Suturing needles and materials.
lxiv (xxxix) Three Dissecting forceps.

viii (xl) Three Dressing forceps.
ix (xli) Three Scalpels.
x (xlii) One Stethoscope.
xi (xliii) Rubber bandage-pressure bandage.
xii (xliv) Oxygen cylinder with necessary attachments.
xiii (4) The occupier of every factory to which these rules apply shall for the purpose of removing serious cases of accident or sickness provide in the premises and maintain in good condition a suitable conveyance unless he has made arrangements for obtaining such a conveyance from a hospital.
xiv (5) 76[The Chief Inspector, may, by an order in writing exempt any factory from the requirements of this rule, subject to such conditions as he may specify in that order if there is an empanelment of a hospital or nursing home of minimum twenty beds at a travel distance of not more than two kilometers from the main gate of the factory and also there is a provision of ambulance van in the premises of the factory.]

FIRST-AID LEAFLET
(Instruction for handling emergencies)
SHOCK:
7 1. Lay the patient on his back.
8 2. Stop bleeding, if any.
9 3. Relieve pain by supporting injured part.
10 4. Keep the patient comfortable, but not hot. Do not cause sweating.
11 5. Fluids may be given in small amounts unless the patient is nauseated unconscious, likely to be operated on, or has an abdominal wound.
12 6. Reassure and cheer up the patient.

WOUNDS:
9 1. Stop the bleeding by any one of the following methods:
10 (a) direct pressure;
11 (b) direct finger pressure into the wound in cases of large bleeding wounds;
12 (c) tourniquet (seldom needed) - use only as a last material.
13 2. Avoid touching the wound with hand or unsterile material.
14 3. Clear the wound with running water and surrounding area with soap or spirit with clean guage washing way from the wound. Apply ready-made adhesive guage bandage or sterile guage and roller bandage as needed.
15 4. Keep the patient quiet; raising the extremity if it is the bleeding part. Give no stimulants.
16 5. Never apply anti-septic ointment, lotion or iodine or germicide to the wound.

ABDOMINAL WOUNDS:

8 1. No time must be lost in sending the patient to the hospital.
9 2. Keep the patient flat.
10 3. Give nothing by mouth.
11 4. Maintain warmth.
12 5. If intestines protrude from the wound, do not attempt to touch or replace them.
13 6. Apply sterile dressing and binder as for wounds.
14 7. Provide careful, immediate transportation to the hospital.

EYE-WOUNDS:

4 1. Removal may be attempted if foreign body is not embedded.
5 2. Do not apply oil or ointments.
6 3. If there is a foreign body embedded in the eye ball, send the worker immediately to the doctor after applying pad and loose bandage.

CHEMICAL BURNS OF THE EYES:

4 1. Immediate washing of the eye at least for fifteen minutes is of great importance.
5 2. Apply sterile bandage and send the worker immediately to the doctor.
6 3. Neutralizing agents or ointments should not be used.

SUFFOCATION:

4 1. Remove the patient from the source of danger.
5 2. Make a rapid examination to ensure that the air passages are free, and to clean them if necessary.
6 3. Restore natural breathing by artificial respiration, if breathing has ceased.

ELECTRIC SHOCK:

4 1. Remove the patient from the source of danger.
5 2. Make a rapid examination to ensure that the air passages are free, and to clean them if necessary.
6 3. Restore natural breathing by artificial respiration, if breathing has ceased.

INSENSIBILITY:

6 1. Send for a doctor if possible, pending his arrival.
7 2. Where the patient's face is pale lay him flat and face downwards with his head turned to one side. If his face is flashed or blue, raise and support the head and shoulders.
8 3. Control any serious bleeding.
9 4. Loosen any tight clothing and let him have plenty of air.
10 5. Do not give anything by mouth.

2 6. If Doctor not available send the casualty to hospital,

BACKBONF (SIINAL) FRACTURE:

5 1. Transport on u rigid frame. This Frame may be improvised by using available boards or a door.
6 2. The rigid frame may be placed on a stretcher for transportation.
7 3. If a firm frame cannot be improvised, transport patient on abdomen on a stretcher made of canvas or blanket.
8 4. In neck fracture cases, it is much better to get a doctor to the scene for danger to life is great.

BRUISES:
3 1. Cold applications at first 24-48 hours.
4 2. Later heat-after 24-48 hours.

BURNS:
5 1. Act quickly.
6 2. Put the affected part in cold water.
7 3. Pour cold water over burns that cannot be immersed Cold water relieves pain, reduces fluid loss.
8 4. Cover with a sterilized dressing.

SNAKE BITE:
Calm and reassure the patient. Immobilise the bitten limb by splinting it. Wash and cool the wound with soap and water. Do not cut, rub or suck the bite. Take to a doctor. Press hard over wound for upto 15 minutes. Do not remove cloth if it has been placed.

71. Canteen

5 (1) Canteen or canteens shall be provided and maintained in all types of factories wherein more than two hundred and fifty workers are ordinarily employed.
6 (2) The occupier of every factory wherein more than two hundred and fifty workers are ordinarily employed shall provide in or near the factory an adequate canteen according to the standards prescribed in these Rules.
7 (3) The Manager of a factory shall submit for the approval of the Chief Inspector plans and site plan, in [Triplicate] [Duplicate for Haryana] of the building to be constructed or adapted for use as a canteen.
8 (4) The canteen building shall be situated not less than 15 m. from any latrine, urinal, boiler house, coal stacks, ash dumps and any other source of dust, smoke or obnoxious fumes or anything which may be considered insanitary:

Provided that the Chief Inspector may in any particular factory relax the provisions of this sub-rule to such extent as may be reasonable in the circumstances and may require measures to be adopted to secure the essential purpose of this sub-rule.

10 (5) The canteen building shall be constructed in accordance with the plans approved by the Chief Inspector and shall accommodate at least a dining hall, kitchen, store-room, pantry with suitable fixtures and washing places separately for workers and for utensils.

11 (6) In a canteen, the floor and inside walls up to a height of 125 cm. from the floor shall be made of smooth and impervious materials the remaining portion of the inside walls shall be made smooth by cement plaster or any other manner approved by the Chief Inspector.
12 (7) The doors and windows of canteen building shall be of fly-proof construction and shall allow adequate ventilation.
13 (8) The canteen shall be sufficiently lighted at all times when any person has access to it.
14 (9)
15 (a) In every canteen
16 (i) all inside walls of rooms and all ceilings and passages and staircases shall be lime washed at least once in each year of painted once in three years dating from the period when last lime washed, or painted, as the case may be;
17 (ii) all woodwork shall be varnished o painted once in three years dating from the period when last varnished or painted;
18 (iii) all internal structural iron and steel work be painted once in three years dating from the period when last painted.

Provided that inside walls of the kitchen shall be lime or colourwashed once every four months.
(b) Records of dates on which lime washing, colour washing varnishing or painting is carried out shall be maintained in the register in Form No. 7.
(10) The precincts of canteen shall be maintained in a clean and sanitary condition. Waste water shall be carried away in covered drains of suitable design and slope so as not to allow waste water to accumulate and cause a nuisance. Suitable arrangements shall be made for the collection and disposal of garbage including provision of grease traps of adequate design.

72. Dining hall
3 (1) The dining hall shall normally accommodate at a time 20 per cent of the workers working at the time: Provided that, in any particular factory or in any particular class of factories, the Chief Inspector by an order in writing in this behalf, after the percentage of workers to be accommodated.
4 (2) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs, shall not be less than 75 square metre per dinner to be accommodated as prescribed in sub-rule (1).

3 (3) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number. Washing places for women shall be separate and screened to secure privacy.
4 (4) Sufficient tables, chairs or benches shall be available for the number of diners to be accommodated as prescribed in sub-rule (1).

73. Equipment
3 (1) There shall be provided sufficient utensils, cutlery furniture and other equipment necessary for the efficient running of the canteen. Suitable clean clothes for the employees serving in the canteen shall also be provided.

4 (2) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition. A service counter if provided, shall have a top of smooth and impervious material. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.

74. [Prices to be charged

2 (1) Food, drink and other items served in the canteen shall be sold on a no-profit basis and the prices charged shall be subject to the approval of the Canteen Managing Committee.

(1-A) 77[In computing the prices referred to in sub-rule (1), the following items of expenditure shall not be taken into consideration, but will be borne by the occupier- (a) the rest for the land and building; (b) the depreciation and maintenance charges of the building and equipment provided for the canteen: (c) the cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils; (d) the water charges and expenses for providing lighting and ventilation: (e) the interest on the amount spent on the provision and maintenance of the building, furniture and equipment provided for the canteen.]

2 (2) The charge per portion of foodstuff, beverages and any other items served in the canteen shall be conspicuously displayed in the canteen:

78[Provided that where the canteen is managed by a Cooperative Society of workers registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), it may be allowed to include, in the charges to be made for the foodstuffs served, a profit up to 5 percent on its working capital employed in running the Canteen.]

75. Accounts

3 (1) All book, of accounts, registers and any other documents used in connection with the running of the canteen shall be produced on demand to an Inspector.

4 (2) 79[The accounts pertaining to the canteen shall be audited once every twelve months by registered Accountants and Auditors and shall be submitted to the Canteen managing Committee not later than two months after the closing of the audited accounts. Provided that the accounts pertaining to the Canteen in a Government factory having its own accounts department may be audited in such department:]

80[Provided further that where the canteen is managed by a Co-operative Society registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), the accounts pertaining to such canteen may be audited in accordance with the provisions of that Act.]

76. Managing Committee

6 (1) The Manager shall appoint a Canteen Managing Committee which shall be consulted from time to time as to:

7 (a) the quality and quantity of foodstuffs to be served in the canteen;

8 (b) the arrangements of the menus;

9 (c) times of meals in the canteen; and

10 (d) any other matter as may be directed by the Committee;

[81][Provided that where the Canteen is managed by a Co-operative Society registered under the Punjab Co-operative Societies Act, 1954 (Punjab Act XIV of 1955), it shall not be necessary to appoint a Canteen Managing Committee.]

3 (2) The Canteen managing Committee shall consist of an equal number of elected worker shall be in the proportion of 1 for every 1,000 workers employed in the factory provided that is no case shall be more than 5 or less than 2 workers on the Committee.

4 (3) The Manager shall in consultation with the Works Committees, if any, determine and supervise the procedure for elections to the Canteen Managing Committee.

77.

A canteen Managing Committee shall be dissolved by the Manager two years after the last election, no account being taken of a bye-election.

77-A. [82][Medical Examination of Canteen Staff

6 (1) Annual medical examination for fitness of each member of the canteen staff who handles food-stuffs shall be carried out by the Factory Medical Officer or the Certifying Surgeon which should include the following:

7 (i) Routine blood examination.

8 (ii) Routine and bacteriological testing of faeces and urine for germs of dysentery and typhoid fever.

9 (iii) Any other examination including chest X-ray that may be considered necessary by the factory medical officer or the Certifying Surgeon.

10 (2) Any person who in the opinion of the Factory Medical Officer the Certifying Surgeon is unsuitable for employment on account of possible risk to the health of others, shall not be employed as canteen staff.]

78. Shelters, rest rooms and lunch rooms

2 (1) This rule shall apply to all such factories wherein more than 150 workers are employed.

4 (2) The shelters or rest rooms [83][-] shall conform to the following standards and the manager of factory shall submit for the approval of the Chief Inspector a [84][site plan and detailed plan in triplicate] of the building to be constructed or adapted:

5 (a) The building shall be soundly constructed and all the walls and roof shall be of suitable heat- resisting material and shall be waterproof. The floor and walls to the height of 0.9 metre shall be so laid or finished as to provide a smooth and impervious surface.

6 (b) The height of every room in the building shall be not less than 3.65 metre from floor level to the lowest part of the roof and there shall be at least 1.1 Sq.m. of floor area for every person employed.

Provided that

iii (i) workers who habitually go home for their meals during the rest periods may be excluded in calculating number of workers to be accommodated

iv (ii) in the case of factories in existence at the date of commencement of the Act.,

where it is impracticable owing to lack of space to provide 1.1 Sq.m. of floor area for each person, such reduced floor area per person shall be provided as may be approved in writing by the Chief Inspector.
(c) Effective and suitable provision shall be made in every room for securing and maintaining adequate ventilation by the circulation of fresh air and there shall also be provided and maintained sufficient and suitable natural or artificial lighting.
(d) Every room shall be adequately furnished with chairs or benches with backrests.
(e) Sweepers shall be employed whose primary duty is to keep the rooms buildings, and precincts thereof in a clean and tidy condition.
(f) [Suitable provisions shall be made in every room for supply of drinking water and facilities for washing.][85]
(3)
(a) [86][The lunch rooms shall comply with the requirements laid down in clauses (a) to (f) of sub-rule (2).
(b) Every lunch room shall be provided with adequate number of tables with impervious tops and suitable benches or chairs for use of workers for taking food. Adequate means for warming food shall also be made.]

79. Creches
2 (1) In every factory, wherein more than [87][Thirty] women workers are ordinarily employed the crèches shall be conveniently accessible to the mothers of the children accommodated therein and so far, as reasonably practicable shall not be situated in close proximity to any part of the factory where obnoxious fumes, dust or odours are given off or in which excessively noisy processes are carried on.

6 (2) The building in which creche is situated shall be soundly constructed and all the walls and roof shall be of suitable heat-resisting materials and shall be waterproof. The floor and internal walls of the creche shall be so laid or furnished as to provide a smooth impervious surface.
7 (3) The height of the rooms in the building shall be not less than 65 cm from the floor to the lowest part of the roof and there shall be not less than 1.86 square metre of floor area for each child to be accommodated.
8 (4) Effective and suitable provision shall be made in every part of the creche for adequate ventilation by the circulation of fresh air.
9 (5) The creche shall be adequately furnished and equipped and in particular there shall be one suitable cot or cradle with the necessary bedding for each child (provided that for children over two years of age it will be sufficient if suitable bedding is made available) at least on chair or equivalent seating accommodation for the use of each mother while she is feeding or attending to her child, and a sufficient supply of suitable toys for the older children.
10 (6) A suitable fenced and shady open air play-ground shall be provided for the older children:

Provided that the Chief Inspector may by order in writing exempt any factory from compliance with this sub-rule if he is satisfied that there is no sufficient space available for the provision of such a play-ground.

2 (7) The occupier of every factory shall provide for facilities for the mothers of children to feed them at regular intervals.

80. Wash-room

6 (1) There shall be in or adjoining the creche a suitable wash-room for the washing of the children and their clothing. The wash-room shall conform to the following standards:

7 (a) The floor and internal walls of the room to the height of 0.9 metre shall be so laid or furnished as to provide a smooth impervious surface. The room shall be adequately lighted and ventilated and the floor shall be effectively drained and maintained in a clean and tidy condition.

8 (b) There shall be at least one basin or similar vessel for every four children accommodated in the creche at any one time together with a supply of water provided if practicable through taps from source approved by the health Officer. Such source shall be capable of yielding for each child a supply of at least five gallons of water a day.

9 (c) An adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the creche.

10 (2) Adjoining the wash-room referred to above, latrine shall be provided for the sole use of the children in the creche. The design of the latrine and the scale of accommodation to be provided shall either be approved by the Public Health Authorities, or where there is no such authority, by the Chief Inspector of Factories.

81. Supply of milk and refreshment

At least half of pint [88][quarter litre] of pure milk shall be available for each child on every day [89][who] is accommodated in the creche and the mother of such a child shall be allowed in the course of her daily work, two intervals of at least 15 minutes to feed the child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.

82. [90][Clothes for crèche staff

The creche staff shall be provided with suitable clean clothes for use while on duty in the creche.

82-A. [91][Exemption from the provision of crèche

9 (1) In factories where the number of married women or widows employed does not exceed fifteen or where the factory works for less than one hundred and eighty days in a calendar year, or where the number of children kept in the creche was less than five in the preceding year, the Chief Inspector of Factories may exempt such factories from the provisions of section 48 and the rules 79 to 82 of these rules, if he is satisfied that alternate arrangements as specified in sub- rule (2) are provided by the factory.

10 (2)

11 (a) The alternate arrangements required in sub-rule (1) shall include a creche building which has a minimum accommodation at the rate of 1.85 square metres per child and constructed in accordance with the plans approved by the Chief Inspector of Factories;

12 (b) The creche building shall have:
13 (i) a suitable washroom for washing of the children and their clothing;
14 (ii) adequate supply of soap and clean clothes and towels; and
15 (iii) 92[one female attendant upto twenty children and additional female attendant(s) for every additional twenty children or part thereof who are provided with suitable clean clothes for use while on duty to look after the children in the creche.
16 (3) The exemption granted under sub-rule (1) may at any time be withdrawn by the Chief Inspector of Factories if he finds after such enquiry as he may deem fit, that the factory has committed a breach of this rule."]

CHAPTER-VI
WORKING HOURS OF ADULTS
83. Compensatory holidays
2 (1) Except in the case of workers engaged in any work for which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub- section (1) of Section 52 of the Act shall be so spaced that not more than two holidays are given in one week.

5 (2) The Manager of the factory shall display, on or before the end of the month in which holidays are lost, a notice in respect of workers allowed compensatory holidays during the following month and of the dates thereof, at the place at which the notice of periods of work prescribed under Section 61 of the Act is displayed. Any subsequent change in the notice in respect of any compensatory holiday shall be made not less than three days in advance of the date of that holiday.
6 (3) Any compensatory holiday or holidays to which a worker is entitled shall be given to him before he is discharged or dismissed and shall not be reckoned as part of any period of notice required to be given before discharge or dismissal.
7 (4)
8 (a) The Manager shall maintain a Register in Form No 9.

Provided that if the Chief Inspector of Factories is of the opinion that any muster-roll or register maintained as part of routine of the factory or return made by the Manager, gives in respect of any or all of the workers in the factory the particulars required for the enforcement of Section 52, he may, by order in writing, direct that such muster-roll or register or return shall, to the corresponding extent, be maintained in place of and be treated as the register of return required under this rule, for that factory.
(b) The register maintained under clause (a) shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

84. Exemption for printing presses attached with daily newspapers
All Printing Presses attached to daily newspapers publishing more than one edition shall be exempted from the provisions of sub-section (1) of Section 58 of the Act subject to the condition that the system of overlapping shifts is duly approved by the Chief Inspector of

Factories before hand and no worker is made to work more than nine hours a day subject to forty-eight hours a week as provided under Section 51 of the Act.

85. Muster-roll for exempted factories

3 (1) [93][The Manager of every factory in which workers are exempted under Section 64 or 65 from the provisions of Section 51 or 54 shall keep a muster-roll in Form No. 10 showing the normal piece-work rate of pay, or the late or pay per hour, of all exempted employees. In this muster-roll shall be correctly entered the overtime hours of work and payments therefore of all exempted workers. The muster-roll in Form No. 10 shall always be available for inspection.

4 (2) Period of overtime work shall also be entered in overtime slips which shall be prepared in duplicate and an overtime slip duly signed by the Manager or by a person duly authorised by him shall be given to the worker immediately after completion of the overtime work.]

85-A. [94][Extra wages for overtime

For the purpose of computing cash equivalent of the advantage accruing through the concessional sale to a worker of foodgrains and other articles, the difference between the value of foodgrains and articles at the average rates in the nearest market prevailing

during the wage food period in which overtime was worked and value of foodgrains and other articles supplied at concessional rates shall be calculated and allowed for the number of overtime hours worked:

Provided that this rule shall not apply to any Federal Railway Factory whose alternative method of compensation has been approved by the State Government.]

86. Register of Adult Workers

The Register of periods of work for adult workers shall be in Form No. 11.

87. Register of adult workers

The Register of adult workers shall be in Form No. 12.

[88 to 91]

Rules 88 to 91 impliedly repealed by Punjab Government Notification No. 2036-VII-DS-Lab.-61/1345, dated the 20th May, 1961.

CHAPTER-VII

EMPLOYEMENT OF YOUNG PERSONS

92. Notice of periods of work of children

The notice of periods of work for child workers shall be in Form No. 1395.

93. Register of child workers

The Register of child workers shall be in Form No. 1496.

CHAPTER-VIII

LEAVE WITH WAGES

94. Wages during leave period

The cash equivalent of the advantage accruing thorough the concessional sale of foodgrains and other articles payable to workers proceeding on leave shall be the difference between the value at the average rates in the nearest market prevailing during the month immediately preceding his leave and the value at the concessional rates allowed foodgrains and other articles he is entitled to.

For the purposes of the cash equivalent monthly average market rates of foodgrains and other articles shall be computed at the end of every month.

94-A. [97][Leave with wages register

2 (1) The manager shall maintain a register in Form No., 15 (hereinafter called the leave with wages register) and the name of each worker shall be entered in this register before the close of the next calendar month following the month, in which the workers is taken in employment.

Provided that if Chief Inspector is of the opinion that any muster-roll or register or any other record maintained as part of the routine of the factory, or return made by the manager gives in respect of any or all the workers in the factory, the particulars required for the enforcement of Chapter VIII of the Act, he may, by order in writing, direct that such muster-roll or register or return shall, to the

corresponding extent, the maintained in place of and be treated as the register or return required under this rule in respect of the factory.

2 (2) The leave with wages register shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

95. [98][Leave Book

3 (1) The Manager shall provide each worker with a book in Form No. 15 (hereinafter called the leave book) within one month following the month in which the worker is taken in employment. The leave book shall be the property of the worker and the manager or his agent shall not demand it except to make relevant entries therein whenever necessary, and shall not keep it for more than a week at a time.

4 (2) If a worker loses his leave book, the manager shall provide him with another copy on payment of 15 Paise duly completed from his record within a week of the payment.]

96. [99][Medical Certificate

If any worker is absent from work due to his illness and he wants to avail himself of the leave with wages due to him to cover the whole or part of the period of his illness under the provisions of clause (7) of Section 79 of Chapter VIII of the Act as revised by the Factories (Amendment) Act, 1954 he shall, if required by the manager, produce a medical certificate signed by a registered medical practitioner or by a registered or recognised Vaid or hakim stating the cause of the absence and the period for which the worker is, in the opinion of such medical practitioner, Vaid or hakim, unable to attend his work, or other reliable evidence to prove that he was actually ill during the period for which the leave is to be availed of.]

97. Notice to Inspector of involuntary unemployment

The manager shall give as soon as possible a notice to the Inspector of every case of involuntary unemployment of workers, giving numbers of unemployed and the reason for their unemployment. Entries to this effect shall be made in the Leave with Wages Register and the Leave Book in respect of each worker concerned.

98. Notice by worker

Before or at the end of every calendar year, a worker, who may be required to avail to leave in accordance with sub-section (8) of Section 79 of the Act may give notice to the Manager of his intention not to avail himself of the leave with wages falling due during the following calendar year. The Manager shall make an entry to that effect in the Leave the Wages Register and in the Leave Book of the Worker concerned.

99. Notice of leave with wages

3 (1) As far as circumstances permit, members of the same family, comprising husband, wife and children shall be allowed leave on the same date.

4 (2) A worker may exchange the period of his leave with another worker, subject to the approval of the Manager.

100. Payment of wages if the worker dies

If a worker dies before he resumes work, the balance of his pay due for the period of [100][Leave with wages not availed of] shall be paid to his nominee within one week of the intimation of the death of the worker. For this purpose each worker shall submit a nomination in Form No. D annexed hereto duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.

101. Register to be maintained in case of exemption under Section 84

4 (1) Where an exemption is granted under Section 84, the Manager shall maintain a register showing the position of each worker as regards leave taken and wages granted.

5 (2) He shall display at the main entrance of the factory, notice giving full details of the system established in the factory for leave with wages and shall send a copy of it to the Inspector.

6 (3) No alternation shall be made in the Scheme approved by the State Government at the time of granting exemption under Section 84 of the Act without its previous sanction.

CHAPTER-IX

SPECIAL PROVISIONS

102. Dangerous [101][Manufacturing process] or operation

14 (1) The following [102][manufacturing process or operations] when carried on in any factory are declared to be dangerous [103][manufacturing process or operations] under Section 87 of the Act:

15 (1) Manufacture of aerated water and processes incidental thereto.

16 (2) [Electrolytic plating or oxidation of metal articles by use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver or gold.][104]

17 (3) Manufacture and repair of electric accumulators.

18 (4) Glass manufacture.

19 (5) Grinding or glazing of metals.

20 (6) Manufacture and treatment of lead and certain compounds of lead.

21 (7) [105][Generation of gas from dangerous petroleum.]

22 (8) [106][Cleaning, smoothening or roughening etc. of articles by a jet of sand, metal shot, grit or other abrasive propelled by a blast of compressed air of steam.

23 (9) Liming and tanning of raw hides and skins and processes incidental thereto.
24 (10) [107][Carrying on of certain processes of lead and lead material in Printing Presses and Type Foundries.]
25 (11) [108][Chemical works.]
26 (12) Manufacture of pottery and ceramics.

16 (13) [109]Compression of Oxygen and Hydrogen produced by the electrolysis of water:
17 (14) Manipulation of stone or any other material containing free silica;
18 (15) [110][Handling and processing of asbestos, manufacture of any article of asbestos and any other process of manufacture or otherwise in which asbestos is used in any form;
19 (16) Handling and manipulation of corrosive substances
20 (17) [Use of ovens and driers in factories][111]
21 (18) [112][Manufacture of Manipulation of Carcinogenic intermediates;
22 (19) [113][Process extracting vegetable oils from oil cakes in solvent extraction plants.]
23 (20) Manufacture and manipulation of manganese and its compounds.
24 (21) Protection against hazards of poisoning arising from benzene.
25 (22) Carbon disulphide plants.]
26 (23) Operations involving High Noise levels.
27 (24) Manufacture or manipulation of dangerous pesticides.
28 (25) Manufacture of Rayon by Viscose
29 (26) Highly Flammable liquids and Flammable Compressed Gases.][114]
30 (27) [Operation in foundries][115]

[116][(2-A)
(a) for the medical examination of workers to be conducted by the certifying surgeons as required by the Schedule annexed to these rules, the occupier of the factory shall pay fee at the rate of five rupees per examination of each worker;
(b) The fee prescribed in clause (a) shall be exclusive of any charges for biological, radiological or other tests which may have to be carried out in connection with the medical examination. Such charges shall be payable by the occupier;
(c) The fees to be paid for medical examination shall be paid into the local treasury under the head of account [0230][117] Labour and Employment (Provincial) fee realized under the Factories Act, 1948", or through a crossed cheque on the State Bank of India, or through postal order drawn in favour of the Chief Inspector.]
(3) [118][Wherever a periodical medical examination has been prescribed under the different schedules, the occupier shall send a return in Form No. 34, to the Chief Inspector of Factories, so as to reach him on or before the 5th of every month in respect of medical examination of the workers conducted during the preceding month.]

3 (4) [119][Notwithstanding anything contained in the Schedules annexed to this rule, the Inspector may issue order in writing to the Manager or Occupier or both, directing them to carry such measures, and within such time, as may be specified in such order with a view to remove conditions dangerous to the health of the worker or to suspend any process, where

such process constitutes in the opinion of the Inspector imminent danger of poisoning or toxicity.]

4 (5) Any register or record of medical examinations and tests connected therewith required to be carried out, under any of the Schedule annexed hereto, in respect of any worker, shall be kept readily available to the Inspector and shall be preserved till the expiry of a period of one year after the worker ceases to be in employment of the factory.

SCHEDULE I

MANUFACTURE OF AERATED WATERS AND PROCESSES INCIDENTAL THERETO

6 1. Fencing of machines: All machines for filling bottles or syphons shall be so constructed, placed or fenced, as to prevent, as far as may be practicable, a fragment of a bursting bottle or syphon form striking any person employed in the factory.

7 2. Face guards and gauntlets:

8 (1) The occupier shall provide and maintain in good condition for the use of all persons engaged in filling bottles or siphons:

9 (a) suitable face guards to protect the face, neck and throat; and

10 (b) suitable gauntlets for both arms to protect the whole hand and arms

Provided that:

vii (i) paragraph 2(1) shall not apply where bottles are filled by means of an automatic machine so constructed that no fragment of a bursting bottle can escape.

viii (ii) Where a machine is so constructed that only one arm of the bottler at work up to it is exposed to danger, a gauntlet need not be provided for the arm which is not exposed to danger.

ix (2) The Occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowning, screwing, wiring, foiling, capsuling, sighting or labelling bottles or syphons:

x (a) suitable face-guards to protect the face, neck and throat; and

xi (b) suitable gauntlets for both arms to protect the arm and at least half of the palm and the space between the thumb and forefinger.

xii 3. Wearing of face guards and gauntlets: All persons engaged in any of the processes specified in paragraph 2 of this schedule shall, while at work in such processes, wear the face guards and gauntlets provided under the provisions of the said paragraph.

SCHEDULE II120

ELECTROLYTIC PLATING OR OXIDATION OF METAL ARTICLES BY USE OF AN ELECTROLYTE CONTAINING ACIDS, BASES OR SALTS OF METALS SUCH AS CHROMIUM, NICKEL, CADMIUM, ZINC, COPPER, SILVER, GOLD ETC.

19 1. Definitions: For the purposes of this Schedule,

20 (a) “electrolytic process” means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold, etc.

21 (b) “bath” means any vessel used for an electrolytic process or for any subsequent process; and

22 (c) “Employed “means employed in any process involving contact with liquid from a bath.
23 2. Exhaust draught
24 (1) an efficient exhaust draught shall be applied to every vessel in which an electrolytic process is carried on.
25 (2) The draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as near as may be at the point of origin.
26 (3) The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the vapour or spray entering into any room or place in which work is carried on.
27 3. Prohibition relating to women and young persons: No women, adolescent or child shall be employed or permitted to work at a bath.
28 4. Floor of workrooms: The floor of every workroom containing a bath shall be impervious to water. The floor shall be maintained in good and level condition and shall be washed down at least once a day.
29 5. Protective devices:
30 (1) The occupier shall provide and maintain in good and clean condition the following articles of protective devices for the use of all persons employed on any process at which they are liable to come in contact with liquid from a bath and such devices shall be worn by the persons concerned as follows:
31 (a) waterproof aprons and bibs; and
32 (b) for persons actually working at a bath, loose fitting rubber gloves and rubber boots or other waterproof footwear, and chemical goggles.
33 (2) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and drying of protective devices.
34 6. Water facilities
35 (1) There shall be provided and maintained in good repairs for the use of all persons employed in electrolytic process and processes incidental to it
36 (a) a wash place under cover, with either:

vi (i) a trough with a smooth impervious surface filled with a waste pipe, and of sufficient length to allow at least 60cms for every 5 persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60cms, or
vii (ii) at least one wash basis for every five such persons employed at any one time, fitted with a waste pipe and having a constant supply of water laid on.
viii (b) a sufficient supply of clean towels renewed daily, and soap or other suitable cleaning material.
ix (2) In addition to the facility in sub-paragraph 1, an approved type emergency shower with eye fountain shall be provided and maintained in good working order. Whenever necessary, in order to ensure continuous water supply, storage tank of 1500 litres capacity shall be provided as a source of clean water for emergency use.
x 7. Cautionary placard: A cautionary placard in the form specified below and printed in the language of the majority of the workers employed shall be affixed in a prominent place in the factory where it can be easily and conveniently read by the workers.

CAUTIONARY NOTICE

Electrolytic Plating

12 1. Chemicals handled in this plant are corrosive and poisonous.

13 2. Smoking, chewing tobacco, eating food or drinking, in this area is prohibited. No food stuff or drink shall be brought in this area.

14 3. Some of these chemicals may be absorbed through the skin and may cause poisoning.

15 4. A good wash shall be taken before meals.

16 5. Protective devices supplied shall be used while working in this area.

17 6. Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.

18 7. All workers shall report for the prescribed medical tests regularly to protect their own health.

19 8. Medical facilities and records of examinations and tests

20 (1) The occupier of every factory in which electrolytic processes are carried on shall:

21 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories;

22 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and

(c) maintain a sufficient supply of suitable barrier cream, ointment and impermeable water proof plaster in a separate box readily accessible to the worker's ad used solely for the purpose of keeping these substances. In case cyanides are used in the both, the box shall also contain an emergency cyanide kit.

(2) The medical practitioner shall examine all workers before they are employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hands, forearms and nose and will be carried out once at least in every fortnight

(3) The record of the examinations referred to in sub-paragraph (2) shall be maintained in a separate register approved by Chief Inspector of Factories which shall be kept readily available for inspection by the Inspector.

9. Medical examination by the Certifying Surgeon

(1) Every worker employed in the electrolytic processes shall be examined by a Certifying Surgeon before his first employment Such examination shall include X-ray of the chest and:

(a) in case of chromium plating include examination for nasal septum perforation and test for chromium in urine;

(b) in case of nickel platting, test for nickel in urine; and

(c) in case of cadmium plating, test for cadmium in urine and 2 microglobulin in urine.

(2) No worker shall be employed in any electrolytic process unless certified fit for such employment by the Certifying Surgeon.

(3) Every worker employed in the electrolytic processes shall be re-examined by a Certifying Surgeon at least once in every year, except in case of the workers employed in cadmium, chromium and nickel plating processes for whom this examination shall be carried our once in every six months. Such re-examination shall, wherever the Certifying Surgeon considers

appropriate, include tests as specified under sub-paragraph (1) excluding the X-ray of the chest which shall not be required normally to be carried out earlier than once in three years.
(4) The certifying surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 34.
(5) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector.
(6) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the electrolytic processes on the ground that continuance therein would involve danger to the health of the worker, he

3 shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Certifying Surgeon in which case the person affected shall be suitably rehabilitated.
4 (7) No person who has been found unfit to work as said in sub-paragraph (6) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon after further examination, again certifies him fit for employment in these processes.

SCHEDULE III
MANUFACTURE AND REPAIR OF ELECTRIC ACCUMULATORS
14 1. Savings: This schedule shall not apply to the manufacture or repair of electric accumulators or parts thereof not containing lead or any compound of lead; or to the repair on the premises, of any accumulator forming part of a stationary battery.
15 2. Definitions: For the purposes of this schedule,
16 (a) “Lead process” means the melting of lead or any material containing lead, casting, pasting, lead burning, or any other work, including trimming, or any other abrading or cutting of pasted plates, involving the use, movement or manipulation of or contact with, any oxide of lead;
17 (b) “manipulation of raw oxide of lead” means any lead process involving any manipulation or movement of raw oxides of lead other than its conveyance in a receptacle or by means of an implement from one operation to another;
18 (c) Omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
19 3. Prohibition relating to women and young persons: No women or young person shall be employed or permitted to work in any lead process or in any room in which the manipulation of raw oxide of lead or pasting is carried on.
20 4. Separation of certain processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another, and from other processes:
21 (a) manipulation of raw oxide of lend;

(b) pasting;
(c) Drying of pasted plates;
(d) formation with lead turning (tacking) necessarily carried on in connection therewith; and
(e) melting down of pasted plates.
5. Air space: In every room in which a lead process is carried on, there shall be at least 14.2 cubic meters of air space for each person employed therein, and in computing this air space no height over 3.65 meters shall be taken into account.

6. Ventilation: Every workroom shall be provided with inlets and outlets of adequate size as to secure and maintain efficient ventilation in all parts of the room.
7. Distance between workers in pasting room - In every pasting room the distance between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than 1.5 meters.
8. Floor of workrooms
(1) The floor of every room in which lead process is carried on shall be:
(a) of cement or similar material so as to be smooth and impervious to water;
(b) maintained in sound condition; and
(c) kept free from materials, plant, or other obstructions not required for, or produced in, the process carried on in the room.
(2) In all such rooms, other than grid casting shops the floor shall be cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.
(3) In grid casting shops the floor shall be cleansed daily.
(4) Without prejudice to the requirements of sub-paragraphs (1), (2) and (3), where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be:
(a) kept constantly moist while work is being done;
(b) provided with suitable and adequate arrangements for drainage; and
(c) Thoroughly washed daily by means of hose pipe.
9. Work-benches: The work-benches at which any lead process is carried on shall:
(a) have a smooth surface and be maintained in sound condition;
(b) be kept free from all materials or plant not required for, or produced in, the process carried out there at;

and all such work-benches other than those in grid casting shops shall
(c) be cleaned daily either after being thoroughly damped or by means of suction cleaning apparatus at the time when no other work being carried on threat;

and all such work-benches in grid casting shops shall
(d) be cleaned daily;

and every work-bench used for pasting shall:
(e) be covered throughout with sheet lead and other impervious material;
(f) be provided with raised edges;

(g) be kept constantly moist while pasting being carried on.

9 10. Exhuaght draught: The following provisions shall not be carried on without the use of an efficient exhaught draught,
10 (a) Melting of lead or material containing lead.
11 (b) Manipulation of raw oxide of lead unless done in an enclosed apparatus so as to prevent the escape of dust into work-room.
12 (c) Pasting
13 (d) Trimming, brushing, filing or any other abrading or cutting or pasted plates giving rise to dust.
14 (e) Lead burning other than
15 (i) “tacking” in the formation room
16 (ii) Chemical burning for making of lead linings for cell cases necessarily carried on in such a manner that the application of efficient exhaught is impracticable.

Such exhaught draught shall be affected by mechanical means and shall operate on the dust or fume given off as nearly as may be at the point of reason so as to prevent it entering the air of any room in which persons works.
5 11. Fumes and gasses from melting pots: The products of combustion produced in the heating of any melting pot shall not be allow to escape into a room in which persons work.
6 12. Containers for dross: A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the work room accept when dross is being deposited therein.
7 13. Container for lead waste: A suitable receptacle shall be provided in every work room in which old plates and waste material which may give rise to shall be deposited.
8 14. Racks and shelves drying room: The racks and shelves provided in any drying room shall not be more than 2.4 m from the floor and not more than 60 cm in width / provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 1.2 m.

Such racks and shelves shall be cleaned only after being thoroughly damped unless so efficient suction cleaning apparatus is used for this purpose.
4 15. 121[Medical facilities and records of medical examination and tests
5 (1) The occupier of every factory in which manufacture and repair of electric accumulators is carried on shall:
6 (a) Employ a qualify medical practitioner for medical surveillance of the workers employed there in whose employment shall be subject to the approval of chief inspector; and

(b) Provided to the set medical practitioner all necessary facilities for the purpose referred to enclose (a).
(2) The record of medical examinations and appropriate test carried out by the said medical practitioner shall be maintained in a separate register approved by the chief inspector .and such register shall be kept readily available for inspection by the inspector.

15-A. Medical examination by the Certifying Surgeon

11 (1) every worker employed in a lead processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include test for lead in urine and blood, ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
12 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 3 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub- paragraph (1).
13 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
14 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
15 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
16 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]
17 16. Protective clothing: protective clothing shall be provided and maintained in good condition for all person employed in,
18 (a) Manipulation of raw oxide of lead
19 (b) Pasting
20 (c) The formation room:

And such clothing shall be worn by the person concerned.
The protective clothing shall consist of a water-proof apron and water-proof footwear; and also, as required persons employed in the manipulation of raw oxide of lead or in the pasting the head covering shall be washed daily.
2 17. Mess room: There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess room which shall be furnished with sufficient tables and benches.

The mess room shall placed under the charge of a responsible person and shall be kept clean.
12 18. Cloak room: there shall be provided and maintained for the use of all persons employed in a lead process:
13 (a) a cloak room for clothing put-off during working hours with adequate arrangements for drying the clothes, if wet. Such accommodation shall be separate from mess room.

14 (b) separate and suitable arrangements for the storage of protective clothing provided as per sub-rule (16)
15 19. Washing facilities: There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process,
16 (a) a wash place with either:
17 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
18 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a adequate supply of water laid on.
19 (iii) a sufficient supply of clean towels made of suitable materials renewed daily, which supply in case of pasters and person employed in manipulation of raw oxide of lead shall include a separate marked towel for each worker; and
20 (iv) a sufficient supply of soap or other suitable cleansing material and of nail brushes.
21 (b) There shall in addition be provided means of washing in close proximity to the rooms in which manipulation of raw oxide of lead or pasting is carried on if required by notice in writing from the Chief Inspector.
22 20. Time allowed for washing: Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in the manipulation of raw oxide of lead or in pasting. Provided that if there is be one basin or 60 centimeters of trough for each such person, this paragraph shall not apply.

3 21. Facilities for bathing: sufficient bath accommodation to the satisfaction of the Chief Inspector shall be provided to all the persons engaged in manipulation of raw oxide of lead or in pasting and a sufficient supply of soap and clean towels.
4 22. foods, drinks etc. prohibited in work-rooms: No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any work-room in which any lead process is carried on.

SCHEDULE IV
GLASS MANUFACTURE
5 1. Exemption: If the Chief Inspector is satisfied in respect of any factory or any class of process that, owing to the special methods of work or the special conditions in a factory or otherwise, any of the requirements of this schedule can be suspended or relaxed without danger to the persons employed therein, or that the application of this schedule or any part thereof is for any reason impracticable, he may be certificate in writing authorize such suspension or relaxation as may be indicated in the certificate for such period and on such conditions as he may think fit.
6 2. Definitions: For the purpose of this schedule,
7 (a) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in

which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dust originate;
8 (b) “lead compound” means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid a quantity soluble lead compound exceeding, when calculated as lead monoxide, five percent of the dry weight of the portion taken analysis.

The method of treatment shall be as follows: A weighed quantity of the material which has been dried at 100 degrees centigrade and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.
(c) “suspension” means, suspension from employment in any process specified in paragraph 3 by written certificate in the Health Register in Form No. 17 signed by the certifying surgeon who shall have power of suspension as regards all persons employed in any such process.
3. Exhaust draught: The following processes shall not be carried on except under an efficient exhaust draught or such other conditions as may be approved by the Chief Inspector,

(a) the mixing of raw materials to form a “batch”;
(b) the dry grinding, glazing and polishing of glass or any article of glass;
(c) all processes in which hydrofluoric acid fumes or ammonical vapours are given off;
(d) all processes in the making of furnace moulds or “pots” including the grinding or crushing of used “pots”; and
(e) All processes involving the use of a dry lead compound.
4. Prohibition relating to women and young person: No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 2 or at any place where such operations are carried on.
5. Floor and work-benches: The floor and work-benches of every room in which a dry compound of lead is manipulated or in which any process is carried on giving off silica dust shall be kept moist and shall comply with the following requirements,
(a) The floor shall be:
(i) of cement or similar material so as to be smooth and impervious to water;
(ii) maintained in sound condition; and
(iii) cleansed daily after being thoroughly spread with water at a time when no other work is being carried on the room; and
(b) The work-benches shall:
(i) have a smooth surface and be maintained in sound condition, and
(ii) cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat.
6. Use of hydrofluoric acid: The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid,
(a) there shall be inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;

(b) the floor shall be covered with gutta-percha and be tight and shall slope gently down to a covered drain;
(c) the workplaces shall be so enclosed in projecting hoods that openings required for the bringing in the objects to be treated shall be as small as practicable; and
(d) The efficient exhaust draught shall be so contrived that the gases are exhausted downwards.
7. Storage and transport of hydrofluoric acid: Hydrofluoric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.

15 8. Blow pipes: Every glass blower shall be provided with a separate blow pipe bearing the distinguishing mark of the person to whom it is issued and suitable facilities shall be readily available to every glass blower for sterilising his blow pipe.
16 9. Food, drinks, etc., prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any room or workplace wherein any process specified in paragraph 2 is carried on.
17 10. Protective clothing: The occupier shall provide, maintain in good repair and keep in a clean condition for the use of all persons employed in the processes specified in paragraph 2 suitable protective clothing, footwear and goggles according to the nature of the work and such clothing, footwear, etc. shall be worn by the persons concerned.
18 11. Washing facilities: There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in the processes specified in paragraph 3,
19 (a) a wash place with either:
20 (i) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
21 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available;
22 (b) a sufficient supply of clean towels made of suitable material renewed daily with sufficient supply of soap or other suitable cleansing material and of nail brushes; and
23 (c) a sufficient number of stand pipes with taps the number and location of which shall be to the satisfaction of the Chief Inspector.
24 12. 122[Medical facilities and record of examinations and tests:
25 (1) The occupier of every factory in which glass manufacturing processes are carried out, shall,
26 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and
27 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).
28 (2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

12-A. Medical Examination by Certifying Surgeon

7 (1) Every worker employed in processes specified in paragraph 2 shall be examined by the Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-ray as well as tests for lead and urine. No worker shall be allowed to work after 15 days of first employment in the factory unless certified for such employment by the Certifying Surgeon.
8 (2) Every worker employed in the said processes shall be re-examined by the Certifying Surgeon at least once in every twelve calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
9 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraph (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
10 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
11 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fir for employment in the said processes on the ground that continuance therein would involve special danger to the health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which the person affected shall be suitable rehabilitated.
12 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

SCHEDULE V
GRINDING OR GLAZING OF METALS AND PROCESSES INCIDENTAL THERETO
5 1. Definitions: For the purposes of this schedule,
6 (a) “grindstone” means a grindstone composed of natural or manufactured sandstone but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted;
7 (b) “abrasive wheel” means a wheel manufactured of bonded emery or similar abrasive;
8 (c) “grinding” means the abrasion, by aid of mechanical power, of metal, by means of a grindstone or abrasive wheel;

(d) “glazing” means the abrading, polishing or finishing, by aid of mechanical power, of metal, by means of any wheel, buff, mop or similar appliance to which any abrading or polishing substance is attached or applied;

(e) “racing” means the turning up, cutting or dressing of a revolving grindstone before it is brought into use for the first time;
(f) “hacking’ means the chipping of the surface of a grindstone by a hack or similar tool; and
(g) “rodding” means the dressing of the surface of a revolving grindstone by the application of a rod, bar or strip of metal to such surface.

Exception
8 (1) Nothing in this schedule shall apply to any factory in which only repairs are carried on except any part thereof in which one or more persons are wholly or mainly employed in the grinding or glazing of metals.
9 (2) Nothing in this schedule except paragraph 4 shall apply to any grinding or glazing of metals carried on intermittently and at which no person is employed for more than 12 hours in any week
10 2. Equipment for removal of dust: No racing, dry grinding or glazing such conditions as he may specify therein, relax or suspend any of the provisions of this Schedule in respect of any factory if owning to the special methods of work or otherwise such relaxation or suspension is practicable without danger to the health or safety of the persons employed.
11 3. Equipment for removal of dust: No racing, dry grinding or glazing shall be performed without:
12 (a) a hood or other appliance so constructed, arranged, placed and maintained as substantially to intercept the dust thrown off;
13 (b) a duct of adequate size, air tight and so arranged as to be capable of carrying away the dust, which duct shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and where practicable, with a connection at the end remote from the fan to enable the Inspector to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and
14 (c) a fan or other efficient means of producing a draught sufficient to extract the dust:

Provided that the Chief Inspector may accept any other appliance that is, in his opinion, as effectual for the interception, removal and disposal of dust thrown off as a hood, duct and fan would be.
2 4. Restriction on employment on grinding operations: Not more than one person shall at any time perform the actual process of grinding or glazing upon a grindstone, abrasive wheel or glazing appliance:

Provided that this paragraph shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky articles at any such grindstone, abrasive wheel or glazing appliance.
15 5. Glazing: Glazing or other processes, except processes incidental to wet grinding upon a grindstone shall not be carried on in any room in which wet grinding upon a grindstone is done.
16 6. Hacking and rodding: Hacking or rodding shall not be done unless during the process either (a) an adequate supply of water is laid on at the upper surface of the grindstone or (b)

adequate appliances for the interception of dust are provided in accordance with the requirements of paragraph 3.

17 7. Examination of dust equipment:

18 (a) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.

19 (b) [123][A register containing particulars of such examination and tests shall be kept in Form 24.]

20 8. 124[Medical facilities and record of examinations and tests

21 (1) The occupier of every factory in which grinding or glazing of metals are carried out, shall:

22 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and

23 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

24 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

25 9. [Medical examination by the Certifying Surgeon:

26 (1) every worker employed in grinding or glazing of metal and processes incidental thereto shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

27 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

28 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried

5 out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

6 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

7 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said person is unfit for work in the said processes

8 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][125]

SCHEDULE VI

MANUFACTURE AND TREATMENT OF LEAD AND CERTAIN COMPOUNDS OF LEAD

4 1. Exemption: Where the Chief Inspector is satisfied that all or any of the provisions of this any factory from all or any of such provisions, subject to such conditions as he may specify. schedule are not necessary for the protection of the persons employed, he may by certificate in writing exempt

5 2. Definitions: For this purpose of this schedule,

6 (a) "lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five per cent of the "dry weight" of the portion taken for analysis. In the case of paints and similar products and other mixtures containing oil or fat the "dry weight" means the dry weight of the material remaining after the substance has been thoroughly mixed and treated with suitable solvents to remove oil, fats, varnish or other media.

The method of treatment shall be as follows:
A weighed quantity of the material which has been dried at 100 degree centigrade and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then precipitate as lead sulphate and weighed as lead sulphate;

(b) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dusts originate.

3. Application: This schedule shall apply to all factories or parts of factories in which any of the following operations are carried on,

(a) work at a furnace where the reduction or treatment of zinc or lead ores is carried on;
(b) the manipulation, treatment or reduction of ashes containing lead, the desilvering of lead or the melting of scrap lead or zinc;
(c) the manufacture of solder or alloys containing more than ten percent of lead;
(d) the manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate or silicate of lead;
(e) the handling or mixing of lead tetra-ethyl;
(f) any other operation involving the use of a lead compound; and
(g) The cleaning of workrooms where any of the operations aforesaid are carried on.

4. Prohibition relating to women and young persons: No women or young person shall be employed or permitted to work in any of the operations specified in paragraph 1.
5. Requirements to be observed: No person shall be employed or permitted to work in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 5 to 13 are complied with.
6. Exhaust draught: Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of an efficient exhaust draught to contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.
7. [Medical facilities and record of examinations and tests,
(1) The occupier of every factory in which grinding or glazing of metals are carried out, shall:
(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and
(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

11 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
12 8. Medical examination by the Certifying Surgeon
13 (1) Every worker employed in the operations referred to in paragraph 3, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests lead in blood and urine, ALA in urine, haemoglobin content, stippling of cells steadiness tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
14 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 3 calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
15 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
16 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
17 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said operations.

18 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]
19 9. Food, drinks, etc. prohibited in workroom: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any worker in any workroom in which the process is carried on and no person shall remain in any such room during intervals for meals or rest.
20 10. Protective clothing: Suitable protective overalls and head coverage shall be provided, maintained and kept clean by the occupier and such overalls and head coverings shall be worn by the persons employed.

9 11. Cleanliness of workrooms, tools, etc.: The rooms in which the persons are employed and all tools and apparatus used by them shall be kept in a clean state.
10 12. Washing facilities
11 (1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of:
12 (a) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least two feet for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
13 (b) At least one wash-basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels.
14 (2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.
15 13. Mess room or canteen: The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangements shall consist of the use of a room separate from any workroom which shall be furnished with sufficient tables and benches, and unless a canteen serving hot meals is provided, adequate means of warming the food. The room shall be adequately ventilated by the circulation of fresh air, shall be placed under the charge of a responsible person and shall be kept clean.
16 14. Cloakroom: The occupier shall provide and maintain for the use of persons employed, suitable accommodation for clothing not worn during working hours, and for the drying of wet clothing.

SCHEDULE VII

126[GENERATING PETROL GAS FROM DANGEROUS PETROLEUM]

4 1. Prohibition relating to women and young persons: No woman or young person shall be employed or permitted to work in or shall be allowed to enter any building 127[in which the generation of gas from dangerous petroleum] is carried on.
5 2. Flame traps: The plant for 128[generation of gas from dangerous petroleum] and associated piping and fittings shall be fitted with at least two efficient flame traps so designed

and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free form leaks.

6 3. Generating building or room: All plants for [129][generation of gas from dangerous petroleum] erected after the coming into force of the provisions specified in this schedule, shall be erected outside the factory building proper in a separate well ventilated building (hereinafter referred to as "generating building"). In the case of such plants erected before the coming into force of the provisions specified in this schedule, there shall be no direct communication between the room

10 where such plants are erected (hereinafter referred to as "the generating room") and the remainder of the factory building. So far as practicable, all such generating rooms shall be constructed of fire-resisting materials.

11 4. Fire extinguishers: An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generation of [130][gas from dangerous petroleum].

12 5. Plant to be approved by Chief Inspector: [131][Gas from dangerous petroleum] shall not be manufactured except in a plant for [132][Generating gas], the design and construction of which has been approved by the Chief Inspector.

13 6. Escape of [133][dangerous petroleum]: Effective steps shall be taken to prevent [134][dangerous petroleum] from escaping into any drain or sewer.

14 7. Prohibition relating to smoking: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in the generation room or building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall be posted in the factory prohibiting smoking and the carrying of matches, fire or naked light or other means of producing a naked light or spark into such room or building.

15 8. Access to [135][dangerous petroleum] or container: No unauthorized person shall have access to any [136][dangerous petroleum] or to a vessel containing or having actually contained [dangerous petroleum].

16 9. Electric fittings: All electric fittings shall be of flameproof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.

17 10. Construction of doors: All doors in the generating room or building shall be constructed to open outwards or to slide and no door shall be locked or obstructed or fastened in a such a manner that it cannot be easily and immediately opened from the inside while gas is being generated and any person is working in the generating room or building.

18 11. Repair of containers: No vessel that has contained [137][dangerous petroleum] shall be repaired in a generating room or building and no repairs to any such vessel shall be undertaken unless live steam has been blown into the vessel and until the interior is thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from [dangerous petroleum] or inflammable vapour.

SCHEDULE VIII

[138]CLEANING OR SMOOTHING, ROUGHENING, ETC. OF ARTICLES, BY A JET OF SAND, METAL SHOT, OR GRIT, OR OTHER ABRASIVE PROPELLED BY A BLAST OF COMPRESSED AIR OR STEAM

(BLASTING REGULATIONS)

3 1. Definitions: For the purposes of this schedule,

4 (a) “blasting” means cleaning, smoothing, roughening, or removing of any part of the surface of any article by the use of an abrasive of a jet of sand, metal

shot, or grit or other material, propelled by a blast of compressed air or steam;

(b) “blasting enclosure” means a chamber, barrel, cabinet or any other enclosure designed for the performance of blasting therein;

(c) “blasting chamber” means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise; and

(d) “cleaning of castings” where done as an incidental or supplemental process in connection with the making of metal castings, means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothening of a casting, but does not include the free treatment.

2. Prohibition of sand blasting: Sand or any other substance containing free silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting:

Provided that this clause shall come into force two years after the coming into operation of this schedule.

Provided further that no woman or young person shall be employed or permitted to work at any operation of sand blasting.

6 3. Precautions in connection with blasting operations

7 (1) Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and clearing and repairing of the enclosure including the plant and appliances situated therein, shall be kept closed and air tight while blasting is being done therein.

8 (2) Maintenance of blasting enclosure: Blasting enclosure shall always be maintained in good condition and effective measures shall be taken to prevent dust escaping from such enclosure, and from apparatus connected therewith, into the air of any room.

9 (3) Provision of separating apparatus: There shall be provided and maintained for and in connection with every blasting enclosure, efficient apparatus for separating, so far as practicable, abrasive which has been used for blasting and which is to be used again as an abrasive, from dust or particles of other materials arising from blasting; and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been so separated : Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures constructed or installed before the coming into force of this schedule, if the Chief Inspector is of opinion that it is not reasonably practicable to provide such separating apparatus.

10 (4) Provision of ventilating plant: There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract, by exhaust draught effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by

3 such method and in such manner that it shall not escape into the air of any room; and every other filtering or settling device situated in a room in which persons are employed, other than persons attending to such bag or other filtering or settling device, shall be completely separated from the general air of that room in an enclosure ventilated to the open air.
4 (5) Operation of ventilating plant: The ventilating plant provided for the purpose of sub-paragraph (4) shall be kept in continuous operation whenever the blasting enclosure is in use whether or not blasting is actually taking place therein, and in the case of a blasting chamber, it shall be in operation even when any person is inside the chamber for the purpose of cleaning.

9 4. Inspection and examination
10 (1) Every blasting enclosure shall be specially inspected by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant shall be thoroughly examined and in the case of ventilating plant, tested by a competent person at least once in every month.
11 (2) Particulars of the result of every such inspection, examination or test shall forthwith be entered in a register which shall be kept in a form approved by the Chief Inspector and shall be available for inspection by any workman employed in or in connection with blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported by the person carrying out the inspection, examination or test to the occupier, manager or other appropriate person and without prejudice to the foregoing requirements of this schedule, shall be removed without avoidable delay.
12 5. Provision of protective helmets, gauntlets and overalls
13 (1) There shall be provided and maintained for the use of all persons who are employed in a blasting chamber, whether in blasting or in any work connected therewith or in cleaning such a chamber, protective helmets of a type approved by a certificate of the Chief Inspector; and every such person shall wear the helmet provided for this use whilst he is in the chamber and shall not remove it until he is outside the chamber.
14 (2) Each protective helmet shall carry a distinguishing mark indicating the person by whom it is intended to be used and no person shall be allowed or required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since been thoroughly disinfected.
15 (3) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less 170 litres per minute.
16 (4) Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting, and every such person shall while so engaged, wear the gauntlet and overall provided.

12 6. Precautions in connection with cleaning and other work
13 (1) Where any person is engaged upon cleaning of any blasting apparatus or blasting enclosure or of any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting apparatus or blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk of inhaling dust which has arisen from blasting, all practicable measures shall be taken to prevent such inhalation.

14 (2) In connection with any cleaning operation referred to in paragraph 5, and with the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such a manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used wherever practicable for such cleaning operations.
15 7. Storage accommodation for protective wear: Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by paragraph 5 shall be provided outside and conveniently near to every blasting enclosure and such accommodation shall be kept clean. Helmets, gauntlets and overalls when not in actual use shall be kept in this accommodation.
16 8. Maintenance and cleaning of protective wear: All helmets, guantlets, overalls and other protective devices or clothings provided and worn for the purposes of this schedule, shall be kept in good condition and so far, as is reasonably practicable shall be cleaned on every weekday in which they are used. Where dust arising from the cleaning of such protective clothing or devices is likely to be inhaled, all practicable measures shall be taken to prevent such inhalation. Vacuum cleaners shall, wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.
17 9. Maintenance of vacuum cleaning plant: Vacuum cleaning plant used for the purpose of this schedule shall be properly maintained.
18 10. Restrictions in employment of young persons
19 (1) No person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.
20 (2) No person under 18 years of age shall be employed to work regularly within twenty feet of any blasting enclosure unless the enclosure is in a room and he is outside that room where he is effectively separated from any dust coming from the enclosure.
21 11. Power to exempt or relax
22 (1) If the Chief Inspector is satisfied that in any factory or any class of factory, the use of sand or other substance containing free silica as an abrasive in blasting is necessary for a particular manufacture or process (other than the process incidental or supplemental to making of metal castings) and

12 that the manufacture or process cannot be carried on without the use of such abrasive or that owing to the special conditions or special method of work or otherwise any requirement of this schedule can be relaxed without endangering the health of the persons employed or that application of any such requirements is for any reason impracticable or inappropriate, he may, with the previous sanction of the State Government, by an order in writing exempt the said factory or class of factory from such provisions of this schedule, to such an extent and subject to such conditions and for such period as may be specified in the said order.
13 (2) Where an exemption has been granted under sub-paragraph (1), a copy of the order shall be displayed at a notice board at a prominent place at the main entrance or entrances to the factory and also at the place where the blasting is carried on.
14 12. [139][Medical facilities and records of examinations and tests
15 (1) occupier of every factory to which the Schedule applies, shall

16 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the the approval of the Chief Inspector of Factories; and
17 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).
18 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
19 13. Medical examination by the Certifying Surgeon
20 (1) every worker employed in any of the processes to which this schedule shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and chest X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
21 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include pulmonary function test and chest X-ray once in every three years.
22 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.
6 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

SCHEDULE IX
LIMING AND TANNING OF RAW HIDES AND SKINS AND PROCESSES INCIDENTAL THERETO
9 1. Cautionary notices

10 (1) Cautionary notices as to anthrax in the form specified by the Chief Inspector shall be affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed.
11 (2) A copy of a warning notice as to anthrax in the form specified by the Chief Inspector shall be given to each person employed when he is engaged, and subsequently if still employed, on the first day of each calendar year.
12 (3) Cautionary notices as to the effects of chrome on the skin shall be affixed in prominent positions in every factory in which chrome solutions are used and such notices shall be so placed as to be easily and conveniently read by the persons employed.
13 (4) Notices shall be affixed in prominent places in the factory stating the position of the first-aid box or cupboard and the name of the person in charge of such box or cupboard.
14 (5) If any person employed in the factory is illiterate, effective steps shall be taken to explain carefully to such illiterate person the contents of the notice specified in sub- paragraphs (1), (2) and (4) and if chrome solutions are used in the factory, the contents of the notice specified in sub-paragraph (3).
15 2. Protective clothing: The occupier shall provide and maintain in good condition the following articles of protective clothing,
16 (a) waterproof footwear leg coverings, aprons and gloves for persons employed in processes involving contact with chrome solutions, including the preparation of such solutions;

(b) gloves and boots for persons employed in lime yard;
(c) protective footwear, aprons and gloves for persons employed in processes involving the handling of hides and skins, other than in processes specified in sub- paragraphs (a) and (b) above:

Provided that:
vii (i) the gloves, aprons, leg coverings or boots may be of rubber or leather, but the gloves and boots to be provided under sub-paragraphs (a) and (b) shall be of rubber.
viii (ii) the gloves may not be provided to persons fleshing by hand or employed in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquor.
ix 3. Washing facilities, mess room and cloakroom: There shall be provided and maintained in a clean state and in good repair for the use of all persons employed,
x (a) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
xi (b) at least on wash-basin for every ten such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels;
xii (c) a suitable mess room, adequate for the number remaining on the premises during the meal intervals, which shall be furnished with sufficient tables and benches and adequate means for warming food and for boiling water.

The mess room shall (1) be separate from any room or shed in which hides or skins are stored, treated or manipulated; (2) be separate from the cloakroom; and (3) be placed under the charge of a responsible person; and

(d) [140]the occupier shall provide and maintain for use of all persons employed suitable accommodation for clothing put off during working hours and another accommodation for protective clothing and also adequate arrangements for drying up the clothing in both the cases, if wet. The accommodation so provided shall be kept clean at all times and placed under the charge of a responsible person.

4. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any workroom or shed in which hides or skins are stored, treated or manipulated.

5. [141][Medical facilities and record of examinations and tests:

(1) The occupier of every factory in which the schedule applies, shall:

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories;

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(c) arrange for inspection of the hands of all the persons keeping in contact with chromium substances to be made twice a week; and

(d) Provide and maintain and supply suitable ointment and plaster in a box readily accessible to the workers and solely used for the purpose of keeping the ointment and the plaster.

(2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6. Medical Examination by Certifying Surgeon

(1) every worker employed in shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be re-examined by the Certifying Surgeon at least once in every twelve calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub- paragraph (1).

(3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fir for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said

certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which can the person affected shall be suitable rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][142]

SCHEDULE X

CARRYING ON OF CERTAIN PROCESSES OF LEAD AND LEAD MATERIAL IN PRINTING PRESSES AND TYPE FOUNDRIES

14 1. Exemption: Where the Chief Inspector is satisfied that all or any of the provisions of this schedule are not necessary for the protection of persons employed, he may by certificate in writing exempt any factory from all or any such provisions subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector.

15 2. Definitions: For the purpose of this schedule,

16 (a) "lead material" means material containing not less than five per cent of lead;

17 (b) "lead process" means

18 (i) the melting of lead or any lead material for casting and mechanical composing;

19 (ii) the recharging of machines with used lead material;

20 (iii) any other work including removal of dross from melting pots and cleaning of plungers; and

21 (iv) Manipulation, movement or other treatment of lead material.

22 (c) "efficient exhaust draught" means localised ventilation effected by head or mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dust originate.

23 3. Exhaust draught:

24 (1) None of the following processes shall be carried on except with an efficient exhaust draught unless carried on in such a manner as to prevent free escape of gas, vapour, fumes or dust into any place in which work is carried on, or unless carried on in electrically heated and thermostatically controlled melting pots:

25 (a) melting lead material or slugs; and

26 (b) Heating lead material so that vapour containing lead is given off.

Provided that the aforesaid processes may be carried on without efficient exhaust draught if they are carried on in such a manner as to prevent free escape of gas, vapour, fume or dust into any place in which work is being done or is carried on in electrically-heated and thermostatically controlled melting pots.

3 (2) Such exhaust draught shall be effected by mechanical means and so contrived as to operate on the dust, fume, gas or vapour given off as closely as may be at its point of origin.

4 4. Prohibition relating to women and young persons: No woman or young person shall be employed or permitted to work in any lead process.

19 5. Separation of certain processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another and from any other processes:

20 (a) melting of lead or any lead material;

21 (b) casting of lead ingots; and

22 (c) Mechanical composing.

23 6. Container for dross: A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the workroom near the machine except when the dross is being deposited therein.

24 7. Floor of workroom: The floor of every workroom where lead process is carried on shall be:

25 (a) of cement or similar material so as to be smooth and impervious to water;

26 (b) maintained in sound condition; and

27 (c) cleansed throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.

28 8. Mess room: There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable messroom which shall be furnished with sufficient tables and benches.

29 9. Washing facilities

30 (a) There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process – (a) a wash place with either:

31 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or

32 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available; and

33 (b) a sufficient supply of clean towels made of suitable materials renewed daily, with a sufficient supply of soap or other suitable cleansing material.

34 10. 143[Medical facilities and record of examination and tests

35 (1) The occupier of every factory to which this Schedule applies, shall:

36 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

10-A. Medical examination by Certifying Surgeon

9 (1) Every worker employed in a lead processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

10 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every six calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub- paragraph (1).

11 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

12 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

13 (5) If at any time certifying surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes

14 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

15 11. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any workroom in which any lead process is carried on.

16 12. The occupier shall provide to all persons employed in lead process two full sleeve overall every year, arrange for their weekly washing and maintain these in good

2 condition. The person employed in such a process shall wear these overall while engaged in such work.

SCHEDULE XI144
CHEMICAL WORKS
PART I

14 1. Application: This schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.

15 2. Definitions: For the purpose of this schedule,

16 (a) “chemical works” means any factory or such parts of any factory as are listed in appendix `A’ to this schedule;

17 (b) “efficient exhaust draught” means localised ventilation effected by mechanical or other means for the removal of gas, vapour, fume or dust to prevent it from escaping into the air of any place in which work is carried on;

18 (c) “bleaching powder” means the bleaching powder commonly called chloride of lime;

19 (d) “chlorate” means chlorate or perchlorate;

20 (e) “caustic” means hydroxide of potassium or sodium;

21 (f) “chrome process” means the manufacture of chromate or bichromate of potassium or sodium, OT the manipulation, movement or other treatment of these substances;

22 (g) “nitro or amino process” means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues, and the making of explosives with the use of any of these substances;

23 (h) the term `permit to work’ system means the compliance with the procedures laid down under para 20 of Part II;

24 (i) “toxic substances” means all those substances which when they enter into the human body, through inhalation or ingestion or absorption through skin, in sufficient quantities cause fatality or exert serious affliction of health, or chronic harmful effects on the health of persons exposed to it due to its inherent chemical or biological effects. (In respect of substances whose TLV is specified in Rule 123-A, exceeding the concentration specified therein would make the substance toxic);

25 (j) “emergency” means a situation or condition leading to a circumstance or set of circumstances in which there is danger to the life or health of persons or which could result in big fire or explosion or pollution to the work and outside environment, affecting the workers or neighbourhood in a serious manner, demanding immediate action;

26 (k) “dangerous chemical reactions” means high speed reactions, runaway reactions, delayed reactions, etc. and are characterised by evolution of large quantities of heat, intense release of toxic or flammable gases or vapours, sudden pressure build-up etc.;

(l) “manipulation” means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using, etc.;

(m) “approved personal protective equipment” means items of personal protective equipment conforming to the relevant ISI specifications or in the absence of it, personal protective equipment approved by the Chief Inspector of Factories;

(n) “appropriate personal protective equipment” means that when the protective equipment is used by the worker, he shall have no risk to his life or health or body; and
(o) “confined space” means any space by reason of its construction as well as in relation to the nature of the work carried therein and where hazards to the persons entering into or working inside exist or are likely to develop during working.

PART II
GENERAL REQUIREMENTS
Applying to all the works in Appendix `A’
10 1. Housekeeping
11 (1) Any spillage of materials shall be cleaned up before further processing.
12 (2) Floors, platforms, stairways, passages and gangways shall be free of any obstructions.
13 (3) There shall be provided easy means of access to all parts of the parts of the plant to facilitate cleaning.
14 2. Improper use of chemicals-chemicals or solvents or empty containers containing chemicals or solvents shall be permitted to be used by workers for any purpose other than in the processes for which they are supplied.
15 3. Prohibition on the use of food, etc. - No food, drink, tobacco, pan or any edible item shall be stored or heated or consumed on or near any part of the plant or equipment.
16 4. Cautionary Notices and Instructions
17 (1) Cautionary notices in a language understood by the majority of workers shall be prominently displayed in all hazardous areas drawing the attention of all workers about the hazards to health, hazards involving fire and explosion and any other hazard such as consequences of testing of material or substances used in the process or using any contaminated container for drinking or eating, to which the workers’ attention should be drawn for ensuring their safety and health.
18 (2) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the workers including illiterate workers about the hazards in the process including the specific hazards to which they may be exposed to, in the normal course of their work. Such instructions and education should also deal with the hazards involved in unauthorised and

11 unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precautions to be observed against each and every hazard. Further, an undertaking from the workers shall be obtained within 1 month of their employment and for old workers employed, within one month of coming into operation of the rules, to the effect that they have read the contents of the cautionary notices and instructions, understood them and would abide by them. The training and instructions to all workers and all supervisory personnel shall include the significance of different types of symbols and colours used on the labels stuck or painted on the various types of containers and pipe lines.
12 5. Evaluation and provision of safeguards before the commencement of process:

13 (1) Before commencing any process or any experimental work, or any new manufacture covered under Appendix `A', the occupier shall take all possible steps to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical reactions. The properties of the raw materials used, the final products to be made and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects on workers, which may occur during manufacture.
14 (2) Information in writing giving details of the process, its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in sub-para (1) above should be sent to the Chief Inspector at the earliest but in no case less than 15 days before commencing manufacture, handling, or storage of any of items covered under Appendix `A', whether on experimental basis, or as pilot plant or as trial production, or as large scale manufacture.
15 (3) The design, construction, installation, operation, maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safeguards against all the safety and health hazards so evaluated.
16 (4) The requirements under the sub-Para (1) to (3) shall not act in lieu of or in derogation to, any other provisions contained in any Act governing the work.
17 6. Authorized entry: Authorized persons only shall be permitted to enter any section of the factory or plant where any dangerous operations or processes are being carried on or where dangerous chemical reactions are taking place or where hazardous chemicals are stored.
18 7. Examination of instruments and safety devices
19 (1) All instruments and safety devices used in the process shall be tested before taking into use and after carrying out any repair to them and examined once in a month, by a competent person. Records of such tests and examinations shall be maintained in a register.
20 (2) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary, to ensure its effective and efficient working at all times.

12 8. Electrical installations: All electrical installations used in the process covered in Appendix `A' shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corrosion, flammability and exclusivity etc. and shall confirm to the relevant ISI specifications governing their construction and use for that area.
13 9. Handling and storage of chemicals
14 (1) The containers for handling and storage of chemicals shall be of adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequate labelling and colour coding arrangements to enable identification of the containers and their contents indicating the hazards and safe handling methods and shall conform to the respective ISI standards. The instructions given in the label shall be strictly adhered to. Damaged containers shall be handled only under supervision of a knowledgeable and responsible person and spillage shall be rendered innocuous in a safe manner using appropriate means.

15 (2) The arrangements for the storage of chemicals including charging of chemicals in reaction vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in Rule 128.
16 (3) Without prejudice to the generality of the requirements in sub- Para (2) above, the arrangements shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangements shall also take into consideration, the type of flooring and the capacity of flooring and the compatibility requirements of substances with other chemicals stored nearby.
17 (4)
18 (a) Storage of chemicals and intermediate products, which are highly unstable or reactive or explosive shall be limited to the quantities required for two months' use.
19 (b) Whenever the quantities laid down in the above clause (a) are to be exceeded, the permission of the Chief Inspector shall be obtained.
20 (c) Notwithstanding anything contained in clause (a) and (b) above, the Chief Inspector of Factories may direct any factory carrying out processes covered in Appendix `A' to further limit the storage of hazardous substances to quantities less than two months on considerations of safety.
21 (5) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the standby storage facility if any defect develops in any of the container resulting in the release of toxic substances.
22 (6) Any storage facility constructed using non-metallic material such as Fibreglass Reinforced Plastics (FRP), all glass vessels etc., shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be

3 properly anchored. Working platforms, access ladders, pipelines etc. used in such storage facility shall not have any support on the structure of the storage facility and shall be independently supported.
4 10. Facility for isolation: The plant and equipment shall be so constructed and maintained as to enable quick isolation of plant or part of plant or equipment, with appropriate indication. One copy of the layout plan indicating the isolation facilities shall always be available with the security personnel, the maintenance and the health and safety personnel and these isolation facilities shall be checked for its effectiveness once in a month.

11 11. Personal protective equipment
12 (1) All workers exposed to the hazards in the processes covered by this Schedule shall be provided with appropriate and approved type of personal protective equipment. Such equipment shall be in a clean, sterile and hygienic condition before issue.
13 (2) The occupier shall arrange to inform, educate and supervise all the workers in the use of personal protective equipment while carrying out the job.
14 (3) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector will be final.
15 12. Alarm Systems
16 (1) Suitable and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations where process control

arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to conditions conducive for an outbreak of fire or explosion to occur. Such alarm systems shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.

17 (2) The Chief Inspector of Factories may direct such system to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause wide spread poisoning in or around the plant.

18 13. Control of escape of substances into the work atmosphere

19 (1) Effective arrangements such as, enclosure, or by pass, or efficient exhaust draught, maintenance of negative pressure etc., shall be provided in all plants, containers, vessels, sewers, drains, flues, ducts, culverts, and buried pipes and equipment, to control the escape and spread or substances which are likely to give rise to fire or explosion or toxic hazards during normal working and in the event of accident or emergency.

20 (2) In the event of the failure of the arrangements for control resulting in the escape of substances in the work atmosphere immediate steps shall be

4 taken to control the process in such a manner, that further escape is brought down to the safe level.

5 (3) he substances that would have escaped into the work atmosphere before taking immediate steps as required in sub-Para (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.

6 14. Control of dangerous chemical reactions: Suitable provision, such as automatic and or remote control arrangements, shall be made for controlling the effects of `dangerous chemical reactions'. In the event of failure of control arrangements automatic flooding or blanketing or other effective arrangements shall come into operation.

9 15. Testing, examination and repair of plant and equipment

10 (1) All parts of plant, equipment and machinery used in the process which in the likely event of their failure may give rise to an emergent situation shall be tested by a competent person before commencing process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve a suitable testing procedures. In carrying out the test mentioned above in respect of pressure vessels or reaction vessels the following precautions shall be observed, namely:

11 (a) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matters. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, if such sludge is of pyropheric nature or contains spontaneously combustible chemicals;

12 (b) as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom testing has been done, and the date of test; and

13 (c) any vessel which fails to pass the test or which for any other reason is found to be unsafe for use shall be destroyed or rendered unusable under intimation to the Chief Inspector.

14 (2) All parts of plant, equipment, machinery which is the likely event of failure may give rise to an emergent situation shall be examined once in a month by the competent person.
15 (3) Records of testing and examination referred to in paragraphs (1) and (2) shall be maintained as long as that part of the plant, equipment and machinery are in use.
16 (4) All repair work including alteration, modification and addition to be carried out to the plant, equipment and machinery shall be done under the supervision of a responsible person who shall evolve a procedure to ensure

13 safety and health of persons doing the work. When repairs or modification is done on pipelines, and joints are required to be welded, butt welding of joints shall be preferred. Wherever necessary, the responsible person shall regulate the aforesaid work through a `Permit to work system'.
14 16. Staging
15 (1) All staging that is erected for the purpose of maintenance work or repair work or for work connected with entry into confined spaces and used in the processes included in Appendix `A', shall be stable, rigid and constructed out of substantial material of adequate strength. Such staging shall conform to the respective Indian Standard specifications.
16 (2) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated to prevent exposure of persons working on the stages.
17 (3) All the staging constructed for the purpose of this Para shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of one metre and toe board.
18 17. Seating Arrangements: The seating arrangements provided for the operating personnel working in processes covered in Appendix `A' shall be located in a safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of manufacture or repair or maintenance, either due to failure of plant and equipment or due to the substances which are under pressure, escaping into the atmosphere.
19 18. Entry into or work in confined spaces
20 (1) The occupier of every factory to which the provisions of this schedule apply, shall ensure the observance of the following precautions before permitting any person to enter or work inside the confined spaces:
21 (a) identify all confined spaces and the nature of hazards that are encountered in such spaces, normally or abnormally, and arrange to develop the most appropriate safeguards for ensuring the safety and health of persons entering into or working inside, the confined spaces;
22 (b) regulate the entry or work inside the confined spaces through a `permit to work system' which should include the safeguards so developed as required under sub-clause (a) above;
23 (c) before testing the confined space for entry into or work, the place shall be rendered safe by washing or cleaning with neutralising agents; or purging with steam or inert gases and making adequate forced ventilation arrangements or such measure which will render the confined space safe;
24 (d) Shall arrange to carry out such tests as are necessary for the purpose by a competent person and ensure that the confined space is safe for the persons to enter or work. Such testing

shall be carried out as often as is necessary during the course of work to ensure its continued safety;

(e) shall arrange to educate and train the personnel who would be required to work in confined spaces about the hazards involved in the work. He shall also keep in readiness the appropriate and approved personal protective equipment including arrangements for, rescue resurrection and first aid, and shall arrange supervision of the work at all times by a responsible and knowledgeable person.

(2) The manager shall maintain a log of all entry into or work in, confined spaces and such record shall contain the details of persons assigned for the work, the location of the work and such other details that would have a bearing on the log book so maintained shall be retained as long as the concerned workers are in service and produces to the Inspector when demanded.

19. Maintenance work etc.

(1) All the work connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the processes covered in this Schedule, shall be carried out under `permit to work system' employing trained personnel and under the supervision of responsible person, having knowledge of the hazards and precautions required to deal with them.

(2) Maintenance work shall be carried out in such a manner that there is no risk to persons in the vicinity or to persons who pass by. If necessary, the place of such work shall be cordoned off or the presence of unconnected persons effectively controlled.

20. Permit to work system: The permit to work system shall inter-alia include the observance of the following precautions while carrying out any specified work to be subjected to the permit to work system:

(a) all work subject to the permit to work system shall be carried out under the supervision of a knowledgeable and responsible person;

(b) all parts of plant or machinery or equipment on which permit to work system is carried out, shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant, machinery shall be rendered safe by cleaning, purging, washing, etc.;

(c) All work subject to the permit to work system shall have predetermined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued safety is ensured;

(d) persons who are assigned to carry out the permit to work system shall be physically fit in all respects taking into consideration the demands and nature, of the work before entering into the confined space. Such person shall be adequately informed about the correct work procedures as well as the precautions to be observed while carrying out the permit to work system;

(e) adequate rescue arrangements wherever considered necessary and adequate first aid, rescue and resurrection arrangements shall be available

in good working condition near the place of work while carrying out the permit to work system, for use in emergency;

(f) appropriate and approved personal protective equipment shall be used while carrying out the `permit to work system';
(g) after completion of work subject to the `permit to work system' the person responsible shall remove all the equipment and tools and restore to the original condition so as to prevent any danger while carrying out regular process.
21. Safety sampling personnel: The occupier shall ensure the safety of persons assigned for collecting samples by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personal protective equipment, if required.
22. Ventilation: Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be evolved. These arrangements shall ensure that concentrations, which are either harmful or could result in explosion, are not permitted to be built up in the work environment.
23. Procedures for meeting emergencies
(1) The occupier of every factory carrying out the works covered in Appendix `A', shall arrange to identify all types of possible emergencies that could occur in the processes during the course of work or while carrying out maintenance work or repair work. The emergencies so identified shall be reviewed every year.
(2) The occupier shall formulate a detailed plan to meet all such identified emergencies including arrangements for summoning outside help for rescue and firefighting arrangements for making available urgent medical facilities.
(3) The occupier shall send the list of emergencies and the details of procedures and plans formulated to meet the emergencies, to the Chief Inspector of Factories.
(4) The occupier shall arrange to install distinctive and recognisable warning arrangements to caution all persons inside the plant as well as the neighbouring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedures by the persons who are assigned emergency duties. Everything concerned must be well informed about the warning arrangements and their meaning. The arrangements must be checked for its effectiveness every month.
(5) Alternate power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with requirements of Paragraphs 10, 11, 12, 13, 14, 18, 22, and this paragraph of Part II, Part III, Part IV and Part V of this Schedule.

9 (6) The occupier shall arrange to suspend the further process work in a place where emergency is established and shall forthwith evacuate all persons in that area except workers who have been assigned emergency duties.
10 (7) All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.
11 (8) All emergency procedures must be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall suitably be corrected.
12 (9) The occupier shall arrange to have ten percent of the workers trained in the use of First Aid Fire Fighting appliances and in the rendering of specific hazards of the particular process.

13 (10) The occupier shall furnish immediately on request the specific chemical identity of the hazardous substance to the treating physician where the information is needed to administer proper emergency or first-aid treatment to exposed persons.
14 24. Danger due to effluents
15 (1) Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may cause dangerous or poisonous gases to be evolved.
16 (2) Effluents which contain or give rise in the presence of other effluents to poisonous gases shall be provided with independent drainage systems to ensure that they may be trapped and rendered safe.

PART III
FIRE AND EXPLOSION RISKS
7 1. Sources of ignition including lighting installation
8 (1) No internal combustion engine and no electric motor or other equipment, and fittings and fixtures capable of generating electrical sparks or otherwise causing combustion or any other source of ignition or any naked light shall be installed or permitted to be in the process area where there could be fire and explosion hazards.
9 (2) All hot exhaust pipes shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.
10 (3) The classification of work areas in terms of its hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian Standard.
11 (4) Where a flammable atmosphere may be, prevalent or could occur, the soles of footwear worn by workers shall have no metal on them, and the wheels of trucks or conveyors shall be conductive type.
12 (5) All tools and appliances used for work in this area shall be of non-sparking type.

15 (6) Smoking in process areas where there are risks of fire and explosion shall be prohibited, and warning notices in the language understood by majority of workers shall be posted in the factory prohibiting smoking into specified areas.
16 2. Static Electricity
17 (1) All machinery and plant, particularly, pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacles for flammable liquids shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be regulated.
18 (2) Mobile tanker wagons shall be earthed during filling and discharge, and precautions shall be taken to ensure that earthing is effective before such filling or discharge take place.
19 3. Lightning protection: Lightening protection arrangement shall be fitted where necessary, and shall be maintained.
20 4. Process heating: The method of providing heat for a process likely to result in fire and explosion shall be as safe as possible and where the use of naked flame is necessary, the plant shall be so constructed as to prevent any escaping flammable gas, vapour, or dust coming into contact with the flame, or exhaust gases, or other sources likely to cause ignition. Wherever

possible, the heating arrangement shall be automatically controlled at a pre-determined temperature below the danger temperature.

21 5. Leakage of flammable liquids

22 (1) Provision shall be made to confine by means of bund walls, dykes, sumps etc. Possible leakages from storage vessels containing flammable liquids.

23 (2) Waste material in contact with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.

24 (3) Adequate and suitable fire-fighting appliances shall be installed in the vicinity of such vessels.

25 6. Safety valves: Every still and every closed vessel which gas is evolved or into which gas is passed, and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge, and a proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good condition.

26 7. Installation of pipe line etc.: All pipelines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once a week to detect any deterioration or defects, or accumulation of flammable or explosive substances, and record kept of any defects found and repairs made.

27 8. Firefighting systems

28 (1) Every factory employing 500 or more persons and carrying out processes listed in Appendix `A' shall provide:

(a) Trained and responsible firefighting squad so as to effectively handle the firefighting and lifesaving equipment in the event of fire or another emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case, shall be less than 8 such trained persons to be available at any time. The squad shall consist of watch & ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire &emergency services.

(b) Squad leaders shall preferably be trained in a recognised government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(2) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(3) The pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately be brought to the notice of squad leader.

(4) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone inter lined and placed in a convenient location near such areas.

PART IV

RISKS OF TOXIC SUBSTANCES

7 1. Leakage

8 (1) All plants shall be so designed and constructed as to prevent the escape of toxic substance. Where necessary, separate buildings, rooms, or protective structures shall be used for the dangerous stages of the process and buildings shall be so designed as to localise any escape of toxic substances.
9 (2) Catch pits, bund walls, dykes, or other suitable safeguards shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipelines where there is danger involved to maintenance and other workers from such leakage.
10 2. Drainage: Adequate drainage shall be provided and shall lead to collection tanks specifically provided for this purpose wherein deleterious material shall be neutralised, treated or otherwise rendered safe before it is discharged into public drains or sewers.
11 3. Covering of vessels
12 (1) Every fixed vessel or structure containing any toxic substance and not so covered as to eliminate all reasonable risk of accidental contact of any

4 portion of the body of a worker, shall be so constructed as to avoid physical contact.
5 (2) Such vessel shall, unless its edge is at least 90 centimetres above the adjoining ground or platform, be securely fenced to a height of at least 90 centimetres above such adjoining ground or platform.
6 (3) Where such vessels adjoin and the space between them, clear of any surrounding brick or other work is either less than 45 centimetres in width or is 45 or more centimetres in width, but is not securely fenced on both sides to a height of at least 90 centimetres, secure barriers shall be so placed as to prevent passage between them:

Provided that sub-paragraph (2) of this paragraph shall not apply to:
(a) saturators used in the manufacture of sulphate of ammonia; and
(b) That part of the sides of brine evaporating pans which require raking, drawing or filling.
4. Continuous exhaust arrangement
(1) Any process evolving toxic vapour, gas, fume and substance shall have efficient continuous exhaust draught. Such arrangement shall be interlocked in the process control wherever possible.
(2) In the event of failure of continuous exhaust arrangement means shall be provided to automatically stop the process.
5. Work Bench: All the work benches used in the processes involving the manipulation of toxic substances, shall be graded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.
6. Waste disposal
(1) There shall be provided a suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such receptacle shall be destroyed by burning or using other suitable methods under the supervision of a responsible person.
(2) During the course of manufacture, whenever any batch or intermediate products having toxicity is rejected on considerations of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactivate them, before disposal.

(3) The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision of a responsible person.

PART V
SPECIAL PROVISIONS

2 1. Special precautions for Nitro or Amino Processes

14 (1) Unless the crystallised intro or amino substances or any of its liquor is broken or agitated in a completely enclosed process so as not to give rise to dust or fume, such process shall be carried on under an efficient exhaust draught or by adopting any other suitable means in such a manner as to prevent the escape of dust or fume in the working atmosphere.

15 (2) No part of the plant or equipment or implements which was in contact with nitro or amino compounds shall be repaired, or handled unless they have been emptied and thoroughly cleaned and decontaminated.

16 (3) Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop to avoid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work room.

17 (4) Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.

18 (5) Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.

19 2. Special precautions for 'chrome processes'

20 (1) Grinding and sieving of raw materials in chrome processes shall be carried on in such a manner and under such condition as to secure effective separation from any other processes and under an efficient exhaust draught.

21 (2) There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling, evaporation, crystallisation, centrifugation or packing are carried out, to enable quick washing of affected parts of body with running water.

22 (3) Weekly inspection of hand and feet of all persons employed in chrome process shall be done by a qualified nurse and record of such inspections shall be maintained in a form approved by the Chief Inspector of Factories.

23 (4) There shall be always available at designated places of work suitable ointment such as glycerine, vaseline, etc. and water proof plaster in a separate box readily accessible to the workers so as to protect against perforation of nasal septum.

24 3. Special precautions for processes carried out in all glass vessels

25 (1) Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride etc. which are required to be carried out in all glass vessels shall have suitable means like substantial wire mesh covering to protect persons working nearby in the event of breakage of glass vessel

26 (2) Any spillage or emission of vapour from the all glass vessel due to breakage, shall be immediately inactivated or rendered innocuous by suitable means

15 such as dilution with water or suitable solvents so as to avoid the risks of fire or explosion or health hazards.
16 4. Special precautions for processes involving chlorate manufacture
17 (1) Crystallisation, grinding or packing of chlorate shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of non-combustible material. The place shall be thoroughly cleaned daily.
18 (2) The personal protective equipment likes overall, etc. provided for the chlorate workers shall not be taken from the place of work and they shall be thoroughly cleaned daily.
19 (3) Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.
20 (4) Wooden vessels shall not be used for the crystallisation of chlorate or to contain crystallised ground chlorate.
21 5. Special precautions in the use of plant and equipment made from reinforced plastics:
22 (1) All plant and equipment shall conform to appropriate Indian or any other National Standard.
23 (2) Care shall be taken during storage, transport, handling and installation of plant and equipment to avoid accidental damage.
24 (3) All plant and equipment shall be installed in such a way as to ensure that loads are distributed as intended in design or as per the recommendations of the manufacture.
25 (4) All pipe work shall be supported so that total loads local to the branches on the vessel or tank do not exceed their design values.
26 (5) After erection, all plant and equipment shall be subjected to a pressure test followed by a thorough examination by a competent person. The test and examination shall be as per relevant Standard. A certificate of test and examination by a competent person shall be obtained and kept available at site.
27 (6) All plant and equipment shall be subjected to periodical test and examination and record maintained as per Paragraph 15 in Part II of this Schedule.
28 (7) Plant and equipment during their use shall not be subjected to over filling or over loading beyond rated capacity.

PART VI
MEDICAL REQUIREMENTS
2 1. Decontamination facilities: In all places where toxic substances are used in processes listed in Appendix `A' the following provisions shall be made to meet an emergency:

(a) fully equipped first aid box;
(b) readily accessible means of drenching with water persons, parts of body of persons, and clothing of persons who have been contaminated with such toxic and corrosive substances, and such means shall be as shown in the Table below:

No. of persons employed at any time	No. of drenching showers
Upto 50 persons	2
Between 51 to 100	3
101 to 200	3 + 1 for every 50 persons thereafter
201 to 400	5 + 1 for every 100 persons thereafter
401 and above	7 + 1 for every 200 persons thereafter

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

2. Occupational health centre: In all the factories carrying out processes covered in Appendix `A' there shall be provided and maintained in good order an occupational health centre with facilities as per scale laid down hereunder

(1) For factories employing upto workers

(a) the services of a qualified medical practitioner hereinafter known as Factory Medical Officer, available on a retainer ship basis, in his notified clinic near to the factory for seeking medical help during emergency. He will also carry out the pre-employment and periodical medical examinations as stipulated in paragraph 4 of this Part.

(b) A minimum of five persons trained in first aid procedures, amongst whom at least one shall always be available during the working period.

(c) A fully equipped first aid box.

(2) For factories employing 51 to 200 workers

(a) The occupational health centre shall have a room having a minimum floor area of 15 sq., with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(b) A part-time Factory Medical Officer will be in overall charge of the Centre who shall visit the factory minimum twice in a week and whose services shall be readily available during emergencies.

(c) There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period.

(d) A fully equipped first aid box.

(3) For factories employing above 200 workers

(a) There shall be one full-time Factory Medical Officer for factories employing upto 500 workers and one more medical officer for every 1000 workers or part thereof.

(b) The occupational health centre in this case shall have a minimum of 2 rooms each having a minimum floor area of 15 sq.m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(c) There shall be one trained nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period.

(d) The Occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

3. Ambulance van

(1) In every factory carrying out processes covered in Appendix `A', there shall be provided and maintained in good condition, a suitably constructed and fully equipped ambulance van as per Appendix `C' manned by a full-time driver-cum- mechanic and a helper, trained in first aid for the purposes of transportation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been made with the nearby hospital or other places. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will always be available near the Occupational Health Centre.

(2) The relaxation to procure Ambulance Van from nearby places provided for in sub- para (1) above will not be applicable to factories employing more than 500 workers.

4. Medical examination

(1) Workers employed in processes covered in Appendix `A' shall be medically examined by a Factory Medical Officer in the following manner:

(a) Once before employment, to ascertain physical suitability of the person to do the particular job;

(b) Once in a period of 6 months, to ascertain the health status of the worker, and

(c) The details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the prescribed form.

(2) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned workers and communicate his findings within 30 days. If the Certifying Surgeon is of the opinion that the person so examined is required to be suspended from the process for health protection he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the

2 opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated:

Provided that the Certifying Surgeon on his own may examine any other worker whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix `A' or for ascertaining the health status of any other worker and his opinion shall be final.

3 (3) No person shall be newly appointed without the Certificate of Fitness granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being appointed to work in the process covered in Appendix `A', such person shall have a right of appeal to the Certifying Surgeon, whose opinion shall be final in this regard.

4 (4) The worker suspended from the process owing to the circumstances covered in sub-para (2) shall be employed again in the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect in the health register.

PART VII

ADDITIONAL WELFARE AMENITIES

9 1. Washing facilities

10 (1) There shall be provided and maintained in every factory for the use of all the workers taps for washing, at the rate of one every 15 persons including liquid soap in a container with tilting arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a clean and hygienic condition.

11 (2) If washing facilities as required above are provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.

12 2. Mess room facilities

13 (1) The occupier of all the factories carrying out processes covered in Appendix `A' and employing 50 workers or more, shall provide for all the workers working in a shift mess room facilities which are well ventilated and provided with tables and sitting facilities along with the provision of cold and hygienic drinking water facilities.

14 (2) Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

15 3. Cloakroom facilities

16 (1) The occupier of every factory carrying out any process covered in Appendix `A' shall provide for all the workers employed in the process cloak room facilities with lockers. Each worker shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers should be such as to enable the keeping of the clothing in a hanging position.

6 (2) The cloak room facilities provided in pursuance of sub-para (1) shall be located as far as possible near to the facilities provided for washing in pursuance of para 1(1). If it is not possible to locate the washing facilities the cloakroom facilities shall have adequate and suitable arrangements for cleaning & washing.

7 4. Special bathing facilities

8 (1) The occupier of any factory carrying out the process covered under Appendix `B' shall provide special bathing facilities for all the workers employed and such facilities shall be provided at the rate of 1 for 25 workers and part thereof, and shall be maintained in a clean and hygienic condition.

9 (2) The occupier shall insist all the workers employed in the processes covered in Appendix `B' to take bath after the completion of the day's or shift work using the bathing facilities so provided and shall also effectively prevent such of those workers taking bath in any place other than the bathing facilities.

10 (3) Notwithstanding anything contained in sub-para (1) above, the Chief Inspector may require in writing the occupier of any factory carrying out any other process for which his opinion bathing facilities are essential from the health point of view, to provide special bathing facilities.

PART VIII

7 1. Duties of workers

8 (1) Every worker employed in the processes covered in Appendix 'A' and Appendix 'B' shall not make safety device or appliance or any guarding or fencing arrangement, inoperative or defective and shall report the defective condition of the aforesaid arrangements as soon as he is aware of any such defect.

9 (2) Before commencing any work, all workers employed in processes covered in Appendix 'A' shall check their workplace as well as the machinery, equipment or appliance used in the processes and report any mal-function or defect immediately to the supervisor or any responsible person of the management.

10 (3) All workers shall co-operate in all respects with the management while carrying out any work or any emergency duty assigned to them in pursuance of this schedule and shall always use all the personal protective equipment issued to them in a careful manner.

11 (4) All workers employed in the processes covered in Appendix `A' or Appendix `B' shall not smoke in the process area or storage area. If special facilities are provided by the management only such facilities should be used.

12 (5) All workers employed in the processes covered in Appendix `A' shall not remain in unauthorised place or carry cut unauthorised work or improvise any arrangement or adopt short out method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as or to others employed.

2 (6) The workers shall not refuse undergoing medical examination as required under these rules.

PART IX

RESTRICTIONS ON THE EMPLOYMENT OF YOUNG PERSONS UNDER 18 YEARS OF AGE AND WOMEN

3 1. The Chief Inspector of Factories may by an order in writing, restrict or prohibit the employment of women and young persons under the age of 18, in any of the processes covered in Appendix `A' of this schedule on considerations of health and safety of women and young persons.

4 2. Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of sub-para (1) above shall be provided with alternate work which is not detrimental to their health or safety.

PART X

EXEMPTIONS

2 1. Power of exemption: The State Government or subject to the control of the State Government the Chief Inspector may exempt from the compliance with any of the requirements of this Schedule partly or fully, any factory carrying out processes covered in Appendix `A', if it is clearly and satisfactorily established by the occupier that the compliance with any of the requirement is not necessary to ensure the safety and health of persons employed suitable and effective alternate arrangements are available to any of the requirements covered in this schedule.

APPENDIX `A'

Any works or that part of works in which:
(a) the manufacture, manipulation or recovery of any of the following is carried on:
(i) sodium, potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, selenium, magnesium, cadmium, mercury, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;
(ii) ammonia, ammonium hydroxide and salts of ammonium;
(iii) the organic or inorganic compounds of sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydriodic, hydro sulphuric, hydrobromic, boric;
(iv) cyanogen compounds, cyanide compounds, cyanate compounds;
(v) phosphorous and its compounds other than oregano phosphorus insecticides.
(vi) chlorine
(b) hydrogen sulphide is evolved by the decomposition of metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;
(c) bleaching powder is manufactured or chlorine gas is produced in chlor-alkali plants;
(d)

vi (i) gas tar or coal tar or bitumen or shale oil asphalt or any residue of such tar is distilled or is used in any process of chemicals manufacture;
vii (ii) tar based synthetic colouring matters or their intermediates are produced;
viii (e) nitric acid is used in the manufacture of nitro compounds;
ix (f) explosives are produced with the use of nitro compounds;
x (g) aliphatic or aromatic compounds or their metallic and non-metallic derivatives or substituted derivatives, such as chloroform, ethylene glycol, formaldehyde, benzyl chloride, phenol, methyl ethyl keytone peroxide, cobalt carbonyl, tungsten carbide etc. are manufactured or recovered.

APPENDIX `B'
CONCERNING SPECIAL BATHING ACCOMMODATION IN PURSUANCE OF PARA 4 OF PART IV
8 1. Nitro or amido processes
9 2. All chrome processes
10 3. Processes of distilling gas or coal tar or processes of chemical manufacture in which tar is used
11 4. Processes involving manufacture, manipulation, handling or recovery of cyanogen compound, cyanide compound, cyanate compounds
12 5. Processes involving manufacture of bleaching powder or production of chlorine gas in chlor- alkali plants
13 6. Manufacture, manipulation or recovery of nickel and its compounds
14 7. All processes involving the manufacture, manipulation or recovery of aliphatic or aromatic compounds or their derivatives or substituted derivatives.

APPENDIX `C'
Ambulance
Ambulance should have the following equipment:
General:

-A wheeled stretcher with folding and adjusting devices;
-Head of the stretcher must be capable of being tilted upward;
-Fixed suction unit with equipment;
-Fixed oxygen supply with equipment;
-Pillow with case;
-Sheets;
-Blankets;
-Towels;
-Emesis bag;

-Bed pan;
-Urinal;
-Glass
Safety equipment:
-Flares with life of 30 minutes
-Flood lights;
-Flash lights;
-Fire extinguisher dry powder type;
-Insulated gauntlets.
Emergency care equipment:
-Resuscitation:
-Portable suction unit;
-Portable oxygen unit;
-Bag-valve-mask, hand operated artificial ventilation unit;
-Airways;
-Mouth gags;
-Tracheostomy adapters;
-Short spine board;
-I.V. Fluids with administration unit;
-B.P. manometer;
-Cugg;
-Stethoscope
Immobilisation
-Long & short padded boards;
-Wire ladder splints;
-Triangular bandage;
-Long & short spine boards.
Dressings:
-Gauze pads - 4” x 4”;
-Universal dressing 10” x 36”;
-Roll of aluminium foils;
-Soft roller bandages 6” x 5 yards;
-Adhesive tape in 3” roll;
-Safety pins;

-Bandage sheets;
-Burn sheet.
Poisoning:
-Syrup of Ipecac;
Pre-pocketed in doses.
-Activated charcoal;
-Snake bite kit;
-Drinking water.
Emergency Medicines:
-As per requirement (under the advice of Medical Officer only)

SCHEDULE XII

MANUFACTURE OF POTTERY

7 1. Definitions: For the purposes of this schedule,

8 (a) "pottery" includes earthenware, stoneware, porcelain, china tiles, and any other articles made from such clay or from a mixture containing clay and other materials such as quartz, flint, feldspar, and gypsum;

9 (b) "efficient exhaust draught" means localised ventilation effected by mechanical or other means for removal of dust or fume so as to prevent it from escaping into air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove effectively dust or fume generated at the point where dust or fume originates;

10 (c) "fettling" includes scalloping, towing, sand papering, sand sticking, brushing or any other process of cleaning of pottery ware in which dust is given off;

11 (d) "leadless glaze" means a glaze which does not contain more than one per cent of its dry weight, of a lead compound calculated as lead monoxide;

12 (e) "low solubility glaze" means a glaze which does not yield to dilute hydrochloric acid more than five per cent of its dry weight, of a soluble lead compound calculated as lead monoxide when determined in the manner described below:

A weighed quantity of the material which has been dried at 100 degrees centigrade and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphide;

(f) "ground or powdered flint or quartz" does not include natural sands; and

(g) "potter's shop" includes all places where pottery is formed by pressing or by any other process and all places where shaping, fettling or other treatment of pottery articles prior to placing for the biscuit fire is carried on.

2. Efficient exhaust draught: The following processes shall not be carried on without the use of an efficient exhaust draught,

(i) All processes involving the manipulation or use of a dry and unfitted lead compound;

(ii) The fettling operations of any kind, whether on green ware or biscuit, provided that this shall not apply to the wet fettling, and to the occasional finishing of pottery articles without the aid of mechanical power;
(iii) The shifting of clay dust or any other material for making tiles or other articles or other articles by pressure, except where
(a) this is done in a machine so enclosed as to effectually prevent the escape of dust; or
(b) the material to be shifted is so damp that no dust can be given off;
(iv) The pressing of tiles from clay dust, an exhaust opening being connected with each press, and pressing from clay dust of articles other than tiles, unless the material is so damp that no dust is given off;
(v) The fettling of tiles made from clay dust by pressure, except where the fettling is done wholly on, or with, damp material, and fettling of other articles made from clay dust, unless the material is so damp that no dust is given off;
(vi) The process of loading and unloading of saggars where handling and manipulation of ground and powdered flint, quartz, aluminia or other materials are involved;
(vii) The brushing of earthenware biscuit, unless the process is carried on in a room provided with efficient general mechanical ventilation or other ventilation which is certified by the Inspector of Factories as adequate having regard to all the circumstances of the case;
(viii) Fettling of biscuit ware which has been fired in powdered flint or quartz except where this is done in machines so enclosed as to effectually prevent the escape of dust;
(ix) Ware cleaning after the application of glaze by dipping or other process;
(x) Crushing and dry grinding of materials for pottery bodies and saggars, unless carried on in machines so enclosed as to effectively prevent the escape of dust or is so damp that no dust can be given off;
(xi) sieving or manipulation of powdered flint, quartz, clay grog or mixture of these materials unless it is so damp that no dust can be given off;
(xii) Grinding of tiles on a power-driven wheel unless an efficient water spray is used on the wheel;

xix (xiii) Lifting and conveying of materials by elevators and conveyors unless they are effectively enclosed and so arranged as to prevent escape of dust into the air in or near to any place in which persons are employed;
xx (xiv) The preparation or weighing out of flow material, lawning of dry colours, colour dusting and colour blowing;
xxi (xv) Mould making unless the bins or similar receptacles used for holding plaster of Paris are provided with suitable covers; and
xxii (xvi) The manipulation of calcined material unless the material has been made and remains so wet that no dust is given off.
xxiii 3. Carrying of processes: Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another, and from other wet processes:
xxiv (a) Crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and green ware, loading and unloading of saggars; and
xxv (b) All processes involving the use of a dry lead compound.

xxvi 4. Use of glaze: No glaze which is not a leadless glaze or a low solubility glaze shall be used in a factory in which pottery is manufactured.
xxvii 5. Restriction on employment of women and young persons: No woman or young person shall be employed or permitted to work in any of the operations specified in clause 2, or at any place where such operations are carried on.
xxviii 6. Potter's wheel: The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel.
xxix 7. Measure to be taken to prevent dust flowing:
xxx (1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.
xxxi (2) Damp saw-dust or other suitable material shall be used to render the moist method effective in preventing dust rising into the air during the cleaning process which shall be carried out after work has ceased.
xxxii 8. Cleaning of floors: The floors of potter's shops, slip houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by a moist method by an adult male.
xxxiii 9. [Medical facilities and records of examinations and tests
xxxiv (1) The occupier of every factory in which manufacture of pottery is carried on, shall:
xxxv (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
xxxvi (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

2 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

8 10. Medical examination by Certifying Surgeon
9 (1) Every worker employed in any process mentioned under paragraph 2, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, haemoglobin content, stippling of cells and pulmonary function tests and chest X-Ray for workers engaged in processes mentioned in clause (I) and (xiv) of paragraph 2 and pulmonary function tests chest X-rays for the others. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
10 (2) All persons employed in any of the processes specified in clauses (I) and (xiv) of paragraph 2, shall be examined by a Certifying Surgeon once in every 3 calendar months. Those employed in any other processes mentioned in the remaining clause of paragraph 2, shall be examined by a Certifying Surgeon once in every 12 months. Such examinations in respect of all the workers shall include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in every 3 years.
11 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the

Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

12 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

13 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes.

14 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.][145]

16 11. Protective equipment

17 (1) The occupier shall provide and maintain suitable overalls and hand coverings for all persons employed in processes mentioned in clause 2.

18 (2) The occupier shall provide and maintain suitable aprons of a of a waterproof or similar material, which can be sponged daily, for the use of the dippers, dippers assistants, throwers, jolly workers, casters, mould makers and filter press and pug mill workers.

19 (3) Aprons provided in pursuance of sub-clause (2) shall be thoroughly cleaned daily by the wearers by sponging or other wet process. All overalls and head coverings shall be washed, cleaned and mended at least once a week, and this washing, cleaning or mending shall be provided for by the occupier.

20 (4) No person shall be allowed to work in emptying sacks of dust materials, weighing out and mixing of dusty materials and charging of ball mills and blunders without wearing a suitable and efficient dust aspirator.

21 12. Washing facilities: The occupier shall provide and maintain, in a clean state and in good repair for the use of all persons employed in any of the processes specified in clause 2, a wash place under cover, with either

22 (a)

23 (i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of atleast 2 feet for every such persons employed at any one time, and having a constant supply of clean water from taps or jets above the trough at intervals of not more than two minutes; or

24 (ii) at least one tap or stand pipe for every five such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 meter apart; and

25 (b) a sufficient supply of clean towels made of suitable materials changed daily, with a sufficient supply of soap and nail brushes.

26 13. Time allowed for washing: Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in any of the processes mentioned in clause 2.

27 14. Mess room

28 (1) There shall be provided and maintained for use of all persons remaining within the premises during the rest intervals, a suitable mess room or canteen at a distance of at least 15 meters from the main factory providing a minimum accommodation of 0.95 square meter per head. The washing facilities mentioned above shall be provided near the mess room or canteen and the mess room and canteen shall be furnished with:

29 (i) a sufficient number of tables and chairs or benches with back rest;

30 (ii) arrangements for washing utensils;

xii (iii) adequate means for warming food; and

xiii (iv) adequate quantity of drinking water.

xiv (2) The room shall be adequately ventilated by the circulation of fresh air and placed under the charge of a responsible person and shall be kept clean.

xv 15. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into, or consumed by any worker in any workroom in which any of the processes mentioned in clause 2 are carried on and no person shall remain in any such room during intervals for meals or rest.

xvi 16. Cloakrooms etc.: There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in clause 2.

xvii (a) a cloakroom for clothing put off during working hours and such accommodation shall be separate from any mess room; and

xviii (b) Separate and suitable arrangements for the storage of protective equipment provided under clause 11

xix 17. Applications: These provisions shall not apply to a factory in which any of the following articles, but no other pottery, are made:

xx (a) unglazed or salt glazed bricks and tiles; and

xxi (b) Architectural terra-cotta made from plastic clay and either unglazed or glazed with a leadless glaze only.

xxii 18. Exemption: If in respect of any factory the Chief Inspector of Factories is satisfied that all or any of the provisions of this schedule are not necessary for the protection of the persons employed in such factory, he may by a certificate in writing exempt such factory from all or any of such provisions, subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector without assigning any reasons.

SCHEDULE XIII

COMPRESSION OF OXYGEN AND HYDROGEN PRODUCED BY ELECTROLYSIS OF WATER

6 1. The room in which electrolysis plant is installed shall be separate from the plant for storing and compressing the oxygen and hydrogen and also the electric generator room.

7 2. 146[The purity of oxygen and hydrogen shall have tested by a competent person at least once in every shift at the following posts:

8 (a) in the electrolysis room;

9 (b) at the gas holder inlet; and

10 (c) at the suction and of the compressor.

The purity figures shall be entered in a register and signed by the persons carrying out such test:

Provided, however, that if the electrolysis plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm lights, it shall be sufficient if the purity of gases is tested at the suction and of the compressor only.]

The purity figures shall be entered and signed by the person carrying out such tests in the register:

Provided that if the compression unit and the gas holder inlets are fitted with automatic oxygen-in-hydrogen or hydrogen-in-oxygen purity indicating instruments which trips the supply to the driving motors in the event of the purity dropping below 98 per cent testing of gas at hourly intervals at these two points shall not be necessary.

10 3. The oxygen and hydrogen gases shall not be compressed if their purity as determined under clause 2 above falls below 98% at any time.

11 4. 147[In addition to the limit switch in the gas holder, a sensitive negative pressure switch shall be provided in or adjacent to the suction main for hydrogen close to the gas holder and between the gas holder and the hydrogen compressor motor in the event of the gas holder being emptied to the extent as to cause vacuum.]

12 5. 148[The bell of any gas holder shall not be permitted to go within the 30 centimetres of its lowest position when empty and a limit switch shall be fitted to the gas holder in such a manner as to switch off the compressor motor when the limit is reached;]

13 6. The water and caustic soda used for making lye shall be chemically pure within pharmaceutical limits.

14 7. Electrical connections at the electrolyser cells and at the electric generator terminals shall be so constructed as to preclude the possibility of wrong connections leading to the reversal of polarity and in addition an automatic device shall be provided to cut off power in the event of reversal of polarity owing to wrong connections either at the switch board or at the electric generator terminals.

15 8. Oxygen and hydrogen gas pipes shall be painted with distinguishing colours and in the event of leakage at the joints of the hydrogen gas pipe, the pipe after reconnection shall be purged of all air before drawing in hydrogen gas.

16 9. All electrical wiring and apparatus in the electrolyser room shall be of flameproof construction or enclosed in flameproof fittings and no naked light or flame shall be allowed to be taken either in the electrolyser room or where compression and filling of the gases is carried on and such warning notices shall be exhibited in prominent places.
17 10. No part of the electrolyser plant and the gas holders and compressor shall be subjected to welding, brazing, soldering or cutting until steps have been taken to remove any explosive substance from that part and render the part safe for such operations and after the completion of such operations no explosive substance shall be allowed to enter that part until the metal has cooled sufficiently to prevent risk of explosion.
18 11. No work or operations, repair or maintenance shall be undertaken except under the direct supervision of a person who, by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work. No electric generator after erection or repairs shall be

3 switched on/the electrolysers unless the same is certified by the competent persons under whose direct supervision erection or repairs are carried on to be in a safe condition and the terminals have been checked for the polarity as required by clause 7.
4 12. Every part of the electrolysis plant and the gas holders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith".

SCHEDULE XIV149
MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING FREE SILICA
11 1. Application: This schedule shall apply to all factories or parts of factories in which manipulation of stone or any other material containing free silica is carried on.
12 2. Definitions: For the purpose of this Schedule,
13 (a) "manipulation" means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading or handling of stone or any other material containing free silica or any other operation involving such stone or material;
14 (b) "Stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.
15 3. Precautions in manipulation: No manipulation shall be carried out in a factory or part of a factory unless one or more of the following measures, namely:
16 (a) damping the stone or other material being processed,
17 (b) providing water spray,
18 (c) enclosing the process,
19 (d) isolating the process, and
20 (e) providing localised exhaust ventilation are adopted so as to effectively control the dust in any place in the factory where any person is employed, at a level equal to or below the maximum permissible level for silica dust as laid down in Table 2 appended to Rule 104-A.

Provided that such measures as above said are not necessary if the process or operation itself is such that the level of dust created and prevailing does not exceed the permissible level referred to.

4 4. Maintenance of floors

5 (1) All floors or places where fine dust is likely to settle on and whereon any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent dust being airborne in the process of cleaning.

6 (2) The surface of every floor of every work room or place where any work is carried on or where any person has to pass during the course of his work, shall be cleansed of dust once at least during each shift after being

13 sprayed with water or by any other suitable method so as to prevent dust being airborne in the process of cleaning.

14 5. Prohibition relating young persons: No young person shall be employed or permitted to work in any of the operations involving manipulation or at any place where such operations are carried out.

15 6. Medical Facilities and records of examinations and tests

16 (1) The occupier of every factory to which the schedule applies, shall:

17 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

18 (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause(a).

19 7. Medical examination by Certifying Surgeon

20 (1) Every worker employed in the processes specified in paragraph 1, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

21 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub- paragraph (1) except chest X-ray which will be once in 3 years.

22 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

23 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

24 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said

processes. The person so suspended from the process shall be provided with alternate placement facilities unless he fully is incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

3 (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
4 8. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or in frequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.]

SCHEDULE XV150
HANDLING AND PROCESSING OF ASBESTOS, MANUFACTURE OF ANY ARTICLE OF ASBESTOS AND ANY OTHER PROCESS OF MANUFACTURE OR OTHERWISE IN WHICH ASBESTOS IS USED IN ANY FORM.
14 1. Application: This schedule shall apply to all factories or parts of factories in which any of the following processes is carried on,
15 (a) breaking, crushing, disintegrating, opening, grinding, mixing or sieving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;
16 (b) all processes in the manufacture of asbestos textiles including preparatory and finishing processes;
17 (c) making of insulation slabs or sections, composed wholly or partly of asbestos, and processes incidental thereto;
18 (d) making or repairing of insulating mattresses, composed wholly or partly of asbestos, and processes incidental thereto;
19 (e) manufacture of asbestos cardboard and paper;
20 (f) manufacture of asbestos cement goods; (g) application of asbestos by spray method;
21 (g) sawing, grinding, turning, abrading and polishing in dry state of articles composed wholly or partly of asbestos;
22 (h) cleaning of any room, vessel, chamber, fixture or appliance for the collection of asbestos dust; and
23 (i) Any other processes in which asbestos dust is given off into the work environment.
24 2. Definition: For the purpose of this Schedule,
25 (a) “asbestos” means any fibrous silicate mineral and any admixture containing actionlike, amosite, anthophyllite, dhrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;
26 (b) “asbestos textiles” means yarn or cloth composed of asbestos or asbestos mixed with any other material;

(c) “approved” means approved for the time being in writing by the Chief Inspector;

(d) “breathing apparatus” means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust, or any other approved apparatus;
(e) “Efficient exhaust draught” means a localised ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to control dust produced at the point where such dust originates;
(f) “preparing” means crushing, disintegrating, and any other processes in or incidental to the opening of asbestos;
(g) “Protective clothing” means overalls and head covering, which (in either case) will when worn exclude asbestos dust.
3. Tools and equipment: Any tools or equipment used in processes to which this schedule applies shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.
4. Exhaust draught
(1) An efficient exhaust draught shall be provided and maintained to control dust from the following processes and machines:
(a) manufacture and conveying machinery namely:
(i) preparing, grinding, or dry mixing machines;
(ii) carding, card waste and ring spinning machines, and looms;
(iii) machines or other plant fed with asbestos;
(iv) machines used for the sawing, grinding, turning, drilling, abrading or polishing; in the dry state, of articles composed wholly or partly of asbestos;
(b) cleaning, and grinding of the cylinders or other parts of a carding machine;
(c) chambers, hoppers or other structures into which lose asbestos is delivered or passes;
(d) work-benches for asbestos waste sorting or for other manipulation or asbestos by hand;
(e) workplaces at which the filling or emptying of sacks, skips or other portable containers, weighing or other process incidental thereto which is effected by hand, is carried on;
(f) sack cleaning machines;
(g) mixing and blending of asbestos by hand; and
(h) any other process in which dust is given off into the work environment.

16 (2) Exhaust ventilation equipment provided in accordance with sub-paragraph (1) shall, while any work of maintenance or repair to the machinery, apparatus or other plant or equipment in connection with which it is provided is being carried on, be kept in use so as to produce an exhaust draught which prevents the entry of asbestos dust into the air of any work place.
17 (3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.
18 (4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable recepticles or filter bags which shall be isolated from all work areas.
19 5. Testing and examination of ventilating systems
20 (1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule shall be examined and inspected once every week by a responsible

person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

21 (2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alternations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

22 6. Segregation in case of certain process: Mixing or blending of asbestos by the hand, or making or repairing of insulating mattresses composed wholly or partly of asbestos shall not be carried on in any room in which any other work is done.

23 7. Storage and distribution of loose asbestos: All loose asbestos shall while not in use be kept in suitable closed receptacles which prevent the escape of asbestos dust therefrom and such asbestos shall not be distributed in the factory except in such receptacles or in totally enclosed system of conveyance.

24 8. Asbestos sacks

25 (1) All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.

26 (2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 4.

27 9. Maintenance of floors and workplaces

28 (1) In every room in which any of the requirements of this schedule apply:

29 (a) the floors, work-benches, machinery and plant shall be kept in a clean state and free from asbestos debris and suitable arrangements shall be made for the storage of asbestos not immediately required for use; and

30 (b) the floors shall be kept free from any materials, plant or other articles not immediately required for the work carried on in the room, which would construct the proper cleaning of the floor.

15 (2) The cleaning as mentioned in sub-rule (1) shall so for as is practicable, as carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor is discharged into the air of any work place.

16 (3) When the cleaning is done by any method other than that mentioned in sub-paragraph (2), the persons doing cleaning work and any other person employed in that room shall be provided with respiratory protective equipment and protective clothing.

17 (4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2), shall be properly maintained and after each cleaning operation, its surfaces kept in a clean state and free from asbestos waste and dust.

18 (5) Asbestos waste shall not be permitted to remain on the floors or other surfaces at the work place at the end of the working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.

19 10. Breathing apparatus and protective clothing

20 (1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every person employed:

21 (a) in chambers containing loose asbestos;

22 (b) in cleaning, dust settling or filtering chambers of apparatus;

23 (c) in cleaning the cylinders, including the defer cylinders, or other parts of a carding machine by means of hand-strikes;
24 (d) in filling, beating, or levelling in the manufacture or repair of insulating mattresses; and
25 (e) in any other operation or circumstances in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.
26 (2) Suitable accommodation in conveniently accessible position shall be provided for the use of persons when putting on or taking off breathing apparatus and protective clothing provided in accordance with this rule and for the storage of such apparatus and clothing when not in use.
27 (3) All breathing apparatus and protective clothing Washing not in use shall be stored in the accommodation provided in accordance with sub-rule (2) above.
28 (4) All protective clothing in use shall be de-dusted under an efficient exhaust draught or by vacuum cleaning and shall be washed at suitable intervals. The cleaning schedule and procedure should be such as to ensure the efficiency in protective the wearer.

17 (5) All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.
18 (6) A record of the cleaning and maintenance and of the condition of the breathing apparatus shall be maintained in a register provided for that purpose which shall be readily available for inspection by an Inspector.
19 (7) No person shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.
20 (8) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.
21 11. Separate accommodation for personal clothing: A separate accommodation shall be provided in a conveniently accessible position for all persons employed in operation to which this schedule applies for storing of personal clothing. This should be separated from the accommodation provided under sub-paragraph (2) of paragraph 10 to prevent contamination of personal clothing.
22 12. Washing and bathing facilities
23 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 15 persons employed.
24 (2) The washing places shall have standpipes place at intervals of not less than one metre.
25 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.

26 (4) Sufficient supply of clean towels made of suitable material shall be provided: Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.
27 (5) Sufficient supply of soap and nail brushes shall be provided.
28 13. Mess room
29 (1) There shall be provided and maintained for the use of all worker employed in the factory covered by this schedule, remaining on the premises during the rest intervals, a suitable mess room which shall be furnished with:
30 (a) sufficient tables and benches with back rest, and
31 (b) adequate means for warming food.
32 (2) The mess room shall be placed under the charge of a responsible person and shall be kept clean.

18 14. Prohibition of employment of young persons: No young person shall be employed in any of the process covered by this schedule.
19 15. Prohibition relating to smoking: No person shall smoke in any area where processes covered by this schedule are carried on. A notice in the language understood by majority of the workers shall be posted in the plant prohibiting smoking at such areas.
20 16. Cautionary notices
21 (1) Cautionary notices shall be displayed at the approaches and along the perimeter of every asbestos processing area to warn all persons regarding:
22 (a) hazards to health from asbestos dust,
23 (b) need to use appropriate protective equipment,
24 (c) Prohibition of entry to unauthorised persons, or authorised persons but without protective equipment.
25 (2) Such notices shall be in the language understood by the majority of the workers.
26 17. Air monitoring: To ensure the effectiveness of the control measures, monitoring of asbestos fibre in air shall be carried out once at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purpose.
27 18. Medical facilities and records of medical examinations and tests
28 (1) The occupier of every factory or part of the factory to which the schedule applied, shall:
29 (a) employ a qualified medical practitioner for medical surveillance of the workers covered by this schedule whose employment shall be subject to the approval of the Chief Inspector of Factories;
30 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause(a).
31 (2) The record of medical examinations and appropriated tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspectors.
32 (3) [151][The health record of each worker shall be maintained and it shall be kept maintained upto a minimum period of forty years from the beginning of the employment or fifteen years after the retirement or cessation of the employment whichever is later.]
33 19. Medical examination by Certifying Surgeon

34 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test, tests for detecting asbestos fibers in sputum and chest X-ray. No worker shall be allowed to

7 work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
8 (2) Every worker employed in the process referred to sub-paragraph (1) shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be carried out once in 3 years.
9 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
10 (4) The certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
11 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes.
12 20. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XVI
HANDLING OR MANIPULATION OF CORROSIVE SUBSTANCES
5 1. Definitions: For the purposes of this schedule,
6 (a) “corrosive operation” means an operation of manufacturing, storing, handling processing, packing, or using any corrosive substance in a factory; and
7 (b) “corrosive substance” includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the State Government by notification in the Official Gazette specify to be corrosive substance.
8 2. Flooring: The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistance material and

7 shall be so constructed as to prevent collection of any corrosive substance. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition.

8 3. Protective equipment

9 (a) The occupier shall provide for the use of all persons employed in any corrosive operation suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles, and respirators. The equipment shall be maintained in good order and shall be kept in clean and hygienic condition by suitably treating to get rid of the ill effects of any absorbed chemicals and by disinfecting. The occupier shall also provide suitable protective creams and other preparations wherever necessary.

10 (b) The Protective equipment and preparations provided shall be used by the persons employed in any corrosive operation.

11 4. Water facilities: Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 centimetres from a pipe of 1.25 centimetres diameter and fitted with a quick acting valve so that in case of injury to the worker by any corrosive substance, the injured part can be thoroughly flooded with water. Whenever necessary, in order to ensure continuous water supply, a storage tank having a minimum length, breadth and height of 210 centimetres, 120 centimetres and 60 centimetres respectively or such dimensions as are approved by the chief inspector shall provided as the source of clean water.

12 5. Cautionary notice: A cautionary notice in the following form and printed in the language which majority of the workers employed understand, shall be displayed prominently close to the place where a corrosive operation is carried out and where any of the operation mentioned in clause 2 above is carried out and where it can be easily and conveniently read by the workers. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

CAUTIONARY NOTICE

DANGER

Corrosive substances cause severe burns and vapours thereof may be extremely hazardous. In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes.

Get medical attention quickly.

3 6. Transport

4 (a) Corrosive substances shall not be filled, moved or carried except in [152][containers or through pipes and when they are to be transported in containers], they shall be placed in crates of sound construction and of sufficient strength.

(b) A container with a capacity of 11.5 litres (2-1/2 gallons) or more of a corrosive substance shall be placed in a receptacle or crate and then carried by more than one person at a height below the waist line unless a suitable rubber wheeled truck is used for the purpose.

(c) Containers for corrosive substances shall be plainly labelled.

7. Devices for handling corrosive

(a) [153][Suitable Tilting of pumping arrangements] shall be used for emptying jars, carboys and other containers of corrosives.
(b) Corrosive substance shall not be handled by bare hands but by means of a suitable scoop or other device.
8. Opening of valves: Valves fitted to containers holding a corrosive substance shall be opened with great care. If they do not work freely, they shall not be forced open. They shall be opened by a worker suitably trained for the purpose.
9. Cleaning tanks, stills, etc.
(a) In cleaning out or removing residues from stills or other large chambers used for holding any corrosive substance, suitable implements made of wood or other material shall be used to prevent production of arseniuretted hydrogen (arsine).
(b) Whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions required under section 36 of the Act shall be taken to ensure the worker's safety.
(c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods.
10. Storage
(a) Corrosive substances shall not be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gases.
(b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance overflowing and causing injury to any person.
(c) Every container having a capacity of twenty litres or more and every pipeline, valve, and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects, and defects so found out shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector whenever required.

3 11. Fire extinguishers and firefighting equipment: An adequate number of suitable types of fire extinguishers or other stored, shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment should be used, printed in the language which majority of the workers employed understand, shall be affixed near each extinguisher or other equipment.
4 12. Exemption: If in respect of any factory on application made by the manager, the Chief Inspector is satisfied that owing to the exceptional circumstances, or the infrequency of the process or for any other reason to be recorded by him in writing, all or any of the provisions of this schedule are not necessary for the protection of the persons employed therein, he may by a certificate in writing, which he may at any time revoke, exempt the factory from such of the provisions and subject to such conditions as he may specify therein.

SCHEDULE XVII[154]

USE OF OVENS AND DRIERS IN FACTORIES

8 1. Application: This schedule shall apply to ovens and driers, except those used in laboratories and kitchens of any establishment and those which have a capacity below 325 liters.

9 2. Definitions: For the purpose of this schedule, oven or drier means any enclosed structure, receptacle, compartment or box which is used for baking, drying or otherwise processing of any article or substance at a temperature higher than that ambient temperature of air in the room of space in which the oven or drier is situated, and in which the flammable or explosive mixture of air and flammable substance is likely to be evolved with the enclosed structure ,receptacle, compartment or box or part thereof on account of article or substance which is baked or dried or otherwise processed within it.

10 3. Separate electric connection: Electric power supplied to every oven or drier shall be by means of separate circuit provided with an isolated switch.

11 4. Design, construction, examination and testing,

12 (a) Every oven or drier shall be properly designed on sound engineering practice and be of good construction, sound materials and adequate strength free from any patent defect and safe, if properly used.

13 (b) No oven or drier shall be taken into use in factory for the first time unless a competent person has thoroughly examined all its parts carried out the tests as are required to establish that the necessary safe systems and control provided for safety in operation for the processes for which it is to be used and a certificate of such examination and tests signed by that competent person has been obtained and are kept available for inspection.

14 (c) All parts of an oven or drier has undergone any alteration or repair which has the effect of modifying any of the design characteristics, shall not be used unless a thorough examination and tests as have been mentioned in clause (b) have been carried by the competent person and a certificate of

such examination and tests signed by that competent person has been obtained and are kept available for inspection.

11 5. Safety, Ventilation

12 (a) every oven or drier shall be provided with a positive and effective safety ventilation system using one or more motor driven centrifugal fans so as to dilute any mixture of air and flammable substance that may be formed within the oven or drier and maintain the concentration of the flammable substance in the air at safe level of dilution.

13 (b) The safe level of dilution referred to in clause (a) shall be so as to achieve a concentration of concerned flammable material in air of not more than 25 % of its lower explosive limit; Provided that level of concentration in the air up to 50% of the lower explosive limit of the concerned flammable substance may be permitted to exist subject to installation and maintenance of an automatic device which:- (I) Shows continuously the concentration of the flammable substance in air present in the oven or drier at any instant; (II) Sounds an alarm when the concentration of the flammable substance in air present in any part of oven or drier reaches a level of 50% of explosive limit (III) Shuts down the heating system of the oven or drier

automatically when the concentration of the flammable substance in air present in any part of oven or drier reaches a level of 60% of lower explosive limit

14 (c) No oven or drier shall be operated without its safety ventilation system working in efficient manner.

15 (d) No oven or drier shall be operated with a level of dilution less than what is referred in clause (b)

16 (e) Exhaust ducts of safety ventilation system should be so designed and placed that their ducts discharge the mixture of air and flammable substance away from the work room and not near windows or doors or other openings from where the mixture could re- enter the work room.

17 (f) The fresh air admitted into the oven or drier by means of safety ventilation system shall be circulated adequately by means of circulating fans or fans through all parts of the oven or drier so as to ensure that there are no location where the flammable substance can accumulate in the air become pocketed to any dangerous degree.

18 (g) Throttling dampers in any safety ventilation system should be so designed by cutting away the portion of damper or otherwise that system will handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.

19 6. Explosion panels

20 (a) every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably design explosion panel so as to allow the release of the pressure of any possible explosion within the oven or drier

through explosions vents. The area of opening of any access doors which are provided with suitable arrangements for there release in case of an explosion shall not be less than 2200 sq. cm for every 1 cu m of the volume of the oven or drier. The design of the explosion panel and doors as stated above shall be such as to secure there complete release under an internal pressure of 0.25 kg/sq. cm.

(b) The explosion releasing panel shall, as far as practicable, be situated on the roof of the oven or drier or at those portions of the walls where persons don't remain in connection with operation of oven or drier.

7. Inter locking arrangement: In each oven or drier efficient inter locking arrangement shall be provided and maintain to ensure that:

(i) All ventilating fans and circulating fans whose failure would adversely affect the ventilation rate of flow pattern, are in operation before any mechanical conveyor that may be provided for feeding the article or substances to be processed in the oven or drier, input into operation

(ii) Failure of any of the ventilating or circulating fans will automatically stop any conveyor as referred to in clause (a) as may be provided as well as so the fume supply by closing the shut of valve and shut off the ignition in the case of gas or oil fired ovens and in case of electrically heated oven switch off the electrical supply to the heater

(iii) The afore said mechanical conveyor is set in operation before the said shut off valve can be energies

(iv) The failure of the aforesaid conveyor will automatically closed the said shut off valve in the case of oven and drier heated by gas, oil or steam and deactivate the ignition system or cut off the electrical heater in the case of electrically heated ovens are furnaces

8. Automatic ventilation: Every oven or drier heated by oil, gas, steam or electricity shall be provided with an efficient arrangement for automatic ventilation consisting of at least three volume changes with fresh air by operation of safety ventilation fans and circulating fans so as to effect purging of the oven or drier of any mixture of air and flammable substance before the heating system can be activated and before the conveyor can be placed in position.
9. Temperature control: Every oven or drier shall be provided with an automatic arrangement to ensure that the temperature which does not exceed a maximum temperature required in respect of the particular process is being carried out
10. Multi stage processes: Whatever material are to be processed in ovens or driers in successive operation suitable arrangements should be provided to ensure that the operating temperature necessary for safe operation at each stage are maintain within the design limit
11. Combustible substances not to drip on electrical heater or burner flame: Effecting arrangement shall be provided in every oven or drier to prevent dripping of combustible substances on electrical heater or burner flame used for heating.
12. Periodical examination, testing and maintenance:

(a) All parts of every oven or drier shall be properly maintain and thoroughly examined and the various control as mentioned in the schedule and the working of the oven or drier shall be tested at frequent interval to ensure its safe operation by a responsible person authorized by the occupier or manager in this behalf who by his experience and knowledge of necessary precaution against risk of explosion, is fit to undertake such work
(b) A register shall be maintained in which the details of various tests carried out from time to time under clause (a) shall be entered and every entry shall be signed by the person making the test.
13. Training of operator: No person shall be assigned any task connected with operation of any oven or drier unless his has completed 18 yrs of a and is properly trained
14. Polymerizing machine
(a) Printed fabric shall be thoroughly dried by passing them over drying canes or through hot flue or other equally effecting means before the same is allowed to pass through polymerizing machines
(b) Infra ray heater of polymerizing machines shall be cut off while running the print.

SCHEDULE XVIII

155[MANUFACTURE OR MANIPULATION OF CARCINOGENIC DYE INTERMEDIATES]

2 1. Application

The schedule shall apply in respect of all factories or any part thereof where processes in which the process of manufacturing or manipulation of a carcinogenic Dye Intermediates (here in referred to as the said manufacturing processes) is carried on.
Provided that Paragraphs 25 and 26 shall only to the a process involving manufacturing, manipulation of compounds mentioned in Appendix B (here in referred to as the said manufacturing processes B).

PART-I

6 2. Definition

7 (a) For the purpose of this schedule a nitro or amino compounds means a nitrated or laminated compound of aromatic hydrocarbons mentioned in Appendix A or B attached thereto.
8 (b) “Approved “means approved by Chief Inspector.
9 (c) “Omitted”
10 (d) “efficient exhaust draught” means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air of any place in which work is carried on. No draught, shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originates; and

(e) Manipulation shall include mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using or chemical processing of a nitro-amino compound.
(f) “Airline respirator” means a helmet or face piece with necessary connections by means of which a person using it in a poisonous or irritating atmosphere breathes ordinary air or any suitable apparatus approved in writing by Chief Inspector.
3. Cautionary placards

Cautionary placards in the form specified in appendix attached to this schedule and printed in the language of the majority of the workers employed in the said processes shall be affixed in prominent places frequented by them in the factory, where the placards can be conveniently read. Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.
2 4. Prohibition relating to employment of women and young persons

No woman or young person shall be employed or permitted to work in any room in which the said processes are carried on or in which a nitro or amino compound is stored.
2 5. Air space

in every room in which the said manufacturing process is carried on there shall at least 15 cubic-meters of air space excluding any space occupied by machinery equipments or any other article for each person employed there in and in computing this air space no height over 4.25 meters shall be taken into account.
2 6. Efficient exhaught draught

unless the said process is completely enclosed so as to not to give rise to dust or fume it shall not be carried on without the use of an efficient exhaught draught when a nitro or amino compound:
(a) Is introduced into a tank, hopper, machine, or container or filled into cartridge; or
(b) Is ground, crushed, mixed, sieved, or blended.
7. Floors of workroom

The floor of every workroom in which the said processes are carried on shall be

(a) Smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor,
(b) Maintained in a state of good repair,
(c) With a suitable slope for easy draining and provided with gutters and
(d) Thoroughly washed daily with the drain water being led into a sewer through a closed channel.
8. Work benches

work benches on which a nitro or amino compound is manipulated shall

(a) Have a smooth impervious surface preferably of stainless steel; and
(b) Be washed daily with hose-pipe or cleaned by means of suction cleaning apparatus at the time when no other work is carried on there at.
9. Waste disposal
(1) a suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material like cloth paper or other material soiled with a nitro or amino compound.
(2) All such contaminated waste material shall be destroyed by burning at least once a week.
10. Empty containers

Empty containers used for holding compounds included under Appendix A shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.
6 11. Decontamination of Pits, Tanks etc.
7 (a) Before a worker enters a tank, Put, kettle or any other confined space which contains a nitro or amino compound, it shall be thoroughly washed and decontaminated
8 (b) No part of the plant which contains nitro or amino compounds shall be repaired or opened for repairs unless it has been emptied of such compounds and thoroughly cleaned & decontaminated.
9 (c) Records of such treatments shall be maintained in a register approved by the Chief Inspector and the register shall be made available for inspection when required by Inspector.
10 12. Manual handling

A nitro or amino compound shall not be required or allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle which shall be thoroughly cleaned daily.
2 13. Protective wears

The occupier shall provide, maintain clean and in good re-pair protective clothing and other equipments as specified in the table below:

Process	Protective clothing and other equipments

2 (1) For manipulation of compounds mentioned in Appendix A	(a) Long pants and shirts or overalls with long sleeves and head covering. The shirt or overalls shall cover the neck completely. (b) Rubber gloves, rubber gum boots, rubber aprons and air line respirator.

2 (2) For manipulation of compounds mentioned in Appendix B	iii (i) White clean clothing mentioned in (a) above, in addition to white clean shirts. Singlet and protective equipment as in (b) above. iv (ii) White long sleeve apron.

2 14. Instructions regarding risk

Every worker on his first employment in the said processes shall be fully instructed on the properties of the toxic chemicals to which he is likely to be exposed to, of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.

11 15. [156][Medical facilities and records of examinations and tests]

12 (1) The occupier of every factory to which this schedule applies, shall

13 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

14 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

15 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

16 16. Medical examination by certifying Surgeon

17 (1) every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

18 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

19 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the

Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

17. Washing and bathing facilities

(1) The following washing and bathing facilities shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the said processes:

(a) a wash place under cover having constant supply of water and provided with clean towels, soap and nail brushes and with at least one stand pipe for every five such workers:

(b) 50 percent of the stand pipes provided under clause (a) shall be located in bathrooms where both hot and cold water shall be made available during the working hours of the factory and for one hour thereafter:

(c) The washing and bathing facilities shall be in close proximity of the area housing the said processes:

(d) Clean towels shall be provided individually to each worker; and

(e) in addition to the taps mentioned under clause (a), one stand pipe, in which warm water is made available, shall be provided on each floor.

(2) Arrangement shall be made to wash factory uniforms and other work clothes everyday.

18. Washing and bathing:

(a) all the workers employed in the said manufacturing process shall carefully wash their hands and faces before taking food or leaving factory.

(b) Bath register- the workers employed in the said manufacturing process shall take bath at factory premises and will enter their names in the bath register as token of having done so.

19. Food, drinks, etc. prohibited in workroom

No worker shall consume food, drink, pan, supari or tobacco or shall smoke in any workroom in which the said processes are carried on and no worker shall remain in any such room during intervals for meals or rest.

20. Cloakroom

There shall be provided and maintained in a clean state and in good repair for the use of the workers employed in the said processes
(a) a cloakroom with lockers having two compartments - one for street clothes and the other for work clothes, and
(b) a place separate from the locker room and the messroom, for the storage of protective equipment provided under paragraph 13.

The accommodation so provided shall be under the care of a responsible person and shall be kept clean.
2 21. Mess room

There shall be provided and maintained for the use of workers employed in the said processes who remain on the premises during the meal intervals, a mess room which shall be furnished with tables and benches and provided with suitable means for warming food.
The mess room shall be placed under the charge of a responsible person and shall be kept clean.
2 22. Time allowed for washing

Before each meal and the end of the day at least 10 minutes' addition to the regular interval shall be allowed for washing to each person who has been employed in the said process.
5 23. Drying stoves
6 (1) every drying stove shall be efficiently ventilated to the outside air in such a manner that hot air from stove shall not be drawn into any work room.
7 (2) No person shall enter into stove to remove the contents until a free current of air has been passed through by mechanical means.
8 24. Non-sparking tools

Non-sparking tools shall be provided for the purpose of cleaning or repairing machinery or operating any process where vapours of tetranaphthyl lamine are evolved.
2 25. Testing of atmosphere etc.

Amines in the atmosphere of the work room where the manufacturing process is carried on shall be estimated once in every week and records of such estimations shall be made available when required by an Inspector.
PART-II
4 26. Separation of process- the said manufacturing process 'B' shall be carried on in rooms which shall not communicate with the other rooms except through a passage open entirely to outside atmosphere.
5 27. Limitation of exposure
6 (1) no worker under the age of 40 years shall be engaged in the factory for the said manufacturing process 'B for the first time after the date on which these rules come into force.

3 (2) Before the end of the day at least one hour shall be allowed for bathing to each person who is employed in the said manufacturing process 'B' including the time allowed under paragraph 22.

4 28. Exemptions

If in respect of any factory, the Chief Inspector is satisfied that (owing to the exceptional circumstances or infrequency of the processes or for any other reason), all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing exempt such factory from all or any of such provisions subject to such conditions as he may specify therein. Such certificates may at any time be revoked by the Chief Inspector.

APPENDIX-A

[SEE PARAGRAPH2, 10, 13]

The benzenes, Toulenes, Xylenes, having undergone nitration once or several times (nitro, dinitro and trinitro benzene and its homologues) and chlorinated compounds, naphalenes, having undergone nitration once or several times, anilines and its homologues (toludine, Xlidine, cuminide) anisidine, phenetidine and their chlorinated nitrated and alkylaled compounds (dimethylailine, toluylendiamine, toludine phenyhydrazine, toluylhydrazine).

APPENDIX-B

[SEE PARAGRAPH2 & 13]

Alpha naphthylamine
betanaphthylamine
Benzidine and its salts
dianisidine
Toludine
Dichlorobenzidine

APPENDIX – C

(See paragraph 3)

CAUTIONARY PLACARD

Advice to workers:

4 (1) Nitro and amino compounds are aromatic hydro carbons are dangerous. In this factory, you have to handle them frequently.

5 (2) All items of protective wear provided should be made use of to safeguard your health

6 (3) Maintain cleanliness at all times. Before meals wash hands and feet. A bath before leaving the factory is essential taking care to wash the hands well.

10 (4) If any chemicals fall on your body, wash it off immediately, with soap and water. Change clothing at once. If soap with a syanotic nitromino compound contact the appointed doctor immediately.

11 (5) Do not handle any nitro or amino compounds bare hand. Use a long handle scoop.

12 (6) Avoid alcoholic drinks as these can cause risk of poisioning.

13 (7) In case of illness contact the factory manager and the appointed doctor.

14 (8) Don't chew, eat, drink or smoke in the work-room or with soiled hands. Keep food and drinks away from the work-place.
15 (9) If you work with Beta-naphthylamine or benzedine or its salt alphanapthalymine or dianisidine:
16 (a) Remember the serious effects will follow after a number of year if great care is not taken to observe absolute cleanliness of body, clothes, machinery and tools.
17 (b) At meal time wash face and hands twice with soap and water to remove all chemicals; wear a long sleeved clean apron while eating.
18 (c) Before leaving the factory take a bath using soap and water twice after this put on your home clothes.

SCHEDULE – XIX

[157][PROCESS OF EXTRACTING OILS AND FATS FROM VEGETABLES AND ANIMAL SOURCES IN SOLVENT EXTRACTION PLANTS]

1. 158[Definitions (a) "solvent extraction plant" means a plant in which the process of extracting oils and fats from vegetable and animal sources by use of solvents is carried on;]
(b) "solvent" means a flammable liquid such as pentane, hexane and heptane use for the recovery of vegetable oils;
(c) "flameproof enclosure" as applied to electrical machinery or apparatus means an enclosure that will withstand, when covers or other access doors are properly secured, an internal explosion of the flammable gas or vapour which may enter or which may originate inside the enclosure without suffering damage and without communicating internal inflammation (or explosion) to the external flammable gas or vapour;
(d) "competent person" for the purpose of this schedule shall be at least a member of the Institution of Engineers (India) or an Associate Member of the said Institution with 10 years' experience in a responsible position as may be approved by the Chief Inspector:

Provided that a graduate in mechanical engineering or chemical technology with specialised knowledge of oils and fats and with a minimum experience of 5 years in a solvent extraction plant shall also be considered to a competent person.

Provided further that the State Government may accept any other qualifications if in its opinion, they are equivalent to the qualifications aforesaid.
15 2. Location and layout
16 (a) No solvent extraction plant shall be permitted to be constructed or extended to within a distance of 30 meters from the nearest residential locality.
17 (b) A 1.5-meter-high continuous wire fencing shall be provided around the solvent/ extraction plant upto a minimum distance of 15 meters from the plant.
18 (c) No person shall be allowed to carry any matches or an open flame or fire inside the area round by the fencing.
19 (d) Boiler houses and other buildings where open flame processes are carried on shall be located at least 30 meters away from the solvent extraction plant;

20 (e) If god owns and preparatory processes are at a distance of less than 30 metres from the solvent extraction plant, these shall be at least 15 meters distant from the plant, and a continuous barrier wall of non-combustible material 1.5 meters' high shall be erected at a distance of not less than 15 meters from the solvent extraction plant so that it extends to at least 30 meters of vapour travel around its ends from the plant to the possible sources of ignition.

21 3. Electrical installations

22 (a) all electrical motors and wiring and other electrical equipment installed or housed insolvent extraction plant shall be of flameproof construction.

23 (b) All metal parts of the plant and building including various tanks and containers where solvents are stored or are present and all parts of electrical equipment not required to be energised shall be properly bonded together and connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.

24 4. Restriction on smoking: Smoking shall strictly have prohibited within 15 meters' distance from solvent extraction plant. For this purpose, "NO smoking" sings shall be permanently displayed in the area.

25 5. Precautions against friction

26 (a) All tools and equipment including ladders, chains and other lifting tackle required to be used in solvent extraction plant shall be of non- sparking type.

27 (b) [159][No machinery or equipment in any solvent extraction plant shall be belt driven, unless the belt used is of such a type that it does not permit accumulation of static electricity to a dangerous level.]

28 (c) No person shall be allowed to enter and work in the solvent extraction plant if wearing clothes made of nylon or such other fibre that can generate static electrical charge, or wearing footwear which is likely to cause sparks by friction.

18 6. Fire fighting apparatus

19 (a) Adequate number of portable fire extinguishers suitable for use against flammable liquid fires shall be provided in the solvent extraction plant.

20 (b) An automatic water spray sprinkler system on a wet pipe or open-head deluge system with sufficient supply of storage water shall be provided over solvent extraction plant and throughout the building housing such plant.

21 7. Precautions against power failure: Provision shall be made for the automatic cutting off of steam in the event of power failure and also for emergency overhead water- supply for feeding water by gravity to condensers which shall come into play automatically with the power failure.

22 8. Magnetic Separators: Oil cake shall be fed to the extractor by a conveyer through a hopper and a magnetic separator shall be provided to remove any pieces of iron during pressure in the event of fire.

23 9. Venting

24 (a) Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.

25 (b) All emergency relief vents shall terminate at least 6 meters above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.
26 10. Waste water: Process waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into a sump [160][which should be located within the fenced area but not closer than 8 meters to the fence].
27 11. Ventilation: The solvent extraction plant shall be well ventilated and if the plant is housed in a building, the building shall be provided with mechanical ventilation with provision for at least six air changes per hour.
28 12. Housekeeping
29 (a) Solvents shall not be stored in an area covered by solvent extraction plant except in small quantities which shall be stored in approved safety cans.
30 (b) Waste materials such as oily rags, other wastes and absorbents used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises at least once a day.
31 (c) Space within the solvent extraction plant and within 15 meters from the plant shall be kept free form any combustible materials and any spills of oil or solvent, shall be cleaned up immediately.
32 13. Examination and repairs
33 (a) The solvent extraction plant shall be examined by the competent person to determine any weakness or corrosion and wear once in every 12 months. Report of such examination shall be supplied to the Inspector with his observation as to whether or not the plant is in safe condition to work.
34 (b) No repairs shall be carried out to the machinery or plant except under the direct supervision of the competent person.

(c) Facility shall be provided for purging the plant with inert gas or steam before opening for cleaning or repairs and before introducing solvent after repairs.
14. Operating personnel: The operation of the plant and machinery in the solvent extraction plant shall be in the charge of such duly qualified and trained persons as are certified by the competent person to be fit for the purpose and no other person shall be allowed to operate the plant and machinery.
15. Employment of women and young persons: No woman or young person shall be employed in the solvent extraction plant.
16. Vapour detection: A suitable type of flameproof and portable combustible gas indicator shall be provided and maintained in good working order and a schedule of routine sampling of atmosphere at various locations as approved by the chief inspector shall be drawn out and entered in a register maintained for the purpose.
17. Exemption: when the solvent in removed from the batch extractor by vacuum Gauges shall be provided and tests shall be carried out to ensure that a minimum vacuum of 650 mm (26'') mercury is obtained and maintained steadily for a minimum period of 30 minutes before the extractor is allowed to be opened for discharging cake or for persons to enter.
18. Log-book: A log -book of operations with the following particulars shall be maintained and made available on demand to the Inspector:

(i) Vacuum gauge reading for each charge:
(ii) Testing of continuity of electrical bonding and earthing system:
(iii) Loss of solvent every 24 hours or loss per ton of raw materials used.
19. [161][Exemption: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time) exempt such factory from all or any of such provisions subject to conditions, if any, as he may specify therein].

SCHEDULE – XX
MANUFACTURE OR MANIPULATION OF MANGANESE AND ITS COMPOUNDS

5 1. Definitions: For the purposes of this schedule

6 (a) "manganese process" means processing, manufacture or manipulations of manganese or any ore or any mixture containing manganese;

7 (b) "first employment" means first employment in any manganese process and includes also re-employment in any manganese process followed any cessation of employment for continuous period of 3 calendar months.

8 (c) "Manipulations" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, or otherwise handling of manganese, or mixture containing manganese; and

(d) "efficient exhaust ventilation" means localised ventilation effected by mechanical means for the removal of dust or fume or at its source of origin so as to prevent it from escaping into the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or fume or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.
2. Application: This schedule shall apply to every factory in which or in any part of which any manganese process is carried on.
3. Exemption: If in respect of any factory, the Chief Inspector is satisfied that owing to any exceptional circumstances, or infrequency of the process, or for any other reason, application of all or any of the provisions of this schedule is not necessary for the protection of the persons employed in such factory, he may by an order in writing which he may at his discretion revoke, exempt such factory from all or any of the provisions on such conditions and for such period as he may specify in the said order.
4. Isolation of a process: Every manganese process which may give rise to dust, vapour or mist containing manganese, shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and processes and other parts of the factory and persons employed on other processes may not be affected by the same.
5. Ventilation of process: No process in which any dust, vapour or mist containing manganese is generated, shall be carried out except under an efficient exhaust ventilation which shall be applied as near to the point of generation as practicable.
6. [162][Medical facilities and records of examinations and tests:
(1) The occupier of every factory to which this schedule applies, shall:

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).
(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

6-A. Medical examination by certifying Surgeon:
2 (1) Every worker employed in any manganese process shall be medically examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests and other neuro-muscular coordination tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified for such employment by the Certifying Surgeon.

11 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).
12 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the certifying Surgeon in a health register in Form 17.
13 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
14 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.
15 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
16 7. Personal protective equipment:
17 (1) the occupier of the factory shall provide and maintain in good and clean condition suitable overalls and head coverings for all persons employed in any manganese process and such overalls and head coverings shall be worn by the persons while working on a manganese process.

18 (2) The occupier of the factory shall provide suitable respiratory protective equipment for use by works in emergency to prevent inhalation of dusts, fumes or mists. Sufficient number of complete sets of such equipment shall always be kept near the work place and the same shall be properly maintained and kept always in a condition to be used readily.
19 (3) The occupier shall provide and maintain for the use of all persons employed, suitable accommodation for the storage and make adequate arrangements for cleaning and maintenance if personal protective equipment.
20 8. Prohibition relating to women and young persons: No women or young persons shall be employed or permitted to work in any manganese process.

8 9. Food, drinks, etc. prohibited in the work rooms - No food, drink, pan and supari or tobacco shall be allowed to be brought into or consumed by any worker in any workroom in which any manganese process is carried on.
9 10. Mess room: There shall be provided and maintained for the use of the persons employed in a manganese process a suitable mess room which shall be furnished with sufficient tables and benches and adequate means for warming of food. The mess room shall be placed under the charge of a responsible person and shall be kept clean.
10 11. Washing facilities: There shall be provided and maintained in a clean state and in good condition, for the use of persons employed on manganese process – (a) A wash place under cover, with either
11 (1) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every ten such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres:
12 (2) at least on wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply water; and (b) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.
13 12. Cloakroom: If the Chief Inspector so requires there shall be provided and maintained for the use of persons employed in manganese process a cloakroom for clothing put off during working hours with adequate arrangements for drying the clothing.
14 13. Cautionary placard and instructions - Cautionary notices in the form specified in appendix and printed in the language of the majority of the workers and employed, shall be affixed in prominent places in the factory where they can be easily and conveniently read by the workers and arrangement shall be made by the occupier to instruct periodically all workers employed in a manganese process regarding the health hazards connected with their duties and the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

CAUTIONARY NOTICE
Manganese and Manganese Compounds
6 (1) Dust free and mists of manganese and its compounds are toxic when inhaled or when ingested.
7 (2) Do not consume food or drink near the work place.
8 (3) Take a good wash before taking meals.

9 (4) Keep the working area clean.
10 (5) Use the protective clothing and equipment provided.

3 (6) When required to work in situations where dusts, fumes or mists are likely to be inhaled, use respiratory protective equipment provided for the purpose.
4 (7) If you get severe head-aches, prolonged sleeplessness or abnormal sensations on the body, report to the manager who would make arrangements for your examination and treatment.

SCHEDULE – XXI
PROTECTION AGAINST HAZARDS OF POISONING ARISING FROM BENZENE
9 1. Application: This schedule is made to provide protection against hazards of poisoning from benzene and shall apply in respect of factories or parts thereof in which benzene or substances containing benzene are manufactured, handled or used.
10 2. Definitions: For the purpose of this schedule
11 (a) "substances containing benzene" means substances wherein benzene content exceeds 1 per cent by volume;
12 (b) "substitute" means a chemical which is harmless or less harmful than benzene and can be used in place of benzene;
13 (c) "enclosed system" means a system which will not allow escape of benzene vapours to the worker's atmosphere; and
14 (d) "efficient exhaust draught" means localised ventilated effected by mechanical means for the removal of gases, vapours and dusts or fumes so as to prevent them from escaping into the air of any workroom. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapours, fumes or dusts originate.
15 3. Prohibition and substitution
16 (a) Benzene and substances containing benzene shall not be used as solvent or dilutent unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in manner which is considered equally safe as if it were carried out in an enclosed system.

[163][Provided that the use of benzene and substances containing benzene is prohibited in the following processes:
(a) manufacture of varnishes, paints and thinners; and
(b) Cleaning and degreasing operations.
(c) Where suitable substitutes are available, they shall be used instead of benzene or substances containing benzene. This provision, however, shall not apply to the processes specified in Appendix A.
(d) The Chief Inspector may, subject to confirmation by the State Government, permit exemptions from the percentage laid down in sub-paragraph 2(a) and also from the provisions of sub-paragraph (2) of this paragraph temporarily under conditions and within limits of time to be determined after consultation with the employers and workers concerned.

14 4. Protection against installation

15 (a) The process involving the use of benzene or substances containing benzene shall be as far as practicable be carried out in an enclosed system.
16 (b) Where, however, it is not practicable to carry out the process in an enclosed system, the workroom in which benzene or substances containing benzene are used shall be equipped with an efficient exhaust draught or other means for the removal of benzene vapours to prevent their escape into the air of the workroom so that the concentration of benzene in the air does not exceed 10 parts per million by volume or 30 milligrams per cubic meter.
17 (c) Air analysis for the measurement of concentration of benzene vapours in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector at places where process involving use of benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of benzene vapours in air as measured by air analysis, exceeds 10 parts per million by volume or 30 milligrams per cubic meter, the Manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase.
18 (d) Workers who for special reasons are likely to be exposed to concentration of benzene in the air of the workroom exceeding the maximum referred to in sub- paragraph (2) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.
19 5. Measures against skin contact
20 (a) Workers who are likely to come in contact with liquid benzene or liquid substances containing benzene shall be provided with suitable gloves, aprons, boots and where necessary vapour tight chemical goggles, made of material not affected by benzene or its vapours.
21 (b) The protective wear referred to in sub-paragraph (1) shall be maintained in good condition and inspected regularly.
22 6. Prohibition relating to employment of women and young persons: No woman or young person shall be employed or permitted to work in any workroom involving exposure to benzene or substances containing benzene.
23 7. Labelling: Every container holding benzene or substances containing benzene shall have the word “Benzene” and approved danger symbols clearly visible on it and shall also display information on benzene content, warning about toxicity and warning about infallibility of the chemical.
24 8. Improper use of benzene:
25 (a) The use of benzene substances containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.
26 (b) Workers shall be instructed on the possible dangers arising from such misuse.

15 9. Prohibition of consuming food, etc. in workrooms: No worker shall be allowed to store or consume food or drink in the workroom in which benzene or substances containing benzene are manufactured, handled or used. Smoking and chewing tobacco or pan shall be prohibited in such workrooms.
16 10. Instructions as regards risks: Every worker on his first employment shall be fully instructed on the properties of benzene or substances containing benzene which he has to handle and of the dangers involved. Workers shall also be instructed on the measures to be taken to deal with in an emergency.

17 11. Cautionary notices: Cautionary notices in the form specified in appendix and printed in the language easily read and understood by the majority of the workers shall be displayed in prominent places in the workrooms where benzene or substances containing benzene are manufactured, handled or used.

18 12. Washing facilities, cloakroom and mess room: In factories in which benzene or substances containing benzene are manufactured, handled or used, the occupier shall provide and maintain in a clean state and in good repair.

19 (a) washing facilities under cover, of the standard of at least one tap for every 10 persons having constant supply of water with soap, and a clean towel provided individually to each worker if so ordered by the Inspector;

20 (b) cloakroom with lockers for each worker, having two compartments - one for street-clothing and one for work-clothing; and

21 (c) a mess room furnished with tables and benches with means for warming food, provided that where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of mess room shall be dispensed with.

22 13. 164[Medical facilities and records of examinations and tests:

23 (1) The occupier of every factory to which this schedule applies, shall:

24 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

25 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

26 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

27 14. Medical examination by Certifying Surgeon:

28 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

6 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every 12 months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub- paragraph (1) Further, every worker shall also be examined once in every three calendar months by the said medical practitioner.

7 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of this test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

8 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

9 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process

10 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes].

APPENDIX-A

[SEE CLAUSE 3(B)]

4 (1) production of benzene

5 (2) process where benzene is used for chemical synthesis

6 (3) motor spirits (used as fuel).

APPENDIX-B

[SEE CLAUSE 11]

CAUTIONARY NOTICE

Benzene and substances containing benzene

(a) The Hazards:

(i) Benzene and substances containing benzene are harmful.

(ii) Prolonged or repeated breathing of benzene vapours may result in acute or chronic poisoning.

(iii) Benzene can also be absorbed through skin which may cause skin or other diseases.

(b) The Preventive measures to be taken:

(i) Avoid breathing of benzene vapours.

(ii) Avoid prolonged or repeated contact of benzene with the skin.

(iii) Remove benzene soaked or wet clothing promptly.

(iv) If any time you are exposed to high concentration of benzene vapours and exhibit signs and symptoms such as dizziness, difficulty in breathing, excessive excitation and losing of consciousness, immediately inform your factory manager.

(v) Keep all the containers of benzene closed

(vi) Handle, use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor.

(vii) Maintain good housekeeping.

(c) The Protective equipment to be used:

(i) Use respiratory protective equipment in places where benzene vapours are present in high concentration.

(ii) In emergency, use self-generating oxygen mask or oxygen or air cylinder masks.

(iii) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.

(d) The First-aid measures in case of acute benzene poisoning:

(i) Remove the clothing immediately if it is wetted with benzene.
(ii) If liquid benzene enters eyes, flush thoroughly for at least 15 minutes with clean running water and immediately secure medical attention.
(iii) In case of unusual exposure to benzene vapour, call a physician immediately. Until he arrives, do the following:

If the exposed person is conscious:
(a) Move him to fresh air in open.
(b) Lay down without a pillow and keep him quiet and warm.

If the exposed person is unconscious:
(a) Lay him down preferably on the left side with the head low.
(b) Remove any false teeth, chewing gum, tobacco or other foreign objects which may be in his mouth.
(c) Provide him artificial respiration in case difficulty is being experienced in breathing.
(d) In case of shallow breathing or cyanosis (blueness of skin, lips, ears, finger nail beds), he should be provided with medical oxygen or oxygen carbon dioxide mixture. If needed, he should be given artificial respiration. Oxygen should be administered by a trained person only.

SCHEDULE – XXII
CARBON DISULPHIDE PLANTS
2 1. Application: This schedule shall apply to all electric furnaces in which carbon disulphide is generated and all other plants where carbon disulphide after generation, is condensed, refined and stored.

This schedule is in addition to and not in derogation of any of the provisions of the Act and Rules made there under.
11 2. Construction, installation and operation:
12 (a) The buildings in which electric furnaces are installed and carbon disulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be of open type to ensure optimum ventilation and the plant layout shall be such that only a minimum number of workers are exposed to the risk of any fire or explosion at any one time.
13 (b) Every electric furnace and every plant in which carbon disulphide is condensed, refined and stored with all their fittings and attachments shall be of good construction, sound material and of adequate strength to sustain the internal pressure to which the furnace or the plant may be subjected to and shall be so designed that carbon disulphide liquid and gas are in closed system during their normal working.
14 (c) The electric furnace supports shall be firmly grouted about 60 centimetres in concrete or by other effective means.
15 (d) Every electric furnace shall be installed and operated according to manufacturers' instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.

16 (e) The instructions regarding observance of correct furnace temperature, sulphur dose, admissible current or power consumption and periodical checking of charcoal level shall be strictly complied with.

17 3. Electrodes:

18 (a) Where upper ring electrodes made of steel are used in the electric furnace, they shall be of seamless tube construction and shall have arrangement for being connected t cooling water system through a siphon built in the electrodes or through a positive pressure water-pump.

19 (b) The arrangement for cooling water referred to in sub-paragraph (1) shall be connected with automatic alarm system which will actuate in the event of interruption of cooling water in the electrodes and give visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

20 4. [165][Charcoal level indicator and vibrator: When any electric furnace is in operation it shall be ensured that the electrodes are kept covered with charcoal bed.]

22 5. Charcoal separator - A cyclone type of charcoal separator shall be fitted on the off-take pipe between the electric furnace and sulphur separator to prevent entry of pieces of charcoal into the condensers and piping.

23 6. Rupture discs and safety seal:

24 (a) At least two rupture discs of adequate size which shall blow off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top of the furnace or each through an independent pipe as close as possible to the furnace.

25 (b) A safety water seal shall be provided and tapped from a point between the charcoal separator and the sulphur separator.

26 7. Pyrometer and manometers:

27 (a) Each electric furnace shall be fitted with adequate number of pyrometers [166][to give an indication of the temperature as correctly as reasonably practicable] at various points in the furnace. The dials for reading the temperatures shall be located in the control room.

28 (b) [167][Manometers or any other suitable devices] shall be provided for indicating pressure

29 (i) In the off-take pipe before and after the sulphur separator; and

30 (ii) In primary and secondary condensers.

31 8. Check valves: All piping carrying carbon disulphide shall be fitted with check valves at suitable positions so as to prevent gas from flowing back into any electric furnace in the event of its shut down.

32 9. Inspection and maintenance of electric furnaces:

33 (a) Every electric furnace shall be inspected internally by a competent person.

34 (i) Before being placed in service after installation;

35 (ii) Before being placed in service after reconstruction or repairs; and

36 (iii) Periodically every time the furnace is opened for cleaning or de- or for replacing electrodes.

37 (b) When an electric furnace is shut down for cleaning or de-ashing:

38 (i) The brick lining shall be checked for continuity and any part found defective removed;
39 (ii) After removal of any part of the lining referred to in (a) the condition of the shell shall be closely inspected; and
40 (iii) Any plates forming shall found corroded to the extent that safety of the furnace is endangered shall be replaced.
41 10. Maintenance of records - The following hourly records shall be maintained in a log book.
42 (i) Manometer readings at the points specified in sub-paragraph 7(b)(i): and

xv (ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and secondary condensers;
xvi (iii) Water temperature and flow of water through the siphon in the electrodes;
xvii (iv) Primary and secondary voltages and current and energy consumed.
xviii 11. Electrical apparatus, wiring and fittings: All buildings in which carbon disulphide id refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from fire and explosion.
xix 12. Prohibition relating to smoking - No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in buildings in which carbon disulphide is refined or stored, and a notice in the language understood by a majority of the workers shall be posted in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms.
xx 13. Means of escape: Adequate means of escape shall be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed to afford easy passage.
xxi 14. Warnings in case of fire: There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electrically and in case of failure of electricity by some mechanical means.
xxii 15. Fire-fighting equipment:
xxiii (a) Adequate number of suitable fire extinguishers or other fire-fighting equipment shall be kept in constant readiness for dealing with risks involved and depending on the amount and nature of materials stored.
xxiv (b) Clear instructions as to how the extinguishers or other equipment should be used printed in the language which the majority of the workers employed understand, shall be affixed to each extinguisher or other equipment and the personnel trained in their use.
xxv 16. Bulk Sulphur:
xxvi (a) Open or semi-enclosed spaces for storage of bulk sulphur shall be sited with due regard to the dangers which may arise from sparks given off by nearby locomotives, etc., and precautions shall be taken to see that flames, smoking and matches and other sources of ignition do not come in contact with the clouds of dust arising during handling of bulk sulphur.
xxvii (b) All enclosures for bulk sulphur shall be of non-combustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.

xxviii (c) The bulk sulphur in the enclosures shall be handled in such a manner as to minimise the formation of dust clouds and no flame, smoking and matches or other sources of ignition shall be employed during handling and non-

sparking tools shall be used whenever sulphur is shovelled or otherwise removed by hand.
(d) No repairs involving flames, heat or use of hand or power tools shall be made in the enclosure where bulk sulphur is stored.
17. Liquid sulphur: Open flames, electric sparks and other sources of ignition, including smoking and matches, shall be excluded from the vicinity of molten sulphur.
18. Training and supervision:
(a) All electric furnaces and all plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation.
(b) Workers in charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.
19. Washing facilities: The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed wash place under cover with at least one tap or stand-pipe, having a constant supply of clean water for every five such persons, the taps or stand-pipes being spaced not less than 120 centimetres apart with a sufficient supply of soap and clean towels, provided that towels shall be supplied individually to each worker if so ordered by the Inspector.

All the workers employed in the sulphur storage, handling and melting operations shall be provided with a nail brush.
10 20. Personal protective equipment:
11 (a) Suitable goggles and protective clothing consisting of overalls without packets, gloves and foot-wear shall be provided for the use of operatives
12 (i) when operating valves or cocks controlling fluids etc.,
13 (ii) drawing off a molten sulphur from sulphur pots;
14 (iii) handling charcoal or sulphur.
15 (b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
16 (c) Arrangements shall be made for proper and efficient cleaning of all such protective equipment.
17 21. Cloakrooms: There shall be provided and maintained for the use of all persons employed in the processes a suitable cloakroom for clothing put off during work hours and a suitable place separate from the cloakroom for the storage or overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.
18 22. Unauthorized persons - Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorized persons shall be admitted into the plant].

SCHEDULE – XXIII
OPERATIONS INVOLVING HIGH NOISE LEVELS

11 1. Application: This schedule shall apply to all operations in any manufacturing process having high noise level.
12 2. Definitions: For the purpose of this schedule,
13 (a) “Noise” means any unwanted sound.
14 (b) “High noise level” means any noise level measured on the A-weighted scale is 90 dB or above.
15 (c) ” Decibel” means one-tenth of “Bel” which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of “Bels” denoting such a ratio being the logarithm to the base the of 10 of this ratio. The noise level (or the sound pressure level) 6 corresponds to a reference pressure of 20 x 10-6 newton per square meter or 0.0002 dynes per square centimetre which is the threshold of hearing, that is, the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listeners. The decibel in abbreviated form is dB.
16 (d) ” Frequency” is the rate of pressure variations expressed in cycles per second or hertz.
17 (e) ” dBA” refers to sound level in decibels as measured on a sound level meter operating on the A-weighting network with slow meter response.
18 (f) ” A-weighting” means making graded adjustments in the intensities of sound of various frequencies for the purpose of noise measurement, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.
19 3. Protection against noise
20 (1) In every factory, suitable, a suitable engineering control or administrative measures shall be taken to ensure, so far as is reasonably practicable, that no worker is exposed to sound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2 given below:

Table 1
Permissible exposure in cases of continuous noise

Total time of exposure (continuous or a number of short term exposures) per day, in hours	Sound pressure level in dBA
1	2
8	90
6	92
4	95
3	97
2	100

1½	102
1	105
¾	107

Notes:

3 (1) No exposure in excess of 115 dbas is to be permitted.

4 (2) For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column 1, the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

Table 2

Permissible exposure levels of impulsive or impact noise

Peak sound pressure level in dB	Permitted number of impulses or impact per day
1	2
140	100
135	315
130	1,000
125	3,160
120	10,000

Notes:

5 (1) No exposure in excess of 140 dB peak sound pressure level is permitted.

6 (2) For any peak sound pressure level falling in between any figure and the next higher or lower figure as indicated in column 1, the permitted number of impulses or impacts per day is to be determined by extrapolation on a proportionate basis.

7 (3) For the purposes of this schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

8 (4) When the daily exposure is composed of two or more periods of noise exposure at different levels their combined effect should be considered, rather than the individual effect of each. The mixed exposure should be considered to exceed the limit value if the sum of

6 the fractions $C_1/T_1 + C_2/T_2 + \ldots\ldots\ldots C_n/T_n$ exceeds unity, Where the C_1, C_2 etc. indicate the total time of actual exposure at a specified noise level and T_1, T_2, etc. denote the time of exposure of less than 90 dBA may be ignored in the above calculation.

7 (5) Where it is not possible to reduce the noise exposure to the levels specified in sub-rule (1) by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such control measures, and each worker so exposed shall be provided with suitable ear protectors so as to reduce the exposure to noise to the levels specified in sub-rule (1).
8 (6) Where the ear protectors provided in accordance with sub-paragraph (4) and worn by a worker cannot still attenuate the noise reaching near his ear, as determined by subtracting the attenuation value in dBA of the ear protectors concerned from the measured sound pressure level, to a level permissible under Table 1 or Table 2 as the case may be, the noise exposure period shall be suitably reduced to correspond to the permissible noise exposures specified in sub-paragraph (1).
9 (7) In all cases where the prevailing sound levels exceed the permissible levels specified in sub-paragraph (1), there shall be administered an effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on workers exposed to noise exceeding the permissible levels, and rehabilitation of such workers either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.
10 (2) Every worker employed in areas where the noise exceeds the maximum permissible exposure levels specified in sub-paragraph (1), shall be subjected to any auditory examination by a Certifying Surgeon within 14 days of his first employment and thereafter, shall be re-examined at least once a every 12 months. Such initial and periodical examinations shall include tests which the Certifying Surgeon may consider appropriate and shall include determination of auditory thresholds for pure tones of 152, 250, 500, 1000, 2000, 4000 and 8000 cycles per second.

SCHEDULE – XXIV
MANUFACTURE OR MANIPULATION OF DANGEROUS PESTICIDES
4 1. Application: This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of dangerous pesticide (hereinafter referred to as the said manufacturing process), it carried on.
5 2. Definitions: For the purpose of this Schedule,
6 (a) “dangerous pesticides” means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 (Central Act No. 46

of 1968) and the rules made there under and any other product, as may be notified from time to time by the State Government;
(b) “manipulation” includes mixing, blending, formulating, filling, emptying, packing or otherwise handling;
(c) “efficient exhaust draught” means localised mechanical ventilation for removal of smoke, gas, vapour, dust, fume or mist so as to prevent them from escaping into the air of any work room in which work is carried on, but no exhaust draught shall be considered efficient if it fails

to remove smoke generated at the point where such gas, fume, dust, vapour or mist originates from the process.

3. Instruction to workers: Every worker on his first employment shall be fully instructed on the properties including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved. The employees shall also be instructed in the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

4. Cautionary notice and placards: Cautionary notices and placards in the form specified in appendix to this schedule and printed in the language of the majority of the workers shall be displayed in all work places in which said manufacturing process is carried on so that they can be easily and conveniently read by the workers. Arrangements shall be made by the occupier and the manager of the factory to periodically instruct the workers regarding the health hazards arising to in the said manufacturing process and methods of protection. Such notices shall include brief instructions regarding the periodical clinical tests required to be undertaken for projecting health of the workers.

5. Prohibition relating to employment of women or young persons: No woman or young person shall be employed or permitted to work in any room in which the said manufacturing process is carried on or in any room in which dangerous pesticide is stored.

6. Food drinks, and smoking prohibition

No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any workroom in which the said manufacturing process is carried on.

6 7. Protective clothing and protective equipment

7 (1) Protective clothing consisting of long pants and shirts or overalls with long sleeves and head coverings shall be provided for all workers employed in the said manufacturing process.

8 (2)

9 (a) Protective equipment consisting of rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators shall be provided for all workers employed in the said manufacturing processes.

10 (b) Gloves, boots, aprons shall be made from synthetic rubber where a pesticide contains oil.

14 (3) Protective clothing and equipment shall be worn by the workers supplied with such clothing and equipment.

15 (4) Protective clothing and equipment shall be washed daily from inside and outside if the workers handle pesticides containing nicotine or phosphorous and shall be washed frequently if handling other pesticides.

16 (5) Protective clothing and equipment shall be maintained in good condition.

17 8. Floors and work-benches

18 (1) Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.

19 (2) Floors shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with the hose pipe.

(3) Work-benches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned at least once daily.

9. Spillage and waste

(1) If, a dangerous pesticide during its manipulation splashes or spills on the work-bench, floor or on the protective clothing worn by a worker, immediate action shall be taken for through decontamination of such areas or articles.

(2) Cloth, rags, paper or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover and contaminated waste shall be destroyed by burning at least once a week.

(3) Suitable deactivating agents, where available, shall be kept in a readily accessible place for use while attending to a spillage.

(4) Easy means of access shall be provided to all parts of the plant for cleaning, maintenance and repairs.

10. Empty containers used for dangerous pesticides

Containers used for dangerous pesticides shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded or destroyed.

11. Manual handling

(1) A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of a long-handled scoop.

(2) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.

12. Ventilation

(1) In every workroom or area where a dangerous pesticide is manipulated, adequate ventilation shall be provided at all times by the circulation of fresh air.

(2) Unless the process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught:

(a) emptying a container holding a dangerous pesticide;

(b) blending a dangerous pesticide;

(c) preparing a liquid or powder formulation containing a dangerous pesticide; and

(d) Changing or filling a dangerous pesticide into a container, tank hopper or machine or small sized containers.

(3) In the event of a failure of the exhaust draught provided on the above operation, the said operations shall be stopped forthwith.

13. Time allowed for washing

(1) Before each meal and before the end of the day's work at least ten minutes in addition to the regular rest interval shall be allowed for washing to each worker engaged in the manipulation of dangerous pesticide.

(2) Every worker engaged in the manipulation of dangerous pesticides shall have a thorough wash before consuming any food and also at the end of the day's work.

14. Washing and bathing facilities

25 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the factory where the said manufacturing process is carried on, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 5 persons employed therein.
26 (2) The washing places shall have stand pipes placed at intervals of not less than one meter.
27 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.
28 (4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker is so ordered by the Inspector.
3 (5) Sufficient supply of soap and nail brushes shall be provided.
4 15. Cloakroom

There shall be provided and maintained for the use of all workers employed in the factory where the said manufacturing process is carried on,
(a) a cloakroom for clothing put off during working hours with adequate arrangements for drying clothing, if wet; and
(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 7.

15 16. Mess room
16 (1) There shall be provided and maintained for the use of all workers employed in the factory in which the said manufacturing process is carried on and remaining on the premises during the rest intervals, suitable mess room which shall be furnished with:
17 (a) sufficient tables and benches with back rest, and
18 (b) Adequate means for warming food.
19 (2) The mess room shall be placed under the charge of responsible person and shall be kept clean.
20 17. Manipulation not be undertaken: Manufacture or manipulation of a pesticides shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.
21 18. Medical facilities and records of examinations and tests
22 (1) The occupier of every factory to which this schedule applies, shall
23 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
24 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).
25 (2) The report of medical examinations and appropriate tests carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
26 19. Medical examination by certifying Surgeon

27 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations in respect of Halogenated Pesticides, shall include tests for determination of chemical in blood and in fat tissues, E.E.G. abnormalities and memory tests. In respect of organo phosphate compounds, such examinations shall include tests for depression of cholinesterase in plasma and red blood cells. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
28 (2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon at least once in every six calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include the tests specified in sub-paragraph (1). Further, every worker employed in the said processes shall also be examined once in every three months by the Factory Medical Officer.

6 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub- paragraph (1) and (2), including the nature and the results of these test, shall also be entered by the certifying Surgeon in a Health Register in Form 17.
7 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
8 (5) If, at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process.
9 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
10 20. Exemption: If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or the infrequency of the said manufacturing process or for any other reason which shall record in writing all or any of the provisions of this schedule are not necessary for the protection of workers employed in the factory, he may by a certificate in writing exempt such factory, from all or any of the provisions on such condition as he may specify therein.

APPENDIX
(See Paragraph 4)
CAUTIONARY NOTICE
Insecticides and pesticides
9 1. Chemicals handled in this plant are poisonous substances.
10 2. Smoking, eating food or drinking, chewing tobacco in this area is prohibited. No food stuff or drink shall be brought in this area.

11 3. Some of these chemicals may be absorbed through skin and may cause poisoning.
12 4. A good wash shall be taken before meals.
13 5. A good bath shall be taken at the end of this shift.
14 6. Protective clothing and equipment supplied shall be used while working in this area.
15 7. Containers of pesticides shall not be used for keeping food stuffs.
16 8. Spillage of the chemicals on any part of the body or on the floor or work- bench shall be immediately washed away with water.

6 9. Clothing contaminated sue to splashing shall be removed immediately.
7 10. Scrupulous cleanliness shall be maintained in this area.
8 11. Do not handle pesticides with bare hands, use scoops provided with handle.
9 12. In case of sickness like nausea, vomiting, giddiness, the manager should be informed who will make necessary arrangements for treatment.
10 13. All workers shall report for the prescribed medical tests regularly to protect their own health.

SCHEDULE – XXV
MANUFACTURE OF RAYON BY VISCOSE PROCESS
13 1. Definitions: For the purpose of this schedule,
14 (a) ” approved” means approved for the time being in writing by the Chief Inspector;
15 (b) ” breathing apparatus” means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxiating or irritant atmosphere breathes unpolluted air; or any other approved apparatus;
16 (c) ” churn” means the vessel in which alkali cellulose pulp is treated with carbon disulphide;
17 (d) ” dumping” means transfer of cellulose xanthate from a dry churn to a dissolver;
18 (e) ” efficient exhaust draught” means localised ventilation by mechanical means for the removal of any gas or vapour, so as to prevent it from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient if it fails to control effectively any gas or vapour generated at the point where such gas or fume originates;
19 (f) ” fume process” means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;
20 (g) ” life belt” means a belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it, each of which is sufficiently strong to sustain the weight of a man;
21 (h) ” protective equipment” means apron, goggles, face shields, footwear, gloves and overalls made of suitable materials.
22 2. Ventilation
23 (1) In all workrooms where a fume process is carried on, adequate ventilation by natural or mechanical means shall be provided so as to control, in association with other control measures, the concentration of carbon-di-sulphide and hydrogen sulphide in the air of every work environment within the permissible limits.
24 (2) Notwithstanding the requirements in sub-paragraph (1) an efficient exhaust draught shall be provided and maintained to control the concentration of

carbon-di-sulphide and hydrogen sulphide in the air at the following locations:
(a) dumping hoppers of dry churns;
(b) spinning machines;
(c) trio rollers and cutters used in staple fibre spinning;
(d) hydro-extractors for yarn cakes;
(e) after treatment processes; and
(f) spin baths.

(3) In so far as the spinning machines and trio rollers and cutters used in staple fibre spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust draft to be provided as required in sub-paragraph (2), enclosed as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of carbon-di-sulphide and hydrogen sulphide escaping to the work environment.

(4) No dry churn shall be opened after completion of reaction without initially exhausting the residual vapours of carbon-di-sulphide by operation of a suitable and efficient arrangement for exhausting the vapours which shall be continued to be operated as long as the churn is kept opened.

(5) Whenever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (2), (3), and (4) is ineffective, fails, or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or processes specified in the above said sub-paragraphs are in use, as soon as possible, and in any case not later than 15 minutes after such an occurrence.

(6)

(i) All ventilating systems provided for the purposes as required in sub- paragraphs (2), (3) and (4) shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

(ii) A register containing particulars of such examinations and tests, and the state of the systems and the repairs or alterations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

3. Waste from spinning machines: Waste yarn from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after decontamination.

4. Lining of dry churns: The inside surface of all dry churns shall be coated with a non-sticky paint so that cellulose xanthate will not stick to the surface of the churn. Such coating shall be maintained in good condition.

5. Air monitoring

(1) To ensure the effectiveness of the control measures, monitoring of carbon-di-sulphide and hydrogen sulphide in air shall be carried out once atleast in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purposes

11 (2) For the purpose of the requirement in sub-paragraph (1), instantaneous gas detector tubes shall not be used. Samples shall be collected over duration of not less than 10 minutes and analyzed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.

12 (3) If the concentration of either carbon disulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in Second Schedule of the Factories Act, 1948 (Central Act 63 of 1948), suitable steps shall be taken for controlling the concentrations in air of such contaminants. A report of such occurrences shall be sent to the Chief Inspector forthwith.

13 6. Prohibition to remain in fume process room: No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

14 7. Prohibition relating to employment of young persons: No young person shall be employed or permitted to work in any fume process or in any room in which any such process is carried on.

15 8. Protective equipment

16 (1) The occupier shall provide and maintain in good condition protective equipment as specified in the Table for use of persons employed in the processes referred to therein:

Name of the process		Name of the Protective equipment
1		2
2 1.	Dumping	Overalls, face-shields, gloves and footwear all made of suitable material
2 2.	Spinning	Suitable aprons, gloves and footwear
2 3.	Process involving or likely to involve contact with viscose solution	Suitable gloves and footwear
2 4.	Handling of sulphur	Suitable chemical goggles
2 5.	Any other process involving contact with hazardous chemicals	Protective equipment as may be directed by the Chief Inspector by an order in writing

16 (2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all protective equipment supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

17 9. Breathing apparatus

18 (1) There shall be provided in every factory where fume process is carried on, sufficient supply of:

19 (a) breathing apparatus,

20 (b) oxygen and a suitable appliance for its administration, and

21 (c) life belts.

22 (2)

23 (i) The breathing apparatus and other appliances referred to in sub- paragraph (1) shall be maintained in good condition and kept in appropriate locations so as to be readily available.

24 (ii) The breathing apparatus and other appliances referred to in clauses (a) and (b) of sub-paragraph (1) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.

25 (iii) A record of the maintenance of the condition of the breathing apparatus and other appliances referred to in sub-clause (1) shall be entered in a register provided for that purpose which shall be readily available for inspection by an Inspector.

26 (3) Sufficient number of workers shall be trained and periodically retrained in the use of breathing apparatus and administering artificial respiration so that at least 2 such trained persons would be available during all the working hours in each room in which fume process is carried on.

27 (4) Breathing apparatus shall be kept properly labeled in clean, dry, light-proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.

28 (5) No person shall be employed to carry on any process specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under sub-paragraph unless he has been fully instructed in the proper use of that equipment.

29 (6) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

30 10. Electric fittings: All electric fittings in any room in which carbon-di-sulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.

2 11. Prohibition relating to smoking, etc.: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the workers shall be posted at prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms:

Provided that fire, naked light or other means of producing a naked light of spark may be carried on in such room only when required for the purposes of the process itself under the direction of a responsible person.

12. Washing and bathing facilities

(1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed and in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed.

(2) The washing places shall have standpipes placed at intervals of not less than one meter.

(3) Not less than one half of the total number of washing places shall be provided with bathrooms.

(4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

(5) Sufficient supply of soap and nail brushes shall be provided.

13. Rest Room

(1) A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process.

(2) Such rest room shall be provided with fresh air supply and adequate seating arrangement.

14. Cautionary notice and instructions

(1) the following cautionary notice shall be prominently displayed in each fume process room.

Cautionary Notice

1. Carbon disulphide (CS_2) and Hydrogen Sulphide (H_2S) which may be present in this room are hazardous to health.
2. Follow safety instructions.
3. Use protective equipment and breathing apparatus as and when required.
4. Smoking is strictly prohibited in this area.

This notice shall be in a language understood by the majority of the workers and displayed where it can be easily and conveniently read. If any worker

is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

5. Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically.

6. Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon- di-sulphide and hydrogen

sulphide. Those instructions shall be displayed in the concerned areas and workers shall be instructed and trained in the actions to be taken in such emergencies.

14 15. Medical facilities and records of examinations and tests

15 (1) the occupier of every factory to which this schedule applies, shall:

16 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

17 (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

18 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

19 16. Medical examination by certifying Surgeon

20 (1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include tests for estimation of exposure co-efficient (iodine aside test on urine), cholesterol, electrocardiogram (ECG) and Central Nervous System (CNS) tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

21 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

22 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of these test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

5 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

6 (5) If, at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the fume process.

7 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in such processes.

8 17. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke

at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE – XXVI
HIGHLY FLAMMABLE LIQUIDS AND FLAMMABLE COMPRESSED GASES

8 1. Application: These rules will be applicable to all factories where highly flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

9 2. Definition: For the purpose of this schedule,

10 (a) " highly flammable liquid" means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934, (30 of 1934) gives off flammable vapours at a temperature less than 32 degree centigrade;

11 (b) " Flammable compressed gas" means flammable compressed gas as defined in section 2 of the Static and Mobile Pressure Vessels (Unfired) Rules 1981 framed under the Explosive Act, 1884.

12 3. Storage

13 (1) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistant construction.

14 (2) Except as necessary for use, operation or maintenance, every vessel or tank which contains or had contained highly flammable liquid or flammable compressed gas shall be always kept closed and all reasonably practicable

14 steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.

15 (3) Every container, vessel, tank, cylinder, or store room used for storing highly flammable liquid or flammable compressed gas shall be clearly and in bold letters marked "DANGER-HIGHLY FLAMMABLE LIQUID" OR "DANGER-FLAMMABLE COMPRESSED GAS".

16 4. Enclosed Systems for Conveying Highly Flammable Liquids: Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipe lines, pumps and similar appliances from the storage tank or vessel to the point of use. Such enclosed systems shall be so designed, installed, operated and maintained as to avoid leakage or the risk of spilling.

17 5. Preventing Formation of Flammable Mixture within: Wherever there is a possibility for leakage or spill of highly flammable liquid or flammable compressed gas from any equipment, pipe line, valve, joint or other part of a system, all practicable measures shall be taken to contain, drain off or dilute such spills or leakage as to prevent formation of flammable mixture with air.

18 6. Prevention of Ignition

19 (1) In every room, work place or other location where highly flammable liquid or flammable combustible gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid or flammable compressed gas in air, all practicable measures shall be taken to exclude the sources of ignition. Such precautions shall include the following:

20 (a) All electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of there being a source of ignition;
21 (b) Effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
22 (c) no person shall wear or be allowed to wear any foot wear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;
23 (d) Smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;
24 (e) Transmission belts with iron fasteners shall not be used; and
25 (f) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical-chemical reaction and radiant heat.
26 7. Prohibition of smoking: No person shall smoke in any place where highly flammable liquid or flammable compressed gas is present in circumstances that smoking would give a risk of life. The occupier shall take all practicable measures

4 to ensure compliance with this requirement including display of a bold notice indicating prohibition of smoking at every place where this requirement applies.
5 8. Fire Fighting: In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used, appropriate and adequate means of fighting a fire shall be provided. The adequacy and suitability of such means which expression includes the fixed and portable fire extinguishing systems, extinguishing material, procedures and the process of fire fighting, shall be to the standards and levels prescribed by the Indian Standards applicable, and in any case not inferior to the stipulations under Rule 66.
6 9. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE – XXVII
OPERATIONS IN FOUNDRIES
11 1. Application: The provisions of this Schedule shall apply to all parts of factories where any of the following operations or processes are carried on:
12 (a) the production of iron castings or, as the case may be, steel castings by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shall moulding, or by centrifugal casting and any process incidental to such production;
13 (b) the production of non-ferrous castings by casting metal in moulds made of sand, loam, metal, moulding composition or other material or mixture of materials, or by shall mouldings, die-casting (including pressure die casting), centrifugal casting or continuous casting and any process incidental to such production; and

14 (c) the melting and casting of non-ferrous metal for the production of ingots, billets, slabs or other similar products, and the stripping thereof; But shall not apply with respect to,
15 (a) Any process with respect to the smelting and manufacture of lead and the Electric Accumulators;
16 (b) Any process for the purpose of a printing works; or
17 (c) Any smelting process in which metal is obtained by a reducing operation or any process incidental to such operation; or
18 (d) The production of steel in the form of ingots; or
19 (e) Any process in the course of the manufacture of solder or any process incidental to such manufacture; or
20 (f) the smelting and casting of lead or any lead-based alloy for the production of ingots, billets, slabs or other similar products or the

stripping thereof, or any process incidental to such melting, casting or stripping.
2. Definition: For the purpose of this schedule,
(a) ” approved respirator” means a respirator of a type approved by the Chief Inspector;
(b) ” cupola of furnace” includes a receiver associated therewith;
(c) ” dressing or fettling operations” includes stripping and other removal of adherent sand, cores, runners, risers, flash and other surplus metal from a casting and the production of reasonably clean and smooth surface, but does not include (a) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled, or (b) any operation which is knock-out operation within the meaning of this schedule;
(d) ”foundry” means those parts of a factory in which the production of iron or steel or non-ferrous castings (not being the production of pig iron or the production of steel in the form of ingots) is carried on by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding or by centrifugal casting in metal moulds lined with sand, or die casting including pressure die casting, together with any part of the factory in which any of the following processes are carried on as incidental processes in connection with and in course of, such production, namely, the preparation and preparation of moulds and cores, knock out operations and dressing or fettling operations;
(e) “knock-out operations” means all methods of removing castings from moulds and the following operations, when done in connection therewith, namely, stripping, coring-out and the removal of runners and risers;
(f) ” pouring aisle” means an aisle leading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds.
3. Prohibition of use of certain materials as parting materials
(1) A material shall not be used as a parting material if it is a material containing compounds of silicon by weight of the dry material:

Provided that this prohibition shall not prevent the following being used as a parting material if the material does not contain an admixture of any other silica,
(a) Zirconium silicate (Zircon);
(b) Calcined china clay;

(c) Calcined aluminous fireclay;
(d) Sillimanite;
(e) Calcined or fused alumina;
(f) Olivine; and

(g) Natural sand.
(2) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.
4. Arrangement and storage: For the purposes of promoting safety and cleanliness in workrooms the following requirements shall be observed,
(a) moulding boxes, loam plates, ladles, patterns, pattern plates, frames, boards, box weights, and other heavy articles shall be so arranged and placed as to enable work to be carried on without unnecessary risk;
(b) Suitable and conveniently accessible racks, bins, or other receptacles shall be provided and used for the storage of other gear and tools;
(c) Where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins, bunkers or other receptacles shall be provided for the purpose of such storage.
5. Construction of floors
(1) Floors of indoor workplaces in which the processes are carried on, other than parts which are of sand, shall have been surface of hard material.
(2) No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work done.
(3) All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as practicable, be maintained in an even and firm condition.
6. Cleanliness of indoor workplaces
(1) All accessible parts of the walls of every indoor workplace in which the processes are carried on and of everything affixed to those walls shall be effectively cleaned by a suitable method to a height of not less than 4.2 metres from the floor at least once in every period of fourteen months. A record of the carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not less than five months nor more than nine months after the last immediately preceding washing, cleaning or other treatment.)
(2) Effective cleaning by a suitable method shall be carried out at least once every working day of all accessible parts of the floor of every indoor workplace in which the processes are carried on, other than parts which are of sand; and the parts which are of sand shall keep in good order.
7. Manual operations involving molten metal
(1) There shall be provided and properly maintained for all persons employed on manual operations involving molten metal with which they are liable to be splashed, a working space for that operation:
(a) which is adequate for the safe performance of the work; and
(b) which, so far as reasonably practicable, is kept free from obstruction.

2 (2) Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor all parts of which were any person walks while engaged in the operation shall be on the same level:

Provided that, where necessary to enable the operation to be performed without undue risk, nothing in this paragraph shall prevent the occasional or exceptional use of a working provided with a safe means of access from the floor for any person while engaged in the operation.

15 8. Gangways and pouring aisles

16 (1) In every workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the commencement of the Punjab Factory (Amendment) Rules, 1994 and, so far as reasonably practicable, in every another workroom to which this Paragraph applies, sufficient and clearly defined main gangway shall be provided and properly maintained which:

17 (a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

18 (b) shall be kept, so far as reasonably practicable, free from obstruction;

19 (c) if not used for carrying molten metal, shall be at least 920 millimetres in width;

20 (d) if used for carrying molten metal shall be,

21 (i) Where truck ladles are used exclusively, at least 600 millimetres wider than the overall width of the ladle;

22 (ii) Where hand shanks are carried by not more than two men, at least 920 millimetres in width;

23 (iii) Where hand shanks are carried by more than two men, at least 1.2 matters in width; and

24 (iv) Where used for simultaneous travel in both directions by men carrying hand shanks, at least 1.8 metres in width.

25 (2) In workroom to which this Paragraph applies constructed, reconstructed or converted for use as such after the commencement of the Punjab Factory (Amendment) Rules, 1994, sufficient and clearly defined pouring aisles shall be provided and properly maintained which,

26 (a) shall have an even surface of hard material and shall, in particular, not be sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

27 (b) Shall be kept so far as reasonably practicable free from obstruction;

28 (c) if molten metal is carried in hand ladles or bulk ladles by not more than two men per ladle, shall be at least 460 millimetres wide, but where any moulds alongside the aisle are more than 510 millimetres above

the floor of the aisle, the aisle shall be not less than 600 millimetres wide;

(d) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be at least 760 millimetres wide;

(e) if molten metal is carried in crane, trolley or truck ladles, shall be of a width adequate for the safe performance of the work.

(3) Requirements of sub-paragraph (1) and (2) shall not apply to any workroom or part of a workroom if, by reason of the nature of the work done therein, the floor of that workroom or, as the case may be, that part of a workroom has to be of sand.
(4) In this paragraph "workroom" to which this paragraph applies "means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used, and a workroom to which this paragraph applies shall be deemed for the purposes of this paragraph to have been constructed, reconstructed or converted for use as such after the making of this Schedule if the construction, reconstruction or conversion thereof was begun after the making of this Schedule".
9. Work near cupolas and furnaces: No person shall carry out any work within a distance of 4 metres from a vertical line passing through the delivery end of any spout of a cupola or furnace, being a spout used for delivering molten metal, or within a distance of 2.4 metres from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout, except, in either case, where it is necessary for the proper use of maintenance of a cupola or furnace that work should be carried out within that distance of that work is being carried out at such a time and under such conditions that there is no danger to the person carrying it out from molten metal which is being obtained from the cupola or furnace or is in a ladle in position at the end of the spout.
10. Dust and fumes
(1) Open coal, coke or wood fires shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the workroom.
(2) No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is unavoidable.
(3) Mould stoves, core stoves and annealing furnaces shall be so designed constructed, maintained and worked as to prevent, so far as practicable, offensive or injurious fumes from entering into any workroom during any period when a person is employed therein.
(4) All of them knock-out operations shall be carried out,
(a) in a separate part of foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and a high standard of general ventilation are provided; or

(b) in an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided, or where compliance with this requirement is not reasonably practicable, a high standard of general ventilation is provided.
(5) All dressing or fettling operations shall be carried out,
(a) In a separate room or in a separate part of foundry suitably partitioned off; or
(b) In an area of the foundry set apart for the purpose; and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.
11. Maintenance and examination of exhaust plant
(1) All ventilation plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

(2) All ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person at least once in every such examination and test shall be entered in an approved register which shall be available for inspection by an Inspector. Any defect found on any such examination and carrying out the examination and test to the occupier or manager of the factory.

12. Protective equipment

(1) The occupier shall provide and maintain protective equipment specified for the protection of workers,

(a) suitable gloves to other protection for the hands for workers engaged in handling any hot material likely to cause damage to the hands by burn, scald, or scar, or in handling pig iron, rough castings or other articles likely to cause damage to the hands by cut or abrasion;

(b) approved respirators for workers carrying out any operations creating a have dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.

(2) No respirator provided for the purposes of clause 1 of the sub-clause (b) has been worn by a person shall be worn by another person if it has not since been thoroughly cleaned and disinfected.

(3) Persons who for any of their time:

(a) a work at a spout of or attend to, a cupola or furnace in such circumstances that material there from may come into contact with the body, being material at such a temperature that its contact with the body would cause a burn; or

(b) Are engaged in, or in assisting with, the pouring of molten metal; or

(c) carry by hand or move by manual power any ladle or mould containing molten metal; or

(d) are engaged in knocking-out operations involving material at such a temperature that its contact with the body would cause a burn;

Shall be provided with suitable footwear and gaiters which worn by them prevent, so far as reasonably practicable, risk of burns to his feet and ankles.

13 (4) Where appropriate, suitable screens shall be provided for protection against flying materials (including splashes of molten metal and sparks and chips thrown off in the course of any process).

14 (5) The occupier shall provide and maintain suitable accommodation for the storage and make adequate arrangements for cleaning and maintaining of the protective equipment supplied in pursuance of this paragraph.

15 (6) Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraph (1) and (4) and shall without delay report to the occupier, manager, or other appropriate person any defect in, or less of, the same.

16 13. Washing and bathing facilities

17 (1) There shall be provided and maintained in clean state and good repair for the use of all workers employed in the foundry,

18 (a) A wash place under cover with either:

19 (i) a trough with impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimetres for every 10 such persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60 centimetres or

20 (ii) at least one tap or stand pipe for every 10 such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 metres apart; and

21 (b) Not less than one half of the total number of washing places provided under clause (a) shall be in form of bath rooms.

22 (c) A sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.

23 (2) The facilities provided for the purposes of sub-paragraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly condition.

24 14. Disposal of dross and skimming: Dross and skimming removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.

3 15. Disposal of waste: Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out.

4 16. Material and equipment left out of doors: All material and equipment left out of doors (including material, and equipment so left only temporarily or occasionally) shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and, so far as reasonably practicable, such access shall be by roadways or pathways which shall be properly maintained. Such roadways or pathways shall have a firm and even surface and shall, so far as reasonably practicable be kept free from obstruction.

11 17. Medical facilities and records of examinations and tests

12 (1) The occupier of every factory to which this schedule applies, shall,

13 (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

14 (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).

15 (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate, register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

16 18. Medical examination by certifying Surgeon

17 (1) Every worker employed in a foundary shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include pulmonary function tests and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

18 (2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every 12 months and such examination shall, wherever the Certifying

Surgeon considers appropriate, include all the tests in sub- paragraph (1) except chest X-ray which will be once in three years.

19 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 28. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of these test, shall also be entered by the Certifying Surgeon in a health register in Form 17.

20 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector of Factories.

4 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended form the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

5 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

6 19. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may be a certificate in writing which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

103. 168[Notification of Accidents and Dangerous Occurrences

8 (1) When any accident which results in the death of any or which results in such bodily injury to any person as is likely to cause his death, or any dangerous occurrence specified in the Schedule to this rule takes place in a factory, the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the Inspector and the Chief Inspector.

9 (2) When any accident or any dangerous occurrence specified in the Schedule to this rule which results in the death of any person or which results in such bodily injury to any person as is likely to cause his death, takes place in a factory, a notice as mentioned in sub-rule (1) shall also be sent to:

10 (a) the District Magistrate or Sub-Divisional Magistrate;

11 (b) the Officer-in-charge of the Police Station; and

12 (c) the relatives of the injured or deceased person.

13 (3) Any notice given as required under sub-rules (1) and (2) shall be confirmed by the manager of the factory to the authorities mentioned in sub-rules (1) and (2) within twelve hours of the accident or the dangerous occurrence by sending them a written report in Form 18

in the case of an accident or dangerous occurrence causing death or bodily injury to any person in Form 18-A in the case of dangerous occurrence which has not resulted in any bodily injury to any person.

14 (4) When any accident or dangerous occurrence specified in the Schedule below takes place in a factory and it causes such bodily injury to any person as prevents the person injured from working for a period of forty-eight hours or more immediately

2 following the accident or the dangerous occurrence, as the case may be, the manager of the factory shall send a report thereof to the Inspector and Chief Inspector in Form 18 within twenty-four hours after the expiry of the forty-eight hours from the time of the accident or the dangerous occurrence:

Provided that if an in the case of an accident or dangerous occurrence, death occurs of any person injured by such accident or dangerous occurrence after the notices and reports referred to in the foregoing sub-rule have been sent, the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the authorities and persons mentioned in sub-rules (1) and (2) and also have this information confirmed in writing within twelve hours of the death:

Provided further that, if the period of disability from working for forty-eight hours or more referred to in sub-rule (4) does not occur immediately following the accident, or the dangerous occurrence, but later on occurs in more than one spell, the report referred to in clause (3) shall be sent to the Inspector and Chief Inspector in Form 18 within twenty-four hours immediately following the hour when the actual total period of disability from working resulting from the accident or the occurrence dangerous becomes forty-eight hours.

SCHEDULE

The following class of dangerous occurrence whether or not attended by personal injury or displacement, shall be dangerous occurrence within the meaning of rule 103:

(a) Bursting of plant used for containing or supplying of steam under pressure greater than atmospheric pressure.

(b) Collapse or failure of crane, derrick, winch, hoist or any other appliance used in raising or lowering persons or goods or any other part thereof, or the overturning of crane.

(c) Explosion, fire, bursting out, leakage or escape of any molten metal or hot liquid or gas causing bodily injury to any person or damage to any room or place in which persons are employed or fire in the room of cotton pressing factories where cotton opener is in use.

(d) Explosion of receiver or container used for storage of pressure greater than atmospheric pressure of any gas (including air) or any liquid or solid resulting from the compression of gas.

(e) Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall, building or any other structure.

104. Notice of poisoning or disease under section 89

A notice in Form 19 should be sent forthwith both to the Chief Inspector and to the Certifying Surgeon by the Manager of a factory in which there occurs a case of lead, phosphorus, mercury, manganese, arsenic, carbon disulphide or benzene poisoning or poisoning by nitrous fumes, or

by halogen or halogen derivatives of the hydrocarbons of the aliphatic series; or of chrome ulceration, anthrax, silicosis, toxic anaemia, toxic

jaundice, primary opitheliomatous cancer of the skin, or pathological manifestations due to radium or other radio-active substances or X- Rays.

104A. Permissible levels of certain chemical substances in work environment

Without prejudice to the requirements in any other provisions in the Act or the rules made there under, the requirements specified in the Schedule given below shall apply to all factories:

SCHEDULE

6 1. Definitions: for the purpose of this schedule,

7 (a) "mg/m_3" means milligrams of a substances per cubic metre of air;

8 (b) "mppcm" means million particles of a substance per cubic metre of air;

9 (c) "ppm" means parts of vapour or gas per million parts of air by volume at 25_0 C and 760 mm of mercury pressure;

10 (d) " Time weighted average concentration" means the average concentration of a substance in the air at any work location in a factory computed from evaluation of adequate number of air samples taken at that location, spread over the entire shift on any day, after giving weightage to the duration for which each such sample is collected and the concentration prevailing at the time of taking the sample.

Time weighted average $C_1T_1 + C_2T_2 + ...C_nT_n$ Concentration = ---------- $T_1 + T_2 + ...T_n$ Where C_1 represents the concentration of the substance for duration T_1 (in hours); C2 represents the concentration of the substance for duration T_2 (in hours); and C_n represents the concentration of the substance for duration T_n (in hours).

(e) "Work location" means a location in a factory at which a worker works or may be required to work at any time during any shift on any day.

2. Limits of concentration of substances at work location

(1) The time weighted average concentration of any substance listed in Table 1 or 2 of the schedule, at any work location in a factory during any shift on any day shall not exceed the limit of the permissible time weighted average concentration specified in respect of that substance:

Provided that in the case of a substance mentioned in Table 1 in respect of which a limit in terms of short term maximum concentration is indicated, the concentration of such a substance may exceed the permissible limit of the time weighted average concentration for the substance for short periods not exceeding 15 minutes at a time, subject to the condition that:

(a) Such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than 4 per shift;

(b) the time interval between any two such periods of higher exposure shall not be less than 60 minutes; and

(c) At no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.

(2) In the case of any substance given in Table 3, the concentration of the substance at any work location in a factory at any time during any day she

(3) In the cases where the word “skin” has been indicated against certain substance mentioned in Tables 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous routes particularly skin, mucous membranes, and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.
(4)
(a) In case, the air at any work location contains a mixture of such substances mentioned in Table 1, 2 or 3, which have similar toxic properties, the time weighted concentration of each of these substances during the shift should be such that when these times weighted concentration divided by the respective permissible time weighted average concentration specified in the above-mentioned tables, and the fractions obtained are added together, the total shall not exceed unity. $C_1/L_1 + C_2/L_2 \ldots\ldots\ldots\ldots C_n/L_n$;

Where C_1, C_2..... C_n are the time weighted concentration of toxic substances 1, 2……., and n respectively, determined after measurement at work location; And L_1, L_2 .....L_n are the permissible time weighted average concentration of the toxic substances 1, 2, and n respectively.
(b) In case the air at any work location contains a mixture of substances, mentioned in Table 1, 2, 3 and these do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above-mentioned tables, for that particular substance.
(c) The requirement in clauses (a) and (b) shall be in addition to the requirements in paragraphs 2(1) and 2(2).
3. Sampling and evaluation procedures
(1) Notwithstanding provisions in any other paragraphs, the sampling and evaluation procedures to be adopted for checking compliance with the provisions in the schedule shall be as per standard procedures in vogue from time to time.
(2) Notwithstanding the provisions in paragraph 5, the following conditions regarding the sampling and evaluation procedures relevant to checking compliance with the provisions in the Schedule are specified.
(a) For determination of the number of particles per cubic meter in item 1 (a)(i)(1) in Table 2, samples are to be collected by standard or midget impinger and the counts made by light-field technique.

(b) The percentage of quartz in the 3 formulae given in item 1(a)(i) of Table 2 is to be determined from air borne samples.
(c) For determination of number of fibres as specified in item 2(a) of Table 2, the membrane filter method at 430 x magnification (4mm objective) with phase contrast illumination shall be used.
(d) Both for determination of concentration and percentage of quartz for use of the formula given in item 1(a)(i)(2) of Table 2, the fraction passing through a size-selector with the following characteristics should only be considered.

Aerodynamic diameter (unit density sphere)	Percentage allowed by size-selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	10

5 4. Power to require assessment of concentration of substances

6 (1) An Inspector may, by an order in writing, direct the occupier or manager of a factory to get before any specified date, the assessment of the time weighted average concentration at any work location of any of the substances mentioned in Table 1 ,2 or 3 carried out.

7 (2) The results of such assessment as well as the method followed for air sampling and analysis for such assessment shall be sent to the Inspector within 3 days from the date of completion of such assessment and also a record of the same kept readily available for inspection by an Inspector.

8 5. Exemption: If in respect of any factory or a part of a factory, the Chief Inspector is satisfied that, by virtue of the pattern of working time of the workers at different work locations or an account of other circumstances, no worker is exposed, in the air at the work locations, to a substance or substances specified in Tables 1,2 or 3 to such an extent as is likely to be injurious to his health, he (the Chief Inspector) may by an order in writing, exempt the factory or a part of the factory from the requirements in paragraph 2, subject to such conditions, if any, as he may specify therein.

Table

Substance		Permissible limits of exposure
Time-weighted average concentration		Short term maximum concentrations
1	2	3

PPm	mg/m3	PPm	mg/m3
Acetic acid	10	25	15	37
Acrolein	0.1	0.25	0.3	0.8
Aldrin-skin	..	0.25	..	0.75
Ammonia	25	18	35	27

Aniline-Skin	2	10	5	20
Anisidine (O-p-isomera)-skin	0.1	0.5	..	..
Aresenic and Compound (as As)	..	0.2	..	..
Benzene	10	30	..	..
Bromine	0.1	0.7	0.3	2
2Butanone Methylethyl Ketone (MEK)	200	590	30	885
N-Butylacetate	150	710	200	950
Sec/Tert./Butyl acetate	205	950	250	1190
Cadmium-dust and salts (as Cd)	..	0.05	..	0.2
Calcium	..	2	..	..
Carbaryl (Sevin)	..	5	..	10
Carbofuran (Furadan)	..	0.1	..	..
Carbon disulfide-skin	20	60	30	90
Carbon monoxide	50	55	400	440
Carbon tetrahloride-skin	10	65	20	130
Carbonyl chloride (Phosgene)	0.1	0.4	..	..
Chlordane-skin	..	9.5	..	2
Chlorobenzene (monom chloro-benzene)	75	350	..	..
Chlorine	1	3	3	9
Bis-chloromethyl ether	0.001	..	[	..
Chromic acid and chromates (as Cr.)	..	0.05	..	..

Chromium Sol. Chromic Chromous	..	0.05	..	..
Copper Fume	..	0.2	..	..

Cotton Dust, rew	..	0.2	..	0.6
Cresol, all isomers-skin	5	22	..	..
Cyanides, as Cn-skin	..	5	..	..
Cyanogen	10	20	..	..
DDT (Dichloro diphenyl Trichlorocthanc)	..	1	..	1
Demoon-skin	..	1	..	3
Diazion-skin	0.01	0.1	0.03	0.3
Dibutyl Phthalate	..	5	..	10
Dichlorves (DDVP)-Skin	0.1	1	0.3	3
Dieldrin-skin	..	0.25	..	0.75
Dinitro benzene (all isomers)-skin	0.15	1	0.5	3
Dinitrotoluene-skin	..	1.5	..	5
Diphenyl	0.2	1.5	..	5
Endosulfan (Thiodan)-skin	..	0.1	..	0.3
Endrin-skin	..	0.1	..	0.3
Ethly acetate	400	1000	..	..
Ethly alcohol	1000		1900	
Ethly amine	60	18	..	..
Flourides (as F)	..	2.5	..	..
Fluorine	1	2	2	4
Hydrogen Cyanide-skin	10	11	15	16
Hydorgen Suphide	10	15	15	27
Iron Oxide Fume (Fe2 o3 as Fe)	..	5	..	10
Isoamyl alcohol	100	360	125	450
Isoamyl acetate	100	525	125	655
Isobutyl alcohol	50	150	75	225

lead, inorg fumes and dusts (as Pb)	..	0.15	..	0.45
Lindane-skin	..	0.5	..	1.5
Malathion-skin	..	10	..	..
Manganese fume (as Mn)	..	1	..	1
Mercury (as Hg)	..	0.05	..	0.15
Mercury (alkyl compounds) skin (as Hg)	0.001	0.01	0.003	0.03
Methyl alcohol (methanel)-skin	200	260	250	310
Methyl cellosolve-skin (2-inethoxy ethanol)	25	80	35	120
Methyl isobutyl Ketone-skin	100	410	125	510
Naphthalene	10	50	15	75
Nickel carbonyl (as Ni)	0.05	0.35	..	..
Nitric acid	2	5	4	10
Nitric oxide	25	30	35	45
Nitrobenzene—skin	1	5	2	10
Oil mist mineral	..	5	..	10
Parathion—skin	..	0.01	..	0.03
Phenel—skin	5	19	10	38
Phorate (Thimet)--- skin	..	00.5	..	0.2
Phosgene (Carbonyl chloride)	0.1	0.4	1	1
Phosphine	0.3	0.4	1	1
Phosphorus Pentachloride	..	1	..	3
Phosphorus Trichloride	0.5	3	..	..
Picric acid skin	..	0.1	..	0.3
Phosphorus (yellow)	..	0.1	..	0.3
Pyridine	5	15	10	30

Silane (silicon tetrahydride)	0.5	0.7	1	1.5

Styrene, Monower (Phenyl ethylene)	100	40	125	525
Sulphur dioxide	5	13	..	..
Sulfuric acid	..	1	..	..
Toluene (toluol) skin	100	375	150	560
O-Toludine	5	22	10	44
Trichloroethylene	100	535	15	800
Vinyl Chloride	5	10	..	...
Welding fumes (NOC)	..	5	..	..
Xylene (o-m-p-isomers) skin	100	435	150	655

Substance	Permissible time weighted average concentrating
1	2
2 1. Silica	
(a) Crystaline	
ii (i) Quartz	
2 (1) In term of dust count= 1060/%Quartz+10 mppcm	
2 (2) In terms of respirable dust= 10/%respirable quartz+2 mg/m3	
2 (3) In terms of total dust= 30/%quartz +3 mg/m3	

ii	(ii) Cristobalite	Half the limits given against quartz.
ii	(iii) Tridymite	Half the limits given against quartz
ii	(iv) Silica fused	Same limit as for quartz
ii	(v) Tripoli	Same limit as in formula in term 2 given against quartz
(b) Amorphous		705 mppcm
2	2. Silicates having less than 1% free silica by weight:	
(a) Abestos-fibres longer than 52 fibres per cubic centimetre mocorns		
(b) Mica		705mppcm
(c) Mineral wool fibre		10mg/m3
(d) Portile		1060 mppcm
(e) Portland cement		1060mppcm
(f) Soapstone		705 mppcm
(g) Talc (nonabostiforn)		705mppcm

(h) Talc (Fibrous)	Same limit as for asbestos
(i) Ttemolite	Same limit as for asbestos
2 3. Coal dust	
2 (1) For airborne dust having less than 5% silicon dioxide by weight	2mg/m3
2 (2) For air borne dust having over 5% silicon dioxide	Same limit as prescribed by formula in item (2) against quartz

TABLE 3

Substance	Permissible limit of exposure	
PPm	PPm mg/m3	
Acetic anhydride	5	20
O-Dichlorobenzene	50	300
Formaldhyde	2	3
Hydrogen chloride	5	7
Manganese and Compounds (as Mn)	-	5
Nitrogen dioxide	5	9
Nitroglycerin-skin	0.2	2
Potassium Hydroxide	-	2
Sodium hydroxide	-	2

2, 4, 6 Trinitrotoluene (TNT)	-	0.5

CHAPTER-X
SUPPLEMENTAL
105. Procedure in appeals
3 (1) An appeal presented under section 107 shall lie to the Chief Inspector, or in cases where the order appealed against is an order passed by that officer, to the [Labour Commissioner, Punjab], and shall be in the form of a memorandum setting forth concisely grounds of objection to the order and bearing court-fees stamp in accordance with Article II of Schedule II to the Court-fees Act, 1870, and shall be accompanied by a copy of the order appealed against.
4 (2) Appointment of assessors: On receipt of the memorandum of appeal, the appellate authority may, if it thinks fit or if the appellant has requested that the

8 appeal should be heard with the aid of assessors, call upon the body specified in sub-rule (4) being the representative of the industry concerned to appoint an assessor within a period of 14 days. If an assessor is nominated by such body, the appellate authority shall appoint a second assessor itself. It shall then fix a date for the hearing of the appeal and shall give due notice of such date to the appellant and to the Inspector whose order is appealed against, and shall call upon the two assessors to appear upon such date to assist him in the hearing of the appeal.
9 (3) The appellant shall state in the memorandum presented under sub-rule (1) whether he is a member of one or more of the following bodies:
10 (1) The Punjab Chamber of Commerce, New Delhi.
11 (2) The Federation of Industries, Amritsar. (C) The Textile Manufacturers' Association, Amritsar.
12 (3) The Factory Owners Association, Batala.
13 (4) Desi Beopar Mandal, Ambala.
14 (4) Remuneration of assessors: An assessor appointed in accordance with the provisions of sub-rules (2) and (3) shall receive for the hearing of the appeal, a fee to be fixed by the appellate authority subject to a maximum of fifty rupees per diem. He shall also receive the actual traveling expenses. The fees and traveling expenses shall be paid to the assessor by Government; but where assessors have been appointed at the request of the appellant and the appeal has been decided wholly or partly against him the appellate authority may direct that the fees and traveling expenses of the assessor shall be paid in whole or in part by the appellant.

106. Display of notices
The abstract of the Act and of the Rules required to be displayed in every factory shall be in Form No.20.
107. 169[Returns

The Manager of every factory shall furnish to the Chief Inspector or other officer appointed by the State Government in this behalf the following returns, namely:

3 (1) Annual return: On or before the 31st January of each year in Form No.21, in duplicate.

4 (2) Half-yearly return: On or before the 15th July of each year in Form No.22, in duplicate.

108. Service of notices

The dispatch by post under registered cover of any notice or order shall be deemed sufficient service on the occupier, owner or manager of a factory of such notice or order.

109. Information required by the Inspector

The occupier or manager of a factory shall furnish any information that an Inspector may require for the purpose of satisfying himself whether any provisions of the Act and the

rules made there under have been complied with or whether any order of an Inspector has been duly carried out. Any demand by an Inspector for any such information, if made, during the course of an inspection, shall be complied with forthwith if the information is available in the factory, or if made in writing, shall be complied with within seven days of receipt thereof.

110.

2 (1) [170][Muster-roll: The manager of every factory [171][except the factories as envisaged under the provision 85 of the Act] shall maintain a muster-roll] of all the workers employed in the factory in Form No.25 showing (a) the name of each worker, (b) the nature of his work, and (c) the daily attendance of the worker which, in case of factories employing more than 200 workmen, shall be marked within two hours and in other cases within one hour of the start of the duty:

Provided that, if the daily attendance is noted in the Register of Adult Workers in Form No.12 or the particulars required under this Rule are noted in any other register, a separate muster-roll required under this Rule need not be maintained:

[172][Provided further that the Chief Inspector may be written order exempt from the provisions of this sub-rule, any factory which has card punching or other satisfactory arrangement of marking the attendance.

5 (2) [173][The manager of the factory shall be responsible to keep the muster-roll available for inspection by an Inspector during the periods of work of the factory.

6 (3) 174[

7 (i) No worker shall be required or allowed to work unless he/she has in his/her possession attendance card with upto date entries, in Form No. 25-A to be supplied by the occupier. The attendance card shall always remain with the worker. The manager or his agent shall demand it only to make relevant entries therein, whenever necessary.

8 (ii) If a worker loses his attendance card, the manager shall provide him/her with another copy duly completed from his record on payment of twenty-five paise within two days of the payment.

111. Register of accidents and dangerous occurrences

The manager of every factory shall maintain a register of all accidents and dangerous occurrences which occur in the factory in Form No. 26 showing the:
(a) name of injured person (if any);
(b) date of accident or dangerous occurrence;
(c) date of report on Form No.18 to Inspector;
(d) nature of accident or dangerous occurrence;
(e) date of return of injured person to work; and
(f) number of days of absence from work of injured person.

112. 175[Maintenance of Inspection Book

The manager of every factory shall maintain an inspection book in from No.35 and shall produce it when so required by the Inspector or Certifying Surgeon.

113. 176[Intimation of the intended closure of Factory

The occupier or manager of every factory shall send a report to the Chief Inspector with a copy to the Inspector of any intended closure of the factory or any section or department thereof at least one month before such closure stating:

vi (i) the reason for closure;
vii (ii) the number of workers on rolls on the date of submission of report;
viii (iii) the number of workers likely to be affected by the closure; and
ix (iv) the probable period of closure.
x (v) 177[Information as to the particulars and quantity of chemicals stored and action taken proposed to be taken thereof to ensure safety during such closure.]

The occupier or the manager shall also send intimation to the Chief Inspector and the Inspector before the factory or the section of the department thereof as the case maybe starts working again:

Provided that in case of sudden closure of factory or any other section or department thereof for reasons beyond the control of the management the occupier or manager shall send such a report within 48 hours of such closure:

Provided further that in case of seasonal factories when it is being closed for the season the occupier or manager shall extend the date of closure of giving a further notice to the Chief Inspector with a copy to the Inspector at least one week before the original date of closure.]

114. 178[Maintenance of registers in electronic or digital format

2 (1) Occupier or factory Manager shall have an option to maintain the registers mentioned in the Schedule given below in electronic or digital format with time stamp, geo positioning and digital signatures of the occupier or factory manager in the same format as specified for the said registers in these rules.

SCHEDULE			
Serial.	**Name of Register**	**Section**	**Rule**
1.	Particular of Rooms Register	6	3-A

2.	Lime-Washing Register	11	18
3.	Humidity Register	15	24
4.	Tight-cloth Register	22	58
5.	Compensatory Holidays register	53	83
6.	Overtime muster roll for exempted workers Register	59	85
7.	Adult Workers Register	62	87
8.	Child Labour Register	73	93
9.	Leave With Wages Register	83	94-A
10.	Health Register	87	102
11.	Muster Roll	112	110
12.	Accident Register	112	111
13.	Inspection Book	112	112

3 (2) The Occupier or Manager shall provide access to the Inspector to inspect such registers as and when required and shall also make a provision for signing of such registers digitally by the Inspector.

4 (3) The Occupier or Manager shall preserve such registers as required under the provisions of the Act and these rules.]

1 Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab, dated 26th June, 1995.
2 Substituted by Punjab Government No. 2372-VII-DS-Lab, -60/18362, dated the 16th June, 1960.
3 Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab, dated 26th June, 1995.
4 Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab, dated 26th June, 1995.
5 Inserted vide Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
6 Inserted by Punjab Govt. No. G.S.R.74/C.A.-63/48/S. 112/Amd. (II)/71, dated the 18th November, 1971.
7 Inserted vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
8 Inserted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
9 Inserted by Punjab Govt. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Government Notification No. GSR 51 CA 63/48/S.112 and 115/93, dated 27th August, 1993. Earlier Rule 2-A has been renumbered as Rule 3 and Rule 3 has been renumbered as Rule 3-A. New Rule 2-A has been inserted.
10 Rule 3 renumbered as "3-A" by Punjab Govt. No. G.S.R. 94/C.A.-63/48/S. 112/Amd. 20/84, dated the 31st October, 1984.
11 Substituted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
12 Substituted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
13 Substituted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
14 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
15 Words in the brackets added by Punjab Government Gazette Legislature Supplement Part III dated 30.8.1996.
16 Inserted by Punjab Government No. 7579-S-8589-C-Lab-57/60140, dated the 10th/11th July, 1957.
17 Omitted by ibid.
18 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
19 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
20 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
21 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
22 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
23 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
24 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
25 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
26 Subs. by No. GSR.40//C.A.63/1948/S.112/Amd.(33)/2015 dated 12th June 2015
27 Inserted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
28 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.

29 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
30 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
31 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 28.2.1997.
32 Substituted by Punjab Government No. 7579-S-8589-C-Lab-57/60/40, dated the 10th/11th July, 1957.
33 Added by Punjab Government Notification No. 90-DS-Lab-59/12544, dated 5th October, 1959.
34 Inserted by Punjab Government Gazette Legislative Supplement Part III dated 30.8.1996.
35 Added by Punjab Government Gazette Legislative Supplement Part III dated 30.8.1996 after renumbering the existing Rule 16 as Rule 16-A.
36 Renumbered as 16-A by Punjab Government Gazette Legislative Supplement Part III dated 30.8.1996 and Haryana Govt. Notification No. GSR 117/CA 63/48/S. 112/82 dated 13th October, 1982.
37 Substituted, vide Haryana Government Notification No. 14/40/87/-6 Lab dated 26th June, 1995
38 Substituted by Punjab Government Gazette L.S.P. III dated 19.3.1991.
39 Substituted vide Punjab Govt. Gazz. LSP III dated 19-3-1981.
40 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
41 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
42 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
43 Substituted by Punjab Govt. Notification No. G.S.R.94/C.A. 63/48/S.112/Amd.20/84, dated 31 October, 1984=See Haryana Act, dated 13.10.1982.
44 Substituted by Punjab Govt. Notification No. G.S.R.94/C.A. 63/48/S.112/Amd.20/84, dated 31 October, 1984
45 Added by Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
46 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
47 Substituted, vide Haryana Government Notification No. 7/3/86-6 dated 19th September, 1988.
48 Words "I to IV" omitted by Punjab Government Gazette L.S.P. III dated 30.8.1996.
49 Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
50 Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
51 Inserted vide Punjab Notification No. G.S.R. 55/C-A-63 Dated 1.8.1996.
52 Substituted vide Punjab Notification No. GSR 113/CA 63/48/S.112 Amd (14)/75 dated 21.11.1975.
53 Added vide Punjab Govt. Noti. No. GSR-168/CA-63/48/S.112/Amd (3)/64, dated the 8th July, 1964.
54 Sr. No. 5, 6 and 7 for Punjab only, added vide Notification No. 1864-2 LAB-II-78/2242, dated the 23rd June, 1978.
55 Substituted by Punjab Govt. Noti. No. G.S.R.-94/CA-63/48/S.112/Amd. (20)/84, dated 31-10-984
56 Inserted by Punjab Govt. Noti. No. 467-VII-DS-Lab.-62/6283, dated the 6th March, 1962.
57 Substituted by Punjab Notification No. G.S.R. 21/CA. 63/48/S. 112/Amd (5)76, dated 11.2.1976.
58 Rule 61 substituted by Punjab Govt. Noti. No. 1296-VII-DS-Lab. 59/2011, dated the 30th December 1959/18th January, 1960.
59 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
60 Added vide Punjab Govt. Noti. G.S.R. 85/C.A. 63/48/S.112/Amd. (16)77, dated 25th August, 1977.
61 Inserted, vide Haryana Government Notification No. GSR 31/CA 63/48/S.112/75, dated 26th March, 1975.
62 Substituted vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
63 Substituted vide Punjab Notification No. G.S.R./16/CA-63/48 S-112/Amd., (8) 69, dated 11th February, 1969.
64 Inserted vide Punjab Notification No. G.S.R. 42/CA-63/48/S.112/Amd. (9)71, dated the 21st June, 1971.
65 Inserted vide Punjab Notification No. G.S.R. 85/C.A. 63/48/S. 112/Amd. (16), 77 dated the 22th August, 1977.
66 Rule 67-D to 67-G inserted by Punjab Government Gazette L.S.P III dated 19.3.1991.
67 Rule 67-H to 67-V added vide Punjab Government Gazette L.S.P. III dated 30.8.1996
68 Rule 68-A inserted by Punjab Govt. Notification No. 9675-VII-Lab-I-59/1260, dated 5th October, 1959.
69 Substituted vide Punjab Government Notification No. G.S.R. 55/C.A.-63/48/Ss. 41, 45 and (112)/Amd. (10)/71, dated 24th August, 1971.
70 Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112/Amd. (20)/84, dated the 31st October, 1985.
71 Rule 70 substituted by Punjab Govt. Noti. No. G.S.R. 55/C.A. 63/48/Ss. 41, 45 and (112)/Amd. (10/71), dated 24th August, 1971 and sub-rule (1) substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
72 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
73 Words "or dispensary" omitted Punjab Government Gazette L.S.P. III dated 19.3.1991.
74 Words "or dispensary" omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
75 Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
76 Substituted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020
77 Inserted by Punjab Govt. Notification No. G.S.R. 94/C.A. 63/48/S- 112/Amd. / (20)/84, dated 31st October, 1984.
78 Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.
79 Substituted by Punjab Govt. Noti. No. 7218-S-LP-54/60750, dated 4th November, 1954.
80 Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.
81 Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.
82 Substituted vide Punjab Govt. Notification No. G.S.R. 85/C.A.63/48/S, -112/Amd/16/77, dated the 25th August, 1977.
83 Words "and lunch room" omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
84 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
85 Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
86 Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
87 Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31-10-1984=Haryana Government Notification No. GSR 117/CA 63/48/S.112/Amd. (2)/82, dated 13th October, 1982.
88 Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.
89 Substituted by Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.
90 Inserted, vide Haryana Government Notification No. GSR 117/CA 63/48/S.112/Amd. (2)/82, dated 1st October, 1982.
91 Added by Punjab Government Gazette L.S.P. III dated 30.8.1996.
92 Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.

[93] Rule 85 renumbered as sub-rule (1) and sub-rule (2) added thereto by Punjab Government Notification No. 3581-V-Lab-II-59/5701 dated 17th July, 1959.
[94] Rule 84-A inserted by Punjab Govt. Noti. No. 809/620-C-Lab-58/38787, dated 13th/19th May, 1958.
[95] Omitted by Haryana Government Notification No. 14/14/99-6., dated 26th May, 1999.
[96] Omitted by Haryana Government Notification No. 14/14/99-6., dated 26th May, 1999.
[97] Substituted, vide Notification No. G.S.R. 163/C.A.-63/48/112/Amd. (7)/66 dated 6th July, 1966.
[98] Substituted vide Punjab Govt. Noti. No. G.S.R.-163/C.A.-63/48/S-112/Amd. (7)/66, dated the 6-7-1996.

[99] Substituted vide Punjab Govt. Noti. No. G.S.R.-168/C.A.-63-48/S. 112/Notification No. 809/620-E-58/38787, dated 13th/19th May, 1995 (sic) Amd. (3)/64, ate 9th July, 1964.
[100] Substituted for the word "holidays".
[101] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[102] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[103] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[104] Substituted by Punjab Government Gazette L.S.P. III dated 30.8.1996.
[105] Substituted by Punjab Govt. Noti. No. E2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[106] Substituted by Punjab Govt. Noti. No G.S.R.-74/CA- 63/48/S.112/Amd. (11)/71, dated 18-11-1971.
[107] Substituted by Punjab Govt. Noti. No. E2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[108] Item (10) added by Punjab Govt. Noti. No. 1064-VII-DS-LAB- 61/12863, dated 16th May, 1961.
[109] Item (11) and (12) added by Punjab Govt. No. 2035- VII-DS-Lab., 61/16229, dated 12-6-1961.
[110] Substituted by Punjab Govt. Noti. No G.S.R.-74/CA- 63/48/S.112/Amd. (11)/71, dated 18-11-1971.
[111] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[112] Inserted vide Punjab Govt. Noti. No. G.S.R. 85/C.A. – 63/48/S. 112/Amd. (16)/77, dated 25th August, 1977.
[113] Substituted by Punjab Govt. Noti. No. G.S.R. 96/C.A. 63/48/S. (112)/Amd. (18)/80, dated 30th October, 1970.
[114] Added by Punjab Government Gazette L.S.P. III dated 19.3.1991.
[115] Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[116] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[117] Substituted for "087" vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[118] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[119] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[120] Substituted by Punjab Government Gazette L.S.P. III dated 30.8.1996
[121] Substituted by Punjab Government Gazette L.S.P. III dated 19.3.1991.
[122] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[123] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[124] Para 8 added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[125] Para 9 added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[126] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[127] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[128] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[129] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[130] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[131] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[132] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[133] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[134] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[135] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[136] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[137] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[138] Substituted by Punjab Govt. Noti. No. G.S.R. 74/CA-63/48/S. 112/Amd. (11)/71, dated the 18-11-1971
[139] Rules 12 and 13 inserted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[140] Substituted by Punjab Govt. Notification No. G.S.R. 74/CA – 63/48/S. 112/Amd. (11)/71, dated 18.11.1971.
[141] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[142] Added vide Punjab Government Notification No. L.S.P. III dated 19.3.1991.
[143] Substituted by Punjab Gazette Government L.S.P. III dated 19.3.1991.
[144] Substituted by Punjab Gazette Government L.S.P. III dated 30.8.1996.
[145] Paras 9 and 10 substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[146] Substituted by Punjab Govt. Noti. No. G.S.R. 85/CA -63/48/S. 112/Amd. (16)/77, dated 25-8-1997=Haryana Government Notification No. 12(33) -30-1, Lab, dated 3rd January, 1980.
[147] Para 4 substituted by Punjab Govt. Notification No. G.S.R. 8/CA-63/48/S. 112/Amd (16)/77, dated 25-8-1977= Substituted vide Haryana Government Notification No. 12(33)-30-1, Lab., dated 3rd January 1980.
[148] Para 5 substituted by Punjab Govt. Notification No. G.S.R. 8/CA-63/48/S. 112/Amd (16)/77, dated 25-8-1977
[149] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[150] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[151] Inserted vide Punjab Government Gazette L.S.P. III dated 21.3.1997.
[152] Substituted vide Punjab Govt. Gazette Legislative Supplement Part III dated 19.3.1991.
[153] Substituted vide Punjab Govt. Gazette Legislative Supplement Part III dated 19.3.1991.
[154] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[155] Added by Punjab Government notification No. G.S.R. 85 & 63/CA 63/48/S 112/Amd. (14)/77, dated 25th August, 1977.
[156] Substituted vide Punjab Government Gazette L.S.P III dated 19.3.1991.
[157] Added by Punjab Government notification No. G.S.R. 85 & 96/CA 63/48/S 112/Amd. (18)/80, dated 30-11-1980
[158] Substituted by ibid.
[159] Added by Punjab Government Notification No. G.S.R. 94/CA 63/48/S. 112/Amd. (20)/84, dated 31-10-1984
[160] Inserted by Punjab Govt. Notification No. G.S.R. 96/CA-63/48/S. 112/Amd. (18/80, dated 30-10-1980.
[161] Inserted by Punjab Govt. Notification No. G.S.R. 94/CA-63/48/S. 112/Amd. (20/84, dated 30-10-1980.

[162] Paras 6 and 6-A substituted vide Punjab Gazette Government L.S.P. III dated 19.3.1991.
[163] Proviso added vide Punjab government Gazette L.S.P III dated 19.3.1991.
[164] Substitute vide Punjab Gazette Government L.S.P. III dates 19.3.1991.
[165] Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.

[166] Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.
[167]Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.
[168] Substituted by Punjab Govt Notification No. GSR 94/CA 83/48/S. S 112/Amd. (20)/84, dated the 31-10-1984.
[169] Substituted by Punjab Govt Notification No. GSR 85/CA 63/48/S. 112/Amd. (16)/ (77), dated the 25th August, 1977.
[170] Substituted by Punjab Govt Notification No. GSR 85/CA 63/48/S. 112/Amd. (1)/62, dated the 24th May, 1962.
[171] Punjab Gazette Government L.S.P III dated 30.8.1996.
[172] Added vide Punjab Govt. Notification No. GSR 107/CA-63/48S. 112/Amd (5) (65), dated 19th May, 1965.
[173] Added vide Punjab Govt. Notification No. GSR 168/CA-63/48S. 112/Amd (3)64, dated 8th July, 1964.
[174] Inserted by Punjab Govt. Notification No. GSR/94/CA/63/GSR, 48/S. 112/Amd, (2)84, dated 31st October 1984.
[175] Substituted by Punjab Govt Notification No. GSR 195/CA 63/48/S. 112/Amd. (1)/62, dated the 24th May, 1962.
[176] Rule 113 added by Punjab Govt. Noti No. 2025-VII-DS-Lab, -60/14388, dated 7th May, 1960.
[177] Added vide Punjab Gazette Government L.S.P. III dated 30.8.1996.
[178] Inserted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.
36 Renumbered as 16-A by Punjab Government Gazette Legislative Supplement Part III dated 30.8.1996 and Haryana Govt. Notification No. GSR 117/CA 63/48/S. 112/82 dated 13th October, 1982.
37 Substituted, vide Haryana Government Notification No. 14/40/87/-6 Lab dated 26th June, 1995
38 Substituted by Punjab Government Gazette L.S.P. III dated 19.3.1991.
39 Substituted vide Punjab Govt. Gazz. LSP III dated 19-3-1981.
40 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
41 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
42 Substituted by Punjab Government Notification No. G.S.R. 94/C.A. 63/48/S. 112/Amd. 20/84, dated the 31st October, 1984=Haryana Notification No. GSR 117-CA 63/48/S. 112/Amd/82, dated 13.10.1982.
43 Substituted by Punjab Govt. Notification No. G.S.R.94/C.A. 63/48/S.112/Amd.20/84, dated 31 October, 1984=See Haryana Act, dated 13.10.1982.
44 Substituted by Punjab Govt. Notification No. G.S.R.94/C.A. 63/48/S.112/Amd.20/84, dated 31 October, 1984
45 Added by Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
46 Substituted by Punjab Government Gazette Legislative Supplement Part III dated 19.3.1991.
47 Substituted, vide Haryana Government Notification No. 7/3/86-6 dated 19th September, 1988.
48 Words "I to IV" omitted by Punjab Government Gazette L.S.P. III dated 30.8.1996.
[49] Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[50] Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[51] Inserted vide Punjab Notification No. G.S.R. 55/C-A-63 Dated 1.8.1996.
[52] Substituted vide Punjab Notification No. GSR 113/CA 63/48/S.112 Amd (14)/75 dated 21.11.1975.
[53] Added vide Punjab Govt. Noti. No. GSR-168/CA-63/48/S.112/Amd (3)/64, dated the 8th July, 1964.
[54] Sr. No. 5, 6 and 7 for Punjab only, added vide Notification No. 1864-2 LAB-II-78/2242, dated the 23rd June, 1978.
[55] Substituted by Punjab Govt. Noti. No. G.S.R.-94/CA-63/48/S.112/Amd. (20)/84, dated 31-10-984
[56] Inserted by Punjab Govt. Noti. No. 467-VII-DS-Lab.-62/6283, dated the 6th March, 1962.
[57] Substituted by Punjab Notification No. G.S.R. 21/CA. 63/48/S. 112/Amd (5)76, dated 11.2.1976.
[58] Rule 61 substituted by Punjab Govt. Noti. No. 1296-VII-DS-Lab. 59/2011, dated the 30th December 1959/18th January, 1960.
[59] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[60] Added vide Punjab Govt. Noti. G.S.R. 85/C.A. 63/48/S.112/Amd. (16)77, dated 25th August, 1977.
[61] Inserted, vide Haryana Government Notification No. GSR 31/CA 63/48/S.112/75, dated 26th March, 1975.
[62] Substituted vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[63] Substituted vide Punjab Notification No. G.S.R./16/CA-63/48 S-112/Amd., (8) 69, dated 11th February, 1969.
[64] Inserted vide Punjab Notification No. G.S.R. 42/CA-63/48/S.112/Amd. (9)71, dated the 21st June, 1971.
[65] Inserted vide Punjab Notification No. G.S.R. 85/C.A. 63/48/S. 112/Amd. (16), 77 dated the 22th August, 1977.
[66] Rule 67-D to 67-G inserted by Punjab Government Gazette L.S.P III dated 19.3.1991.
[67] Rule 67-H to 67-V added vide Punjab Government Gazette L.S.P. III dated 30.8.1996
[68] Rule 68-A inserted by Punjab Govt. Notification No. 9675-VII-Lab-I-59/1260, dated 5th October, 1959.
[69] Substituted vide Punjab Government Notification No. G.S.R. 55/C.A.-63/48/Ss. 41, 45 and (112)/Amd. (10)/71, dated 24th August, 1971.
[70] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112/Amd. (20)/84, dated the 31st October, 1985.
[71] Rule 70 substituted by Punjab Govt. Noti. No. G.S.R. 55/C.A. 63/48/Ss. 41, 45 and (112)/Amd. (10/71), dated 24th August, 1971 and sub-rule (1) substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[72] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[73] Words "or dispensary" omitted Punjab Government Gazette L.S.P. III dated 19.3.1991.
[74] Words "or dispensary" omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[75] Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[76] Substituted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020
[77] Inserted by Punjab Govt. Notification No. G.S.R. 94/C.A. 63/48/S- 112/Amd. / (20)/84, dated 31st October, 1984.
[78] Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.
[79] Substituted by Punjab Govt. Noti. No. 7218-S-LP-54/60750, dated 4th November, 1954.
[80] Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.
[81] Added by Punjab Govt. Noti. No. 9825-VII-Lab-159/13005, dated 12th October, 1959.

[82] Substituted vide Punjab Govt. Notification No. G.S.R. 85/C.A.63/48/S, -112/Amd/16/77, dated the 25th August, 1977.
[83] Words “and lunch room” omitted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[84] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[85] Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[86] Added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[87] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31-10-1984=Haryana Government Notification No. GSR 117/CA 63/48/S.112/Amd. (2)/82, dated 13th October, 1982.
[88] Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.
[89] Substituted by Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.
[90] Inserted, vide Haryana Government Notification No. GSR 117/CA 63/48/S.112/Amd. (2)/82, dated 1st October, 1982.
[91] Added by Punjab Government Gazette L.S.P. III dated 30.8.1996.
[92] Substituted, vide Haryana Government Notification No. 14/40/87-6 Lab., dated 26th June, 1995.
[93] Rule 85 renumbered as sub-rule (1) and sub-rule (2) added thereto by Punjab Government Notification No. 3581-V-Lab-II-59/5701 dated 17th July, 1959.
[94] Rule 84-A inserted by Punjab Govt. Noti. No. 809/620-C-Lab-58/38787, dated 13th/19th May, 1958.
[95] Omitted by Haryana Government Notification No. 14/14/99-6., dated 26th May, 1999.
[96] Omitted by Haryana Government Notification No. 14/14/99-6., dated 26th May, 1999.
[97] Substituted, vide Notification No. G.S.R. 163/C.A.-63/48/112/Amd. (7)/66 dated 6th July, 1966.
[98] Substituted vide Punjab Govt. Noti. No. G.S.R.-163/C.A.-63/48/S-112/Amd. (7)/66, dated the 6-7-1996.

[99] Substituted vide Punjab Govt. Noti. No. G.S.R.-168/C.A.-63-48/S. 112/Notification No. 809/620-E-58/38787, dated 13th/19th May, 1995 (sic) Amd. (3)/64, ate 9th July, 1964.
[100] Substituted for the word “holidays”.
[101] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[102] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[103] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A.63/48/S.112 Amd. (20)/84, dated 31-10-1984.
[104] Substituted by Punjab Government Gazette L.S.P. III dated 30.8.1996.
[105] Substituted by Punjab Govt. Noti. No. E2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[106] Substituted by Punjab Govt. Noti. No G.S.R.-74/CA- 63/48/S.112/Amd. (11)/71, dated 18-11-1971.
[107] Substituted by Punjab Govt. Noti. No. E2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[108] Item (10) added by Punjab Govt. Noti. No. 1064-VII-DS-LAB- 61/12863, dated 16th May, 1961.
[109] Item (11) and (12) added by Punjab Govt. No. 2035- VII-DS-Lab., 61/16229, dated 12-6-1961.
[110] Substituted by Punjab Govt. Noti. No G.S.R.-74/CA- 63/48/S.112/Amd. (11)/71, dated 18-11-1971.
[111] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[112] Inserted vide Punjab Govt. Noti. No. G.S.R. 85/C.A. – 63/48/S. 112/Amd. (16)/77, dated 25th August, 1977.
[113] Substituted by Punjab Govt. Noti. No. G.S.R. 96/C.A. 63/48/S. (112)/Amd. (18)/80, dated 30th October, 1970.
[114] Added by Punjab Government Gazette L.S.P. III dated 19.3.1991.
[115] Added vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[116] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[117] Substituted for “087” vide Punjab Government Gazette L.S.P. III dated 30.8.1996.
[118] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[119] Inserted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[120] Substituted by Punjab Government Gazette L.S.P. III dated 30.8.1996
[121] Substituted by Punjab Government Gazette L.S.P. III dated 19.3.1991.
[122] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[123] Substituted by Punjab Govt. Noti. No. G.S.R. 94/C.A. 63/48/S. 112/Amd. (20)/84, dated 31st October, 1984.
[124] Para 8 added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[125] Para 9 added vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[126] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[127] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[128] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[129] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[130] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[131] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[132] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[133] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[134] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[135] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[136] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[137] Substituted by Punjab Govt. Noti. No. 2809-VII-DS-LAB., 60/22020, dated 23rd July, 1960.
[138] Substituted by Punjab Govt. Noti. No. G.S.R. 74/CA-63/48/S. 112/Amd. (11)/71, dated the 18-11-1971
[139] Rules 12 and 13 inserted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[140] Substituted by Punjab Govt. Notification No. G.S.R. 74/CA – 63/48/S. 112/Amd. (11)/71, dated 18.11.1971.
[141] Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[142] Added vide Punjab Government Notification No. L.S.P. III dated 19.3.1991.
[143] Substituted by Punjab Gazette Government L.S.P. III dated 19.3.1991.
[144] Substituted by Punjab Gazette Government L.S.P. III dated 30.8.1996.
[145] Paras 9 and 10 substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
[146] Substituted by Punjab Govt. Noti. No. G.S.R. 85/CA -63/48/S. 112/Amd. (16)/77, dated 25-8-1997=Haryana Government Notification No. 12(33) -30-1, Lab, dated 3rd January, 1980.
[147] Para 4 substituted by Punjab Govt. Notification No. G.S.R. 8/CA-63/48/S. 112/Amd (16)/77, dated 25-8-1977= Substituted vide Haryana Government Notification No. 12(33)-30-1, Lab., dated 3rd January 1980.
[148] Para 5 substituted by Punjab Govt. Notification No. G.S.R. 8/CA-63/48/S. 112/Amd (16)/77, dated 25-8-1977

149 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
150 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
151 Inserted vide Punjab Government Gazette L.S.P. III dated 21.3.1997.
152 Substituted vide Punjab Govt. Gazette Legislative Supplement Part III dated 19.3.1991.
153 Substituted vide Punjab Govt. Gazette Legislative Supplement Part III dated 19.3.1991.
154 Substituted vide Punjab Government Gazette L.S.P. III dated 19.3.1991.
155 Added by Punjab Government notification No. G.S.R. 85 & 63/CA 63/48/S 112/Amd. (14)/77, dated 25th August, 1977.
156 Substituted vide Punjab Government Gazette L.S.P III dated 19.3.1991.
157 Added by Punjab Government notification No. G.S.R. 85 & 96/CA 63/48/S 112/Amd. (18)/80, dated 30-11-1980
158 Substituted by ibid.
159 Added by Punjab Government Notification No. G.S.R. 94/CA 63/48/S. 112/Amd. (20)/84, dated 31-10-1984
160 Inserted by Punjab Govt. Notification No. G.S.R. 96/CA-63/48/S. 112/Amd. (18/80, dated 30-10-1980.
161 Inserted by Punjab Govt. Notification No. G.S.R. 94/CA-63/48/S. 112/Amd. (20/84, dated 30-10-1980.
162 Paras 6 and 6-A substituted vide Punjab Gazette Government L.S.P. III dated 19.3.1991.
163 Proviso added vide Punjab government Gazette L.S.P III dated 19.3.1991.
164 Substitute vide Punjab Gazette Government L.S.P. III dates 19.3.1991.
165 Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.

166 Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.
167Substituted by Punjab Govt Noti. No. GSR 94/CA 63/48/S. 112/Amd. (18)/80. Dated the 17-11-1980.
168 Substituted by Punjab Govt Notification No. GSR 94/CA 83/48/S. S 112/Amd. (20)/84, dated the 31-10-1984.
169 Substituted by Punjab Govt Notification No. GSR 85/CA 63/48/S. 112/Amd. (16)/ (77), dated the 25th August, 1977.
170 Substituted by Punjab Govt Notification No. GSR 85/CA 63/48/S. 112/Amd. (1)/62, dated the 24th May, 1962.
171 Punjab Gazette Government L.S.P III dated 30.8.1996.
172 Added vide Punjab Govt. Notification No. GSR 107/CA-63/48S. 112/Amd (5) (65), dated 19th May, 1965.
173 Added vide Punjab Govt. Notification No. GSR 168/CA-63/48S. 112/Amd (3)64, dated 8th July, 1964.
174 Inserted by Punjab Govt. Notification No. GSR/94/CA/63/GSR, 48/S. 112/Amd, (2)84, dated 31st October 1984.
175 Substituted by Punjab Govt Notification No. GSR 195/CA 63/48/S. 112/Amd. (1)/62, dated the 24th May, 1962.
176 Rule 113 added by Punjab Govt. Noti No. 2025-VII-DS-Lab, -60/14388, dated 7th May, 1960.
177 Added vide Punjab Gazette Government L.S.P. III dated 30.8.1996.
178 Inserted by the Notification No. G.S.R. 98/C.A.63/1948/S.112/Amd.(34)/2020, dated 27-11 2020.