THE ORISSA FACTORIES RULES, 1950

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CHAPTER I

PRELIMINARY I

1. Short title, extent and commencement

(1) These rules may be cited as the Orissa Factories Rules, 1950.

(2) These rules shall extend to the States of Orissa.

(3) These rules except Rules 29 to 33, 53, 63 to 77 and 96 shall come into force on the 8th August, 1950, and Rule 29 to 33, 53, 63 to 77 and 96 shall come into force on such dates as are specified therein.

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 or 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 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 scale;
(f) "District Magistrate" includes such other official as may be appointed by the Government of Orissa in that behalf;

(f-i) "Form" means a form appended to these rules;
(g) "Fume" includes gas, or vapour;
(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) [1][x x]
(k) "Maintained" means 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.

2-A. [2][Competent person
(1) The Chief Inspector may recognize any person as a 'Competent Person within such area and for such period as may be specified for the purposes of carrying out tests, examination, inspections and certification of buildings, hoists and lifts, lifting machines, chains, ropes and lifting tackles, pressure plants, confined space, ventilation system and such other processes or plants and equipment's as stipulated inhale Act and these rules located in a factory, if such a person possesses the qualifications, experience and other requirements as set out in the Schedule, annexed to this rule.

SCHEDULE
(See Rule 2-A)
(Qualification and experience of Competent person)

Sl. No.	Section or Rules which under competency is recognized	Qualification required	Experience for the purpose	Facilities at his Command
1	2	3	4	5

1.	Rule 3-A made under Section 6 (Certificate of stability for buildings).	Degree in Civil or Structural or Mechanical Engg. Or equivalent.	(i)A minimum 10 years of experience in the design or construction or testing or repairs of structures/buildings. (ii) Knowledge in non- destructive testing, various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the buildings and (iii) Ability to arrive at a reliable conclusion with regard to the safety of the structure of the building.	
2.	Section 28 hoists and lifts.	A degree in Electrical or Mechanical Engineering or its equivalent.	(i) A minimum experience of 7 years in design or erection or maintenances, inspection and test procedures of hoists and lifts. (ii) He shall be [a) conversant with relevant codes of practices and test procedures that are current.	Facilities for load testing, tensile testing, gauges, equipment's/ gadgets for measurement and any other equipment required for determining the safe working conditions of hoists and lifts.

(b) Conversant with other statutory requirements covering he safety of the hoists and lifts.
(c) able to identify defects and arrive at a reliable conclusion with regard to the safety of hoists and lifts.

3.	Section 29- Lifting machines, chains, ropes and lifting tackles.	Degree in Mechanical or Electrical or Metallurgical Engineering or its equivalent.	i) A minimum experience of 7/years in design or erection or maintenances or testing, examination and inspection of lifting machines, chains, ropes and lifting tackles. (ii) He shall be (a) conversant with the relevant codes of practices and test procedures that are current. (b) conversant with fracture machines and metallurgy of the material or construction; (c) conversant with heat treatment /stress relieving techniques as applicable to stress bearing components and parts of lifting machines, chains, ropes and lifting tackles; (d) capable of identifying defects and arriving at a reliable conclusion with regard to the safety of lifting machines, chains, ropes and lifting tackles.	Facilities for load testing, tensile testing, heat treatment, equipment/ gadgets for measurement and gauges and such other equipment to determining the safe working conditions of the lifting machinery/ tackles.
4.	Section 31- "Pressure	Degree in Chemical or	(i)A minimum experience of 10 years in	Facilities for carrying out hydraulic

Plant"	Electrical or Metallurgical or Mechanical Engineering or its equivalent.		design or erection or maintenance, or testing examination and Inspection of pressure plants. (ii) He shall beta) conversant with the relevant codes of practices and test procedures relating to pressure vessels. (b) conversant with statutory requirements concerning the safety of pressure vessels and equipment operating under pressure; (c) conversant with nondestructive testing techniques as are applicable to pressure vessels. (d) able to identity defects and arrive at a reliable conclusion with regard to the safety or pressure plants.	test, non-destructive test, gauge, equivalent/ gadgets for measurement and any other equipment or gauges to determine the safety in the use of pressure vessels.
5.	Section 36- Precautions against dangerous fumes.	A degree in C h e m i c al Engineering or Its equivalent.	A minimum of 7 years' experience in collection and analysis of environmental samples and calibration of monitoring equipment.	Meters, instruments and devices duly calibrated certified for carrying out the tests and certification of safety in working in confined spaces.
6.	Ventilation systems as required under various schedules framed under Section 87, such as Schedule on - (i) Grinding or glazing of metals and process incidental thereto.	Degree in Mechanical or Electrical Engineering or equivalent.	(i) A minimum of 7 years' experience in the design fabrication, installation, testing or ventilation system used for extraction and collection of dusts, fumes and vapors and other ancillary equipment's. (ii) He shall be conversant with relevant codes of	Facilities for testing the ventilation system, Instruments and gauges for testing the effectiveness of the extraction systems for dusts, vapors and fumes and any other equipment needed for determination the efficiency and adequacy of these systems. He shall have

			practice and rest procedures	the assistance of a suitable qualified

(ii) Cleaning or smoothing roughness etc. of articles by a jet of sand, metal shot, or grit, or other abrasive propelled by a blest of compressed air or steam. (iii) Handling and processing of asbestos. (iv) Manufacture of Rayon by viscose process.	that are current in respect of ventilation and extraction system for fumes, and shall be able to arrive at a reliable conclusion with regard to effectiveness of the system.	technical person who can come to a reasonable conclusion as to the adequacy of the system.

Note - I

The Chief Inspector may relax the requirements of qualification in respect of a "Competent Person" If such person is exceptionally experienced and knowledgeable.

Note - II

The "Competent Person" recognized under this provision shall not be above the age of [3][65] and shall be physically fit for the purpose of carrying out the tests, examination and inspections.

(2) The Chief Inspector may recognize an institution of repute, having persons possessing qualifications and experience as set out in the Schedule for the purpose of carrying out tests, examinations, inspections and certification of buildings, hoists and lifts, lifting machines, chains, ropes and lifting tackles, pressure plants, confined space, ventilation systems and such other process or plants and equipment's as stipulated in the Act and these rules as a "Competent Person" within such area and for such period as may be specified.

(3) The application for certificate of recognition as in [4][Form 34] shall accompany a registration fee Rs. 5,000.00 (Rupees five thousand) only in shape of treasury challan under the head of

account as notified by Government from time to time for each such applicant. The fees once paid is not refundable.
(4) The Chief Inspector shall constitute a Committee of not less than three Officers of his Directorate, who shall examine the competence and the facility available at the disposal of the applicant and shall recommend for recognition within one month from the date of receipt of the application.
(5) The Chief inspector on receipt of an application in Form (s) from an applicant or an institution intending to be recognized as a "Competent Person" for the purposes of the Act and these rules shall register such application and within a period of sixty days of the date of receipt of the application, may either recognize the applicant as a "Competent Person and issue a certificate bf competency in the prescribed Form [5][35] or reject the application specifying the reason therefore.
(6) Certificate of recognition so granted shall be valid for a period of one year from the date of issue and may be renewed on payment of Rs 2,000.00 (Rupees two thousand) only deposited in shape of treasury challan under the head of account as notified by Government from time to time; The fee once paid is not refundable.
(7) The Chief Inspector may, after giving an opportunity to the competent person of being heard, revoke the certificate of competency; (i) has violated any condition stipulated in the certificates of competency: or

if he has reasons to believe that a competent person

(ii) 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 these rules.
(iii) [6][Anchor point in the plans shall be identified for providing life line support of fall arrestor.

(8) The Chief Inspector may, for reasons to be recorded in writing require rectification of lifting machines, chains, ropes and lifting tackles, pressure plants or ventilation systems as the case may be, which has been certified by a competent person outside the State.]

3. [7][Approval of plans
(1) The State Government or the Chief Inspector of Factories may require, for the purposes of the Act, submission of plans of any factory which was either in existence on the date of commencement of the Act or which has not been constructed or extended, such plans shall be drawn to scale showing
(a) the site of the factory and immediate surroundings 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 plants and machinery. aisles and passage ways; and
(c) such other particulars, as the State Government or the Chief Inspector of Factories, as the case may be, may require.

(2) No site shall be used for the location of a factory or no building shall be constructed, reconstructed, extended or taken into use as a factory or part of a factory or any other extension of plant' or machinery carried out in a factory unless previous permission in writing is obtained from the State Government or the Chief Inspector.
(3) Application for permission shall be made in Form No. 1 which shall be accompanied by the following documents namely
(a) a flow chart or the manufacturing process supplemented by a brief description of the process in its various stages;
(b) plans in duplicate drawn to scale showing
(i) the site of the factory and immediate surroundings including adjacent buildings and other structures, roads, drains, etc.;
(ii) the plan elevation and necessary cross sections of the various buildings indicating all relevant details relating to natural lighting, ventilation and means of escape in case of fires. The plans shall also clearly indicate the position of the plant and machinery, aisles and passage ways; and
(c) such other particulars if the Chief Inspector may require.

[8][Provided that the Occupier of every factory seeking permission under the provisions of the Orissa Industries (Facilitation) Act, 2004 may apply in the combined application Form for establishment of industries.]
(3-a) [9][The application referred to in Sub-rule (3) shall be accompanied by payment of a fee at the rate of 3 times the licence fee subject to a minimum of [10][Rs. 2500 (Rupees two thousand five hundred)] only in case of original plan and at the rate of 50% of the licence fee subject to a maximum of [11][Rs. 30,000 (Rupees thirty thousand)] only in case of extension plans, for the purpose of scrutiny and evaluation of such plans.]
(4) If the Chief Inspector is satisfied that the plans are in consonance with the requirements of the Act he shall subject to such conditions as he may specify, approve them by signing and returning to the applicant one copy of each plan; or he may call for such other particulars as he may require to enable such approval to be given,

3 - A. Certificate of stability
No manufacturing process of a factory shall be carried on in any building which has been constructed, reconstructed extended or taken into use as a factory or part of a factory until a certificate of stability in respect of that building, obtained from a competent person in Form No. I -A, has been sent by the occupier or manager of the factory to the Chief Inspector and accepted by him.
Note - A "competent person" is he who, by virtue of his qualification, experience and training, is capable of examining, certifying and making a full report on the condition of the stability of the building constructed reconstructed, extended or taken into use a factory or part of a factory and declared as such from time to time by the Chief Inspector.)
4. Application for registration and grant of licence
The occupier of every factory shall submit to the Chief Inspector an application in the prescribed Form No. 2, for the registration of the factory and grant of licence

Provided that the occupier of premises in use as a factory on the date of the commencement of these rules shall submit such application within 30 days from the date of the commencement of these rules.

[12][Provided further that the occupier of a factory seeking registration and grant of licence under the provision of the Orissa Industries (Facilitation) Act, 2004 shall apply in the combined application Form for operation of industries.]

5. Grant of licence

(1) A licence for a factory shall be granted by the Chief Inspector in Form No. 4 prescribed for the purpose and on payment of the fees specified in the Schedule hereto.

SCHEULE

[See Rule 5(1)]

Total Amount of power installed (in K./W)									**Maximum number of persons to be employed during any one day of the year not exceeding**							
20	**50**	**100**	**250**	**500**	**750**	**1000**	**1500**		**2000**	**2500**	**3000**	**5000**	**7500**	**10000**	**15000**	**25000**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Nil	600	900	1500	2250	3750	5250	6000	9000	12000	15000	18750	30000	37500	45000	52500	60000
Not exceeding 10	1200	1500	2250	3000	5250	7500	12000	15000	22500	30000	33000	42000	52500	56250	60000	75000
Exceeding 10 but not exceeding 50	1500	2250	3000	5250	9000	15000	18750	22500	30000	33000	42000	52500	56250	60000	75000	82500
Exceeding 50 but not exceeding 100	2250	3000	5250	6750	13450	18750	22500	30000	33000	42000	52500	56250	60000	75000	82500	90000
Exceeding 100 but	3000	5250	6000	9000	18750	22500	30000	33000	42000	52500	56250	60000	75000	82500	90000	105000

not exceeding 200																
Exceeding 200 but not exceeding 400	5250	6000	9000	15000	22500	30000	33000	42000	52500	56250	60000	75000	82500	90000	105000	112500
Exceeding 400 but not exceeding 800	6000	7500	11250	18000	27000	33000	42000	52500	56250	60000	75000	82500	90000	105000	112500	120000
Exceeding 800 but not exceeding 1500	7500	11250	18000	24000	33000	42000	52500	56250	60000	75000	82500	90000	105000	112500	120000	135000
Exceeding 1500 but not exceeding 4000	11250	16500	22500	33000	42000	52500	56250	60000	75000	82500	90000	105000	112500	120000	135000	150000
Exceeding 4000 but not	16500	22500	30000	42000	52500	56250	60000	75000	82500	90000	105000	112500	120000	135000	150000	165000

exceeding 6000																
Exceeding 6000 but not exceeding 8000	22500	30000	42000	48000	56250	60000	75000	82500	90000	105000	112500	120000	135000	150000	165000	180000
Exceeding 8000 but not exceeding 25000	24000	42000	48000	56250	60000	75000	82500	90000	105000	112500	120000	135000	150000	165000	180000	195000
Exceeding 25000 but not exceeding 50000	42000	45000	54000	60000	75000	82500	90000	105000	112500	120000	135000	150000	165000	180000	195000	210000
Exceeding 50000 but	45000	54000	60000	75000	82500	90000	105000	112500	120000	135000	150000	165000	180000	195000	210000	225000

not exceeding 100000																
Exceeding 1000	60000	75000	90000	105000	120000	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000

00 but not exceeding 200000																
Exceeding 200000 but not exceeding 300000	75000	90000	105000	120000	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000	300000
Exceeding 300000 but not exceeding 400000	90000	105000	120000	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000	300000	315000
Exceeding 400000 but not exceeding 500000	105000	120000	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000	300000	315000	330000
Exceeding 500000 but not exceeding 600000	120000	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000	300000	315000	330000	345000
Exceeding 600000 but not exceeding	135000	150000	165000	180000	195000	210000	225000	240000	255000	270000	285000	300000	315000	330000	345000	360000

700000																
Exceeding 700000 but not exceeding 800000	150 000	165 000	180 000	195 000	210 000	225 000	240 000	255 000	270 000	285 000	300 000	315 000	330 000	345 000	360 000	375 000
Exceeding 800000 but not exceeding 900000	165 000	180 000	195 000	210 000	225 000	240 000	255 000	270 000	285 000	300 000	315 000	330 000	345 000	360 000	375 000	390 000
Exceeding 900000 but not exceeding 1000 000	180 000	195 000	210 000	225 000	240 000	255 000	270 000	285 000	300 000	315 000	330 000	345 000	360 000	375 000	390 000	405 000
Exceeding 1000 000 but not exceeding 1500 000	225 000	240 000	255 000	270 000	285 000	300 000	315 000	330 000	345 000	360 000	375 000	390 000	405 000	420 000	435 000	450 000
Exceeding 1500 000 but not exceeding 2000 000	255 000	270 000	285 000	300 000	315 000	330 000	345 000	360 000	375 000	390 000	405 000	420 000	435 000	450 000	465 000	480 000

Exceeding 2000000 but not exceeding 3000000	300000	315000	330000	35000	360000	375000	390000	405000	420000	435000	450000	465000	480000	495000	510000	525000
Exceeding 3000000	345000	360000	375000	390000	405000	420000	435000	450000	465000	480000	495000	510000	525000	540000	555000	570000

(2) Every licence granted or renewed under this Chapter shall remain in force up to the 31st of December of the year for which the licence is granted or renewed.
(3) As soon as licence is granted to any factory for the first time necessary particulars in respect of that factory shall be maintained in Form No. 23.
(4) [13][In case of factories found to be running without proper application for registration and/or renewal of licence, the fees payable shall be double the amount prescribed in the Schedule.]

6. Amendment of licence
(1) A licence granted under Rule 5 may be amended by the Chief Inspector.
(2) A licensee whose licence requires to be amended by virtue of increase in the number of persons employed or in the horse power installed or change in the name of the factory or any change in manufacturing process or all taken together shall submit to Chief Inspector of Factories with an application in Form No.2 stating the nature of amendment.
(3) The fee for amendment of a licence by virtue of increase in number of persons or in the horse power installed or change in the name of factory or any change in manufacturing process or all taken together shall be Rs.200/-in addition to the amount (if any) by which the fee that would have been payable if the licencee had originally been issued in the amended form exceeds the fee originally paid for the licence.]

7. Renewal of licence
(1) A licence may be renewed by the Chief Inspector.
(2) Every application for the renewal of a licencee shall be accompanied by the notice of occupation in the prescribed Form No. 2, and shall reach the Chief Inspector not less than 2 months before the date on which the licencee expires [14][x x x].
(3)
(i) [15][The same fee shall be charged for the renewal of licence as for the grant thereof. Provided that if the application for renewal is not received within the time specified in sub-rule (2) and received thereafter but within the date on which the licence expires, the licence shall be renewed only on payment of a fee 25 percent in excess of the fee ordinarily payable for the licence. If the application is received after the date on which the licence expires, the licence

shall be renewed only on payment of a fee 100 percent in excess of the originally payable for licence.]
(4) [16]["The occupier shall have the option to apply for renewal of license by the Chief Inspector in form 4-A for a term of five consecutive calendar years or ten consecutive calendar years with five times of usual license fee or ten times of usual license fee in vogue respectively, and the occupier is not required to pay the

differential fee, if any, in the event of revision of fee during the said five years or ten years period, as the case may be."]
(5) Refusal of licence — The Chief Inspector may refuse the renewal of licence on the ground that the applicant has been guilty of repeated contravention of safety provisions of the Act or Rules or both or the applicant has obtained the licence by fraud or by misrepresentation

Provided that before refusing any licence, the applicant shall be given an opportunity to show cause as to why the licence shall not be refused.
(6) Revocation of licence- The Chief Inspector may, at any time before expiry of the period for which the licence has been granted or renewed, revoke the licence on any of the grounds specified in sub-rule (5) above or if;
(i) there is imminent danger to life and property in the factory due to explosive or inflammable dust, gas or fumes, and effective measures in his option have not been taken to remove the danger; and/or;
(ii) employment of child worker below 14 years of age noticed; and/or
(iii) provisions prescribed in Chapter-IVA of the Act are not complied;

Provided that before revoking the licence, the applicant shall be given an opportunity to show cause as to why the licence shall not be revoked.]

8. Transfer of licence

(1) The holder of a licence may, at an, time before the expiry of the licence, apply for permission to transfer his licence to another person.
(2) Such application shall be made to the Chief Inspector who shall, If he approves of the transfer, enter upon the licence, under his signature an endorsement to the licence has been transferred to the person named.
(3) A fee [17][two hundred rupees] shall be charged on each such application.

9. Procedure on death or disability of licensee

If a licensee dies or becomes insolvent, the person carrying oil the business of such licensee shall not be liable to any penalty under the Act for exercising the powers granted to the licensee by the licence during such time as may reasonably be required allow him to make an application for the amendment of the licence under Rule 6 in his own name for the unexpired portion of the original licence.

10. Loss 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 [18][Two hundred rupees].

11. Payment of fees

(1) Every application under these rules shall be accompanied by a treasury receipt showing that the appropriate fee has been paid into the local treasury under the

head of account [19][087-XX Labour and Employment (d) Fees realized under the Factories Act, 1948. Fees for realization and grant or renewal of licence of Factories].
(2) If an application for the grant, renewal or amendment of a licence is rejected the fee paid shall be refunded to the applicant.

11-A. 20[Prohibiting 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 in force for the time being
Provided that if a valid application for grant of licence has been submitted and the required fee has been paid, the premises shall be deemed to be licensed until such date as the Chief Inspector grants or renews the licence or refuses in writing to grant or renew the licence.]
12. Notice of occupation
The notice of occupation shall be in "Form No. 2"
[12-A]. [21][Notice of change of manager
The notice of change manager shall be in Form No. 3.]
1222[AA
(1) Occupier of every factory shall submit a written statement of his policy at the time of registration in respect of safety and health of workers at work, except factories employing less than 50 workers provided that these are not covered in THE FIRST SCHEDULE under Section 2(cb) or carrying out processes or operations declared to be dangerous under Section 87 of the Act.
(2) The safety and health policy shall contain or deal with the following namely
(a) declared intention and commitment of the top management to health, safety and environment and compliance/to all the relevant statutory requirements relevant statutory requirements;
(b) organizational set-up to carry out the declared policy, clearly assigning the responsibility at different levels; and
(c) arrangements for making the policy effective and
(3) The policy shall specify the following, namely
(a) arrangements for involving the workers;
(b) intention of taking into account the health and safety performance of individuals at different levels while considering their career advancement;
(c) fixing responsibility of the contractor, sub-contractors, transporters and other agencies entering the premises;

(d) providing a resume of health and safety performance of the factory in its Annual Report;
(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 the remedial measures;

(f) stating its intention to integrate health and safety in all decisions including those dealing with purchase of plant, equipment's, machinery and material as well as selection and placement of personnel; and
(g) Arrangements for informing, educating and training its employees at different levels and the public in the vicinity, wherever required.
(4) A Copy of the declared Health and Safety Policy signed by the Occupier shall be made available to the Inspector having jurisdiction over the factory and to the Chief Inspector.
(5) The Policy shall be made widely known by,
(a) making copies available to all workers including contract workers, apprentices, transport workers, suppliers, etc.
(b) displaying copies of the policy at conspicuous places; and
(c) any other means of communication in a language understood by majority of workers.
(6) The occupier shall revise the Safety Policy as often as may be appropriate, but it shall necessarily be revised under the following circumstances, namely
(a) whenever any expansion or modification having implications on safety and health of persons at work is made; or
(b) Whenever new substance(s) or articles are introduced and safety in the manufacturing process having implication on health of persons exposed to such substances.]

CHAPTER - II
THE INSPECTING STAFF
12-B. Qualifications of an Inspector
No person shall be appointed as an inspector for the purpose of the Act unless he possesses the qualifications hereunder
(a) He must not be less than 23 years or more than 35 years of age;
(b) He must have
(i) had a good general education up to the Intermediate standard of a recognised University,

(ii) secured a degree, or diploma equivalent to a degree of a recognised University, in any branch of Engineering, Technology or medicine and preferably with practical experience of at least two years in a workshop or a manufacturing concern of good standing, and in the case of Medical inspector an experience of at least two years in a public hospital or factory, medical department or alternatively diploma in Industrial Medicine; and
(c) Where for a particular post special knowledge to deal with special problems is required, the Government may, in addition to the basic qualifications, prescribe appropriate qualifications for such a post.

13. Powers of Inspectors
An Inspector shall, for the purpose of the execution of the Act, 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 [23][seize] 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 workers 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 power under this rule of the District Magistrates and such other public officers as are appointed to be Additional Inspectors shall be limited to the following matters, namely:
Cleanliness (Section 11) - Overcrowding (Section 16), Lighting (Section 17), Drinking water (Section 18), Latrines and urinals (Section 19), Spittoons (Section 20), Precautions in the case of fire (Section 38), Welfare (Chapter V) Working hours of adults (Chapter-VI)-except the Power of exemption under the proviso to Section 62, Employment of young persons (Chapter-VII) Leave with wages (Chapter-V111), and Display of notices (Section 108).

14. Duties of Certifying Surgeon

(1) For purposes of the examination and certification of young persons who wish to obtain certificates 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 arrangement to managers of factories situated within the local limits assigned to him.
(2) 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 counterfoil and shall deliver the foil to the person in whose name the certificate is granted. The foil so delivered shall be the certificate of fitness granted under Section 69. All counterfoils shall be kept by the Certifying Surgeon for a period of at least 2 years after the issue of the certificate.
(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
(a) cases of illness have occurred which it is reasonable to believe are due to the nature of the manufacturing process carried on, or other conditions of work Prevailing therein; or
(b) by reason of any change in the manufacturing process carried on, or in the substance 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 a likelihood of injury to the health of workers employed in that manufacturing process; or
(c) young persons are or are about to be employed in any work which is likely to cause injury to their health.
(4) For the purposes of the examination of persons employed in process 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) [24][At such visits, the Certifying Surgeon, after examining a worker shall issue a certificate of fitness in Form No. 30. The record of examination and re-examination carried out shall be kept

in the custody of the manager of the factory. The record of each examination carried out under Sub-rules (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 No. 31.]
(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 with 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 (tor 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, table (with writing materials) and chairs.

CHAPTER - III
HEALTH
15. Cleanliness of walls and ceilings
(1) Clause (d) of Sub-section of Section 11 of the Act shall not apply to the class or description of factories or parts of factories specified in the schedule hereto:

Provided that they are kept in a clean state by washing, sweeping, brushing, dusting, vacuum-cleaning or other effective means:
Provided further that the said Clause (d) shall continue to apply
(i) as respects factories or parts of factories specified in Part 'A' of the said schedule. To work-rooms in which the amount of cubic space allowed for every person employed in the room is less than 500 cubic feet;
(ii) as respects factories or part of factories specified in Part 'B' of the said schedule, to word-rooms in which the amount of cubic space allowed for every person employed in the room is less than 2,500 cubic feet;
(iii) to engine houses, fitting shops, lunch-rooms, canteens, shelters, creches, cloak-rooms, rest-rooms and wash places; and
(iv) to such parts of walls, sides and tops of passages and staircases as are less than 20 feet above the floor or stairs.
(2) If it appears to the Chief Inspector that any part of a factory, to which by virtue of Sub-rule (1), any of the provisions of the said Clause (d) do not apply, or apply as varied by Sub-rule (1), is not being kept in a clean state, he may by written notice require the occupier to whitewash or colorways, wash-paint or varnish the same, and in the event of the occupier failing to comply with such requisition within two months from the date of the notice, Sub-rule (1) shall cease to apply to such part of a factory, unless the Chief Inspector otherwise determines.

SCHEDULE

PART - A
Blast furnaces
Brick and the works in which unglazed bricks or tiles are made
Cement works
Chemical works
Copper mills

Gas works
Iron and steel mills Stone, slate and marble works
The following parts of factories:
Rooms used only for the storage of articles
Room in which the walls or ceilings consist of galvanized iron, glazed brick glass, slate asbestos, bamboo thatch.
Rooms in which the walls or ceilings consist of aluminum sheets.
Parts in which dense steam is continuously evolved in the process.
Parts in which pitch, tar or like material is manufactured or is used to a substantial extent, except in Brush works. The parts of a glass factory known as the glass house. Rooms in which graphite is manufactured or is Used to a substantial extent in any process.
Parts in which coal, coke, oxide or iron, ochre, lime or stone is crushed, or ground.
Parts of walls, partitions, ceilings or tops of rooms which are at least 20 feet above the floor.
Ceilings or tops of rooms in night-works bleach-works or dyeworksy with the exception of finishing rooms or ware-houses.
Inside wails of oil mills below a height of 5 feet from the ground floor level.
Inside wall in tanneries below a height of 5 feet from the ground floor level where a wet process is carried on.
PART – B
Coach and motor body works
Electric generating of transforming station
Engineering works Factories in which sugar is refined or manufactured
Foundries other than foundries in which brass casting is carried on Gun factories
Ship-building works
Those parts of factories where unpainted or unvarnished wood is manufactured.
16. 25[x x x]
17. [26][Disposal of trade wastes and effluents
The arrangements made in every factory for the treatment of wastes and effluents due to the manufacturing processes carried on therein shall be in accordance with those approved by the Water and Air Pollution Board appointed under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 and other appropriate authorities.]
17-A. 27[Ventilation and temperature

1. Limits of temperature and air movement—In any factory the maximum wet bulb temperature of air in a work-room at a height of 1.5 metres (5 feet) above the floor level shall not exceed 30° C (86° F) and adequate air-movement of at least 30 metres 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 the Schedule or as regards a dry bulb reading 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**	
(°C)	(F)	(°C)	(F)
30	(86)	29.0	(84.2)
31	(87.8)	28.9	(84.4)
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") diameter created mat black 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 outside in the shade exceeds 27°C (180. °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 in respect of factories covered by Section 15 and in respect of factories where the nature of work carried on involved.
Production of excessively high temperature referred to in Clause (ii) of Sub-section (1) 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 or part of a 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 he may specify.
2. Provision of Thermometers
(1) 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 I 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 reading in each such 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.
(2) 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 of room 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 1 and further requiring him to place the globe thermometers at places specified by him and keep a record of the temperature in a suitable register.
(3) Ventilation

(1) In every factory the amount of ventilating openings in a work room below the cases, shall, except where mechanical means of ventilation as required by Sub-rule (2) are provided, be of an aggregate area of not less than 5 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 work room, prevailing winds, roof height and the nature of manufacturing process carried on, sufficient supply of fresh air into the work room is afforded during most part of the working time:
Provided further that this requirement shall not apply in respect of work rooms of factories
(i) covered by Section 15; or
(ii) in which temperature and humidity are controlled by refrigeration.
(2) Where in any factory owing to special circumstances such as situation with respect to adjacent buildings and 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 work room is sufficiently 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 room ventilators or by mechanical means.
(3) The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the public capacity of the work room and shall be distributed evenly throughout the work room without dead air-pocket or undue draughts caused by high inlet velocities.
(4) In regions where in summer (15th March-16th July) bulb temperatures of outside air in the shade during most part of the day exceed 35°C (95° F) and simultaneous wet-bulb temperatures are 25°C (67° F) or below and in the opinion of the Inspector the manufacturing process carried on in the work from of a factory permits thermal environment 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 of central air washing plants.]

17-B. Permissible levels of certain chemical substances in work environment
Without prejudice to the requirements in any other provisions of the Act or these rules, the requirements specified in the following Schedule shall apply to all factories.
SCHEDULE
1. Definitions

For the purpose of this Schedule
(a) "mg/m3"means milligrams of a substance per cubic meter of air;
(b) "mappcm" means million particles of a substance per cubic meter of air;
(c) "ppm" means parts of vapour or gas per million parts of air by volume at 250C and 760 mm of mercury pressure;
(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 giving 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 concentration = $C_1 T_1 + C_2 T_2 \ldots\ldots C_n T_n$
$T_1 + T_2 \ldots\ldots\ldots\ldots\ldots + T_n$
Where C_1 represents the concentration of the substance, for duration T_n (in hours), C_2 represents the concentration of the substance for duration T_n (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. Limit of concentrations of substances at work locations
(i) 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 I in respect of which a limit in terms of short term maximum concentration is indicated, the concentration of such a substance may exceed to permissible limit of the time weighted average concentration for the substance for short periods not exceeding fifteen minutes at a time, subject to the conditions that
(a) such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than four per shift;

(b) the time interval, between any two such periods of higher exposure shall not be less than sixty minutes; and
(c) at no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.
(ii) In the case of any substance given in Table 3, the concentration of substance at any work location in a factory at any time during any day shall not exceed the limit of exposure for that substance specified in the said Table.
(iii) In the cases where the word "skin" has been indicated against any 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.
(iv)
(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 time weighted concentrations divided by the respective permissible time weighted average concentration specified in the above mentioned Table, and the fractions obtained are added together, the total shall not exceed unity, i.e.

$C_1/L_1+C_2/L_2+\ldots\ldots C_n/L_n$
Should not exceed unity. When C_1 C_2……. Cn are the time weighed concentration of toxic substances 1, 2 and respectively, determined after measurement at work location and L1, L2……. Ln are the permissible time weighted average concentration of the toxic substance 1,2 n respectively.
(b) In case the air at any work location contains a mixture of substances, mentioned in Table 1,2 or 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 Table, for that particular substance,
(c) The requirement in Clauses (a) and (b) shall be in addition to the requirement in paragraphs 2 (1) and 2 (ii),
3. Sampling and evolution procedures
(1) Notwithstanding the 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 standard procedures in vogue from time to time.

(2) Notwithstanding the provisions in paragraphs 5, the following conditions regarding the sampling and evaluation procedures relevant to checking compliance with the provisions in this Schedule are specified
(a) For determination of the number of particles per meter in item (a) (i) (1) in Table 2, samples are to be collected by standard or midget impinge and the counts made by light field technique.
(b) The percentage of quartz in the 3 formula given in 'I (a) (I) of Table 2 is to be determined from airborne samples.
(c) For determination of number of fibres as specified in stem 2 (a) of 'fable 2 the membrane filter method at 430 X magnification (4 mm objective) with phase contrast illumination should be used.
(d) Both for determination of concentration and percentage of quartz for use of the formula given in item 'I (a) (1) (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	0

4. Power to require assessment of concentration of substances
(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 2 or 3 carried out.
(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 three days from the date of completion of such assessment and also a record of the same kept readily available for inspection by an Inspector.
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 on account of other circumstances, no worker is exposed, in the air at the work location, to a substance or substances specified in Table 1, 2 or 3 below to such an extent as is likely to be injurious to his health, the Chief Inspector may, by 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.

Substance		Permissible Limits of Exposure		
Time-Weighted average concentration			**Short-term maximum concentration**	
ppm	**mg/rn3**		**ppm**	**mg/rn3**
(1)	**(2)**	**(3)**	**(4)**	**(5)**
Acetic Acid	10	25	15	37
Acrelein	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
Anisidins (0-P-is omers) – skin	0.1	0.5	..	..
Arsenic & compounds (as As)	..	0.2	..	..
Benzene	10	30	..	..
Bromine	0.1	0.7	0.3	2
2 Butanone (Methylethyl)(Ketenemek(MEK)	200	590	30	885
n-Butyl acetage	150	710	200	950
Cadmium-dust and salts (as Cd)	205	950	250	1190
Sec/tert.Butyl acetate	..	0.05	..	0.2
Calcium Oxide	..	2	..	..
Carbaryle (Sevin)	..	5	..	10
Carbofuran (Furadan)	..	0.1	..	..
Carbon disulfide-skin	20	60	30	90

Carbon monoxide	50	55	400	440
Carbon tetrachloride —skin	10	65	20	130
Carbonyl Chloride (Phosgene)	0.1	0.4	..	..

Chloridana-skin	..	0.5	..	2
Chlorobenzene (mono chlorobenzene)	75	350	..	..
Chlorine	1	3	3	9
bis-chloromethyl ether	0.001	..	[	..
Chrornic acid and chrornates (as Cr)	..	0.05	..	..
Chromium, Sel. Chromic Chromous salts (as Cr)	..	0.05	..	..
Copper fume	..	0.2	..	..
Cotton dust, raw	..	0.2	..	0.6
Cresol, all isomers -skin	5	22	..	..
Cyanides, (as CN)-skin	..	5	..	..
Cyanogen	10	20	..	..
DDT (Dichiorodiphenyl	..	1	..	1
-trichioroethane)	..	1	..	3
Demeten-skin	0.01	0.1	0.03	0.3
Dibutyl puthalata	..	5	..	10
Dichlorves (DDVPO-Skin)	0.1	1	0.3	3
Dieldrin-skin	..	0.25	..	0.75
Dinitrobenzene (all isomers)	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
Ethyl-acetate	400	1000	..	..
Ethyl alcohol	1000	1900	..	..

Ethyl amine	10	18	..	..
Flourides (as F)	..	2.5	..	..
Fluorine	1	2	2	4

Hydrogen Cyanide-skin	10	11	15	16
Hydrogen suiphide	10	.15	15	27
Iron Oxide fume (Fe 203 as Fe)	..	5	..	10
Ispamyl acetate	100	525	125	655
Isoamyl Alcohol	100	360	125	450
Isobutyl Alcohol	50		150	
Loead, inerg, fumes and dusts (as Pb)	..	0.15	..	0.45
Lindane-skin	..	0.5	..	1.5
Malathin-skjn	..	10	..	..
Manganese fume (as Mn)	..	1	..	3
Mercury	..	0.05	..	0.15
Mercury (alkyl compounds skin-(as Hg)	0.001	0.01	0.003	0.03
Methyl alcohol (Methanol-skin)	200	260	250	310
Methyl cellolose-skin (2-metheg)	25	80	35	..
Methyl Isobutyl ketene skin	100	410	125	10
Napthalene	10	50	15	45
Nickel carbonyl (as Ni)	0.05	0.35	..	10
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	..	0.1	..	0.3
Phenol-skin	5	19	13	38
Pharate (Thimet-skin)	..	0.05	..	0.2

Chloride)	0.1	0.4	..	..
Phosphine	0.3	0.4	1	1

Phosphorus (Yellow)	..	0.1	..	0.3
Phosphorus pentachioride	..	I	..	3
Phosphorus trichioride	3.5	3	..	..
picric acid-skin	..	0.1	..	0.3
Pyridine	5	15	10	30
Silance (Silicon Tetrahydride)	0.5	0.7	1	1.5
Styrene, monomer (Phonyle-thylene)	100	420	125	525
Sulfur dioxide	5	13	..	..
Sulfuric acid	0.1	..	..	
Toluene (Tuluol)-skin	..100	375	150	560
O-Toludine	5	22	10	44
Trichioro ethylene	100	535	150	800
Vinyl chloride	5	10	…	…
Welding fumes (Noc)	...	5	…	…
Xylene (o-m-p-isomers)-skin	100	435	150	655

TABLE—2

Substance	Permissible time weighted average Concentration
1	2
1. Silica (a) Crystalline (i) Quartz (8) In terms of dust count	1060 ----------mppcm % Quartz+ 10
(2) In terms of respirable dust	10 ----------mg/m3 % respirable Quartz+ 2
(3) In terms of total dust	30 ----------mg/m3

%Quartz+ 3	
ii) Cristobalite (iii) Fridymite (iv) Silica fused (v) Tripoli (a) Amorphous	Half the limits given against quartz. Half the limits given against quartz. Same limit as for quartz. Same limit as in formula in item 2 given against quartz. [705 mppcm
2. Silica having less than 1% free silica by weight	
(a) Asbestos-fibres longer than microns	
i) Amosite (ii) Cyrysotile (iii) Crocidelite (iv) Other form (b) Mica (c) Mineral Gool fibre (d) Perlite (e) Portland cement (f) Soap stone (g) Table (conabosti form) (h) Talc (fibrous) (i) Tromolit	..0.5 fibre cubic centimetre ..3 fibres/centimetre ..0.2 fibre/cubic centrimetre ..2 fibres/cubic centimetre ..705 mpum ..10mg/m3 ..1060 mppcm ..1060 mppcm ..705 mppcm ..705 mppcm ..Same limit as for asbestos ..Same limit as for asbestos
3. Coal dust	
1) for airborne dust having less than 5% silicon dioxide by weight	5 mg/m3
(2) For airborne dust having over 5%	Same limit as prescribed by formula in item (2) against Quartz

TABLE -3

Substance	**Permissible limit of exposure**
1	**2**
Pum	**mg/m2**
Acetic anydride	5 | 20

O-Dichlorobenzene	50	300
Fnrm dehyde	2	7
Hydrogen Chloride	5	7
Manganese & Compounds (as mn)	..	5
Nitrogen Dioxide	..	9
Nitroglycerin-skin Potassium hydroxide	0.2	2
Sodium hydroxide	..	2
2,4,6-Trinitrotaluenc	..	2
e (TNT)	..	0.5

18. 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 specified in the following Schedule in relation to the dry bulb reading of the hygrometer at that time; or as regards it 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.

19. 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 hygrometers shall be regulated according to the following scale:

(a) Weaving department - One hygrometer for departments witness than 500 looms, and one additional hygrometer for every 500 or part of 500 looms is excess of 500.

(b) Other departments - One hygrometer for each room of less than 3,00,000 cubic feet capacity and one extra hygrometer for each 2,00,000 cubic feet 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 shade readings.

20. Exemption from maintenance of hygrometer

When the Inspector is satisfied that the limits of humidity allowed by the Schedule to Rule 18 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.

21. Copy of Schedule to Rule 18 to be affixed near every hygrometer

At legible copy of the Schedule to Rule 18 shall be affixed near each hygrometer.

22. Temperature to be recorded at each hygrometer

At each hygrometer maintained in accordance with Rule 1 9, 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 7 a.m. and 9 a.m., between 11 a.m. and 1 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 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.

23. Specifications of hygrometer

(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) The wet-bulb shall be closely covered with a single layer of muslin kept wet 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 or grease.

(3) No part of the wet-bulb shall be within 3 inches from the dry-bulb or less than I inch from the surface of the water in the reservoir and the water reservoir shall be below it, on the side of it away from the dry-bulb.

(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) 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 2 feet.

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

(7) Every degree from 50 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 degree and the temperature marked opposite each tenth degree, i.e., 50, 60, 70, 80, 90, 100, 110 and 120.

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

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

(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.

24. 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,

25. An Inaccurate thermometer not to be used without 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.

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

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

(2) No hygrometer shall be fixed at a height of more than 5 feet 6 inches from the floor to the top of thermometer stem or in the direct draughts from a fan, window, or ventilating opening.

27. 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.

28. How to introduce steam for humidification

In any room which steam 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 pipes shall not exceed two inches and in the case of pipes installed after 1st day of January, 1949, the diameter shall not exceed one inch;

(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 half an inch in thickness:

(d) No uncovered jet from such pipe shall project more than 41/2 inches beyond the outer surface of any cover;

(e) The steam pressure shall be as low as practicable and shall not exceed 70 lbs. per square inch;

(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 minimize the amount of heat radiated by them into the department.

29. 28[xxx]

30. Lighting of interior parts

(1) [29][The general illumination over those Interior parts of a factory where persons are regularly employed shall be not less than six feet candles measured in the horizontal plane at a level of three feet above the floor:

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

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

(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.

31. Prevention of glare

(1) Where any source of artificial light in the factory is less than 16 feet above floor level, no part of the light source or of the lighting fitting having a brightness greater than 10 candles per square inch shall be visible to persons whilst normally employed within 100 feet of the source except where the angle of elevation from the eye to the source or part of the fitting as the case may be, exceeds 20.

(2) Any local light, that is to say, an artificial light designed to illuminate particularly an 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 placed, that no such person is exposed to glare therefrom.

32. Power of Chief Inspector to exempt

Where the Chief Inspector is satisfied in respect or any particular factory or part thereof or in respect of any description of work room or process that any requirement of Rules [30][30 and 31] is inappropriate or is not reasonably practicable, he may by order in writing

exempt the factory or part thereof, or description of work room or process from such requirement to such extent and subject to such conditions as he may specify.

33. 31[xxx]

34. Quantity of drinking water

(1) The quantity of drinking water to be provided for workers in every factory shall be at least as many gallons a day as there are workers employed in the factory and such drinking water shall be readily available at all times during working hours.

35. Source of supply

The water provided for drinking shall he supplied

(a) from [32][xxx] a public water supply system; or

(b) from any other source approved in writing by the Health Office;

36. 33[Means of supply

If drinking water is not supplied directly from taps either connected with public water-supply system or any other 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 cover placed on raised stands or platforms in shades and having suitable arrangement of drainage to carry away the spilt water. Such vessels or receptacles or tanks shall be kept clean and water renewed at least once every day. All practicable measures shall be taken to ensure that the water is free from contamination.]

37. Cleanliness of well or reservoir

(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) 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 on 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.

38. Report from Health Officer

The Inspector may, by 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.

39. 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 first April to the 30th September in every year, be cooled by ice or other effective method.

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 up to the first 500 and, one for every 500 persons thereafter;
(e) every water centre shall be maintained in a clean and orderly condition;
(f) [34][the means of supply of cooled drinking water shall be either directly through taps connected to water coolers or any other system for cooling of water, or by means of vessels, receptacles or tanks fitted with taps and having dust proof covers and placed on raised stands or platforms in shade, and having suitable arrangement of drainage to carry away the spilt water. Such vessels, receptacles or tanks shall be kept clean and the water renewed at least once every day:]

[35][Provided further that the distance of the place of work of any worker shall not be more than fifty metres from the nearest water centre or any distance as may be specified by the Inspector].

40. 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 for every 25 females;
(b) Where males are employed, there shall be at least one latrine 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.

41. Latrines to conform to public health requirements

Latrines other than those connected with an efficient water-borne sewerage system shall comply with the requirements of the Public Health Authorities.

42. Privacy of latrines

Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.

43. 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.

44. Urinal accommodation

Urinal accommodation shall be provided for the use of male workers and shall not be less than 2 feet 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 up to the first 500 employed and one for every 100 thereafter.
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 50 or 100.

45. 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 requirements of the Public Health Authorities.

46. Certain latrines and urinals to be connected to sewerage system

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 a factory situated in such locality shall, if the factory is situated within 100 feet of an existing sewer, be connected with that sewerage system.

47. White-washing, colour washing of latrines and urinals

The walls, ceilings and partitions of every latrine and urinal shall be whitewashed or colour-washed and the white-washing or colour washing shall be repeated at least once in every period of four months. The dates on which the whitewashing or colour-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. ceilings 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 disinfectant at least once in every period of four months.

48. Construction and maintenance of drains

All drains carrying waste or sullage water shall be constructed in masonry or other impermeable material and shall be regularly flushed and the effluent disposed of by connecting such drains with a suitable drainage line

Provided that, where there is no such drainage line, the effluent shall be deodorized and tendered innocuous and then disposed of in a suitable manner to the satisfaction of the Health Officer.

49. Water taps in latrines

(1) Where piped water-supply is available a sufficient number of water taps, conveniently accessible provided in or near such latrine accommodation.

(2) If piped water-supply is not available, sufficient quantity of water shall be kept stored in suitable receptacles near the latrines.

50. Number and location of spittoons

The number and location of the spittoons to be provided shall be to the satisfaction of the Inspector.

51. Types of spittoons

The spittoons shall be 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 send and covered with a layer of bleaching powder;

(c) Any other type approved by the Chief Inspector.

52. Cleaning of spittoon

The spittoon mentioned in Clause (a) of Rule 51 shall be emptied, cleaned and disinfected at least once every day; and the spittoon mentioned in Clause (b) of Rule 51 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER – IV

SAFETY

53. Further safety precautions

(1) Without prejudice to the provisions of Sub-section) of Section 21, in regard to the fencing of machines, the further precautions specified in the schedules annexed herein shall apply to the machines noted in each schedule.

(2) This rule shall come into force, in respect of any class or description of factories where machines noted in the said schedules are in use on such' dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.

36[SCHEDULE- 1

TEXTILE MACHINERY EXCEPT MACHINERY USED IN JUTE MILLS

1. Application

The requirements of this Schedule shall apply to machinery in factories engaged in the manufacture or processing of textiles other than Jute textiles but shall not apply to machinery in factories engaged exclusively in the manufacture of synthetic fibres.

2. Definitions

For the purposes of this Schedule

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

(b) "Card" means a machine consisting of cylinders of various sizes certain cases flats covered with card clothing and set in relation to each other so that fibres in staple form may be separated into individual relationship. The speed of the cylinders and their directions rotation vanes. The finished product is delivered as a sliver. Cards of different types are the revolving flat card, the roller and clearer card, etc.;

(c) "Card clothing" means the material with which the surfaces of the cylinder, doffer, flats, etc. of card are covered a consists of a thick foundation material made of either textile fabric through which are pressed many fine closely spaced specifically bent wires, or mounted saw toothed wire;

(d) "Comber” means a machine for combing fibres of cotton, wool, etc. The essential parts and 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. All tangled fibres, short fibres and nips are removed and the long fibres are laid parallel;

(e) "Combing machinery “means a general classification of machinery including combers, silver, lap machines, ribbon lap machines, and gill boxes, but excluding cards;

(f) "Continuous bleaching range" means a machine for bleaching of cloth in rope or open-width form with the following arrangement. The cloth, after wetting out, pass through a squeeze, roil 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 the. J-Box for uniform and repaid saturation of the cloth with steam before it is packed down in the J-Box. The cloth in a single strend rope form, passes over a guide roll down the first arm of the "V" and up the second. Steam is injected into 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 will remain hot for a sufficient time to complete the scoring action. It then passes 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. By slight modification of the form of the unit the same process can be applied to open-width cloth;

(g) "Embossing calender" means a calender with two or more rolls, one of which is engraved for producing figures effects of various kinds on a fabric;

(h) "Garnett machine" means any of a number of types of machines for opening hard twisted waste of wool cotton, silk, etc. Essentially such machines consist of a licker in one or more cylinders, each having a complement worker and stripper rolls; and a fancy roll and doffer. 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 Barnett wire instead of card clothing;
(i) "Gill box" means a machine used in the worsted system of manufacturing yarns. Its function is to arrange fibres in parallel order. Essentially, it consists of a pair of feed rolls and a series of flowers where the flowers move at a faster surface speed and perform a combing action;
(j) "In running rolls" means any pair of rolls or drums between which there is a "nip;"
(k) "Inter locking arrangement" 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 safeguard against dangers open or unlocked, and which will also hold the guard, cover or door closed and locked while the machine or the dangerous part is in motion;
(l) "Kier" means a large metal vat, usually a pressure type, in which fabrics may be boiled out, bleached, etc.;
(m) "Loom" means a machine for effecting the inter locking of two series of Yarns crossing one another at right angles. The warp yarns are wound on a warp beam and pass through heads and reeds. The filling is shot across in a shuttle and settled in place by reeds 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 stationary. The carriage is movable and it carries the spindles which draft and. spin the roving into yam. The carriage extends over the whole width of the machine and moves slowly towards and away from the head stock during the spinning operation;
(o) "Mercerizing range" means a 3 bowl mangle a tauter frame and a number of boxes for washing and scouring. The whole set up in a straight line and all parts operate continuously. The combination is used to saturate the cloth with

sodium hydroxide, stretch it which saturated and washing out most of the caustic before releasing tension;
(p) "NIP" is the danger zone between two tolls 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, multiple 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 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, calender section, rolls 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 pressed through a mordant or dye bath;
(s) "Plaiting machine" means a machine used to lay cloth into folds of regular length for convenience of subsequent process or use;
(t) "Ribbon rapper" means a machine or a part of a-machine used to prepare laps for feeding a cotton comb; its purpose is to provide a uniform lap in which the fibres have been straightened as much as possible;

(u) "Roller printing machine" means a machine consisting of a large central cylinder or pressure bowl, around the lower part of the perimeter, of which is placed a series of engraved colour rollers (each having colour through), a furbisher roller, doctor blades, etc. The machine is used for printing fabrics;
(v) "Rotary staple cutter" means a machine consisting of one or more rotary blades used for the purpose of cutting textile fibres into staple lengths;
(w) "Stanforizing machine" means a machine consisting of a large steam heated cylinder and endless, thick woolen 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 latter is in a stretched condition as It curves a round feed in roll;
(x) "Shearing machine" means a machine used for shearing cloth. Cutting action is provided by a number of steel blades spirally mounted on a roller. The roller rotates in close contact with a fixed ledger blade. There may be from one to six such rollers on a machine;
(y) "Singoing machine" means a machine which comprises of a heated roller, plate or an open flame. The cloth or yarn is rapidly passed over the roller or

the plate or through the open gas flame to remove fuzz or hairiness by burning;
(z) "Slasher" means a machine used for applying a size mixture to warp Yarns. Essentially, it consists of a stand for holding section beams, a size box, one or more cylindrical dryers or an enclosed hot air dryer and beaming and for winding the yarn on the loom beams;
(aa) "Silver rapper" means a machine or a part of a machine in which a number of parallel card slivers are drafted slightly laid side by side in a compact sheet, and wound into a cylindrical package;
(bb) "Starch mangle" means a mangle that is used specifically for starching cotton goods. It commonly consists of two large rolls and a shallow open vat with several immersion rolls. The vat contains the starch solution;
(cc) "Tenter frame" means a machine for drying cloth under tension. It essentially consists of. a pair of endless travelling chains fitted with clips of fine pins and carried on tracks. The cloth is firmly held at the selvages by two chains which diverge as they move forward so that the cloth is brought to the desired width;
(dd) "Water mangle "means a calender having two or more rolls used for squeezing water from fabrics before drying. Water mangles also may be used in any other ways during the finishing of various fabrics; and
(ee) "Warper" means a machine for preparing and arranging the Yarns intended for the warp of a fabric, specifically a beam warper.

3. General safety requirements

(1) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machine. Belt shiftier on machine driven by belts and shafting shall be provided with a belt shifter lock or an equivalent positive locking device.
(2) Stopping and starting handles or other control shall be of a such design and so positioned as to prevent the operators' hand or fingers from striking against any moving part or any other part of the machine.

(3) All belts, pulleys, gears, chains, sprocket wheels 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 opener or picker machinery beaters and other dangerous parts shall be securely fenced by suitable guards so as to prevent contact with them. Such 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 interlocking arrangements, 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.

(2) The feed rolls on all opener and picking machinery shall be covered with a guard designed to prevent the operator from reaching the nip while the machinery is in operation.

(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. The guard or cover shall be so locked that it cannot be raised until the machine is stopped and the machine cannot be started until the cover or 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 an automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.

5. Cotton cards

(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 re-start 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 operations shall be carried out only by specially trained adult workers wearing tight fitting clothing whose names have been recorded in the register prescribed under Sub-section (1) of Section 22.

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

(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 to dismantle the inter-locking mechanism. Such an arrangement shall be used only for stripping or grinding operations.

6. Garnett machines

(1) Garnett licker-ins shall be enclosed.

(2) Garnett fancy rolls shall be enclosed by guards. These shall be installed in a way that keeps worker rolls reasonably accessible for removal or adjustment.
(3) The underside of the gamut shall be guarded by a screen mesh or other forms of enclosures to prevent access.

7. Gill boxes

(1) The feed end shall be guarded so as to prevent fingers being caught in the pins of the intersecting falters.
(2) All nips of in-running rolls shall be guarded by suitable nip guards confirming to the following specifications, namely

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 and in any circumstances, 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.

8. Silver and ribbon rappers (cotton)

The calendar drums and the lap spool shall be provided with a guard to prevent access to the nip between the in-running roils.

9. Speed frames

Jack box wheels at the head stock shall be guarded and the guard shall have interlocking arrangement.

10. Spinning mules

Wheels on Spinning mule carriages shall be provided with substantial wheel guards, extending to within 6 mm. of the rails.

11. Warpers Swiveled double- bargates

Shall be installed on all warpers operating in excess of 41.0 metres per minutes These gates shall have interlocking arrangement, except for the purpose of inching or jogging

Provided that the top and bottom bars of the gate shall be at least 1.05 and 0.53 metres high from the floor or working platform, and the gate shall be located 38 mm from the vertical tangent to the beam head,

12. Slashers

(1) Cylinder dryers (a) All open nips of in running rolls shall be guarded by nip guards conforming to the requirements in paragraph 7(2).

(b) When slashers are operated by control levers, these levers shall be Connected to a horizontal bar or treadle located riot more than 170 cm above the floor to control the operation from any point.

(c) Slashers Operated by push-button control shall have stop and start button 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. If calender rolls are used, additional buttons shall be provided at both sides of the machine at points near the nips except when slashers are equipped with an enclosed dryer as in sub-paragraph (b).

(2) Enclosed hot air dryer

(a) All open nips of the top squeezing rollers shall be guarded by nip guards conforming to the requirements in paragraph 7(2).

(b) When slashers are operated by control levers, 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.

(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 machines at intervals spaced not more than 1.83 meters on centres.

13. Looms

Each loom shall be equipped with suitable guards designed to minimize the danger front flying shuttles.

14. Valves of kiers, tanks and other containers

(1) Valve controlling the liquids into a kite, or any other tank or container enter in Connection with a process operation, maintenance or for any other purpose, shall be provided with a suitable looking arrangement to enable the said person to lock the value securely in the closed position and retain the key with him before entering the kier tank or container

(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 area

emergency hut off valves which can be controlled from a point not subject to danger of splash shall be provided to prevent danger,

15. Shearing machines

Alt revolving blades on shearing machine shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.

16. Continuous bleaching range (cotton and rayon)

The nip of all in running mills on open width bleaching machine rolls shall be protected with guard tog rolls prevent the worker from being caught at the nip. The guard shall extend across the entire length of the nip.

17. Mercerizing range (piece goods)

(1) A stopping device shall provide at each end of the machine.

(2) A guard shall be provided at each end of the frame between the in running chain and the clip opener.

(3) A nip guard shall be providing for the in-running rolls of the mangle and washers and such guard shall conform to the requirements n paragraph 7(2).

18. Tenter frames

(1) A stopping device shall be provided at each end of the machine.

(2) A guard shall be provided at each end of the machine frame at the in-running chain and clip opener.

19. Paddlers

Suitable nip guards conforming to the requirements in paragraph 7 (2) shall be provided to all dangerous in-running rolls.

20. Centrifugal extractors

(1) Each extractor shall be provided with a guard for the basket and the guard shall have interlocking arrangement.

(2) Each extractor shall be equipped with a mechanically or electrically operated break to quickly stop the basket when the power driving the basket is shut off.

21. Squeezer or wringer extractor, water mangle, starch mangle, back washer (worsted yarn) carving machines and decanting machines

All in-running rolls shall be guarded with nip guards, conforming to the requirements in paragraph 7(2).

22. Sanforizing and palmer machines

(1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements in paragraph 7(2).

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

(3) A safety trip rod, cable of wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the face of the cylinder. It shall operate readily whether pushed or-pulled. The safety trip shall riot be more than 170 cm. above the level at which the operator stands and shall be readily accessible.

23. Rope washers

(1) Splash guards shall be installed on all rope washers unless trip machine is so designed as to prevent the water at 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 washers extending the length of the face of the washer. It shall operate readily whether pushed or pulled. This 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 shell is open and which will also prevent the outer door or the case or shell from being opened without shutting off the power and the cylinder coming to a stop. This 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 or shells while it is being leaded or unleaded.

25. Printing machine (roller type)

(1) All-in-running rolls shall be guarded by nip guards conforming to the requirements in paragraph 7(2).

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

26. Calenders

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 constructed 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. Plaiting 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 shall be so designed and so located that it will prevent the handle from travelling beyond the vertical position should the handle slip 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 front of the feed or first pressure roils, 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 the guards shall he not less than 1.83 metres.]

SCHEDULE - II

(COTTON GINNING)

Line shaft

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

SCHEDULE -III

(WOOD-WORKING MACHINERY)

1. Definitions

For the purposes of this schedule

(a) Wood working machine means a circular saw, band saw, planning, machine, chain mortising machine or vertical spindle moulding machine operating of wood or cork.)

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

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

(d) Planning machine means a machine for over-hand planning or for thicknessing or for both operations.

2. Stopping and starting device

An efficient stopping and starting device shall be provided on every wood-working machine. The control of this device shall be in such a portion as to be readily and conveniently operated by the person in charge of the machine.

3. Space around machines

The space surrounding every wood-working machine on motion shall be kept free from obstruction.

4. Flood

The floor surrounding every wood-working 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 from chips or other loose material.

5. Training and supervision

(1) No person shall be employed at a wood-working machine unless he has been sufficiently trained to work that class of machine or unless he works under the adequate supervision of a person who has thorough knowledge of the working of the machine.

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

6. Circular saws

Every circular saw shall be fenced as follows:

(a) Behind and in direct line with the saw mere snail be a driving knife, which shall have a smooth surface, shall be strong, rigid and easily adjustable and shall also confirm to the following conditions.
(i) The edge of the knife nearer the saw shall form an arc of a circle having a radius not exceeding the radius of the largest saw used on the bench.
(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 not exceeding half an inch.
(iii) For a saw of a diameter of less than 24 inches the knife shall extend upwards from the bench table to within one inch of the top of the saw,

and for a saw of a diameter of 24 inches or over shall extend onwards from the bench table to a height of at least nine inches.
(b) The top of the saw shall be covered by a strong and easily adjustable guard with a flange at the said of the saw farthest from the fence. The guard shall be kept so adjusted that the said flang 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.
(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 six inches apart, and shall extend from the side of the saw outwards to a distance of not less than two inches beyond the teeth of the saw. Metal plates, if not based, shall be of a thickness of at least 1/10 inch, or if beaded be of a thickness of at 1 /20 inch.

7. Push sticks

A push stick or other suitable appliance shall be provided for use at every circular saw at every vertical spindle-moulding machine to enable the work to be done without unnecessary risk.

8. Band saws

Every band saw shall be guarded as follows
(a) Both sides of the bottom puny shall be completely encased by sheet or expanded metal or other suitable material.
(b) The front of the top pull shall y be covered with sheet or expanded metal or other suitable materials.
(c) All portions of the blade shall be enclosed or otherwise securely the portion of the blade between the guarded except t n e bench table and the top guide.

9. Planning machines

(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.
(2) Every planning machine used for overhand planning shall be provided with a "bridge" 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 direction.
(3) The feed roller or every planning making used for thicknessing except the combined machine for over hand planning and thicknessing shall be provided with an efficient guard,

10. Vertical spindle moulding machines

(1) The cutter of every varietal spindle moulding machine shall be guarded by the most efficient guard having regard to the nature of work being performed.
(2) The wood being moulded at a vertical spindle moulding machine shall, if practicable, be held in a jig or holder of such construction as to reduce as far as possible the risk of Occident to the workers.

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

12. Adjustment and maintenance of guards

The guards and other practicable appliances required under this schedule shall be
(a) maintained in an efficient state;
(b) constantly kept in position while the machinery is in motion and
(c) so adjusted as enable the work to be done without unnecessary risk.

13. Exemptions

Paragraphs 6,8,9 and 10 shall not apply to any wood working 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. Installation of machines

Mills for breaking down, cracking, grating, mixing refining and warming rubber or rubber compound shall be so installed that the top of the front roll is not less than forty-six inches 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 guards shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the rolls,

2. Safety devices

(1) Rubber mills shall be equipped with
(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.
(b) horizontal safety-trip rods or tight wire cawes 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.

(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 sixty-nine inches above the floor or working level.
(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.

54. Employment of young persons on dangerous machines

The following machines shall be deemed to be of such dangerous character that young people shall not work at them unless the provisions of Section 23 (1) are complied with:

Power presses other than hydraulic presses;

Milling machines used in the metal trades;

Guillotine machines;

Circular saws;

Platen printing machines.

55. Exemption of certain hoists and lifts

(1) [37][A register shall be maintained to record particulars of examination of hoists of Sifts and shall give particulars as shown in Form No. 7-A.]

(2) In pursuance of the provisions of Sub-section (4) of Section 28 in respect of any class or description of hoist or lift specified in the first column of the following schedule the requirements of Section 28 specified in the second column of the said schedule and set Opposite to that class or description of hoist or lift shall not apply.

55 - A.

No lifting machine and no chain, rope or lifting tackle except fibre rope or fibre rope sling, shall be taken into use in any factory for the first time in that factory unless it has been tested and all parts have been thoroughly examined by a competent person and certificate of such a test and examination specifying the safe working load or loads and signed by the person making the test and the examination, has been obtained and is kept available for inspection.

55 - B.

(a) Every jib-crane so construed that the safe working load may be varied by the raising or lowering of-the jib, shall have attached there to either an automatic indicator of safe working loads or an automatic jib angle indicator and a table indicating the safe working loads at corresponding inclinations of the jib or corresponding radii of the load.

(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 toad at

different- angles of the legs, shall be posted in the store, in which the chains, rope or Sifting tackles are kept, and in prominent positions of the premises and no rope, chain or lifting tackle not shown in the table shall be used. The foregoing provisions of this sub-rule shall not apply in respect of any lifting tackle if 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.

55 - C.

(a) A register shall be maintained with the following columns to record particulars of examinations of lifting machines, chains, ropes and Sifting tackles

(i) Name of occupier of factory;

(ii) Address of the factory;

(iii) Distinguishing number or marks if any, and description sufficient to identify the lifting machine, chain, rope or the lifting tackle;

(iv) Date when the lifting machine, chain, rope or lifting tackle was first taken into use in the factory;
(v) Date and number of the certificate relating to any test and examination made under Rules 55-A and 55-G together with the name and address of the person who issued the certificate;
(vi) Date of each periodical thorough examination made under Rule 55-F and the name of the examiner;
(vii) Date of annealing or other heat treatment of the chain and other lifting tackle made under Rule 55-E and by whom it was carried out;
(viii) Particulars of any defects affecting the safe working load found at any such thorough examination or after annealing and of the steps taken to remedy such defects.
(b) The register shall be kept readily available for inspection.

55 - D.
(a) [38][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 of adequate strength and have an even running surface and every such rail or track shall be properly laid, - adequately supported and properly maintained.
(b)
(i) [39][To provide access to rail tracks of overhead travelling cranes suitable passage-ways of at least 5 c. m. (20 inches) width with toe-boards and double hand rails 90 cm. (3 feet) high shall be provided alongside, and clear of, the rail tracks of overhead 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 across ladders shall be provided at suitable

intervals to afford access to these passageways, and from passage-ways to the rail tracks.]
(ii) [40][The Chief inspector of Factories may, for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane from the operation of any of provisions of Clause (I) subject to such conditions as he may specify.]

55 - E.
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 the Chief Inspector of Factories, be effectively annealed under the supervision of a competent person at the following intervals
(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.
(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 Rule 55-C.
55 - F.

Nothing in the foregoing Rule 55-E shall apply to the following classes of chains and lifting tackles:
(i) Chains made of malleable cast iron;
(ii) Plate link chains;
(iii) Chains, rings, hooks, shackles and swivels made of steel or of any non-ferrous metal;
(iv) Pitched chains, working on sprocket or pocked wheels;
(v) Rings, hooks, shackles, and swivels permanently attached to pitched chains, pulley blocks or weighing machines;
(vi) Hooks and swivels having screw threaded parts or ball bearing or other case hardened parts;
(vii) Socket shackles secured to wire ropes white-metal capping;
(viii) Bordeiux connection.

Such chains and lifting tackle shall, be thoroughly examined by a competent person once at least in every twelve months, and particulars of the results of such examination entered in the register prescribed under Rule 55-C.

55 - G.
All lifting machines, chains, ropes and lifting tackle except a fibre rope or rope sling, which have 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 Rule 55-C.
55 - H.
No person under 19 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.
55 - I.
"A competent person" for the purpose of these rules shall be the persons whose appointment has been approved by the Chief Inspector of Factories.
SCHEDULE

Class or description of hoist or lift	**Requirement which shall not apply**
I	**II**
Hoist of lift mainly used for raising materials for charging blast furnaces or lime kilns	Hoists not connected with mechanical power and which are not used for carrying persons
Sub-section 1 (b) in so far as it requires a gate at the bottom landing; Sub-section 1 (d); Sub-section 1 (e)	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).

55 - J.

Stoppers on wheel track of travelling cranes

Where the Chief Inspector of Factories is satisfied that in a factory, due to short down or for any other reason, it is not practicable to maintain a minimum distance of twenty feet between the person employed or working on or near the wheel track of a travelling crane and the crane, he may, on the request of the manager, reduce the distance to such extent as he may consider necessary and also prescribe further precautions including appointment of suitable number of supervisors to ensure the safety of the persons while they are employed or working on or near the track.]

56. [41][Pressure vessels or plants

1. Interpretation

(a) "Design pressure" means the maximum pressure that a pressure vessel or plant is designed to withstand safely when operating normally

(b) "Maximum permissible working pressure" is the maximum pressure at which a pressure vessel or plant is permitted to be operated or used under this rule and is determined by the technical requirements of the process;

(c) "Plant" means a system of piping that is connected to a pressure vessel and is used to contain a gas, vapour or liquid under pressure greater than the atmospheric pressure and includes the pressure vessel;

(d) "Pressure vessel" means [42][a] vessel that maybe used for containing, storing, distributing, transferring, distilling, processing or otherwise handling any gas, vapour or liquid under pressure greater than the atmospheric pressure and includes any pipeline fitting or other equipment attached thereto or used in connection herewith; and

(e) "competent person" means a person who is in the opinion of the Chief Inspector, capable by virtue of his qualifications, training and experience of conducting a thorough examination and pressure tests, as required, on a pressure vessel or plant, and of making a full report on its condition.

2. Exceptions: Nothing in this rule shall apply to

(a) [43][xxx];

(b) vessels having an internal operating pressure not exceeding 1 Kg. F/Cm. (15 lbs./sq.-in);

(c) steam boilers, steam and feed pipes and their fittings coming under the purview of Indian Boilers Act, 1923 (V of 1923)

(d) metal bottles or cylinders used for storage or transport of co-pressed gases or liquefied or dissolved gases under pressure covered by the Gas Cylinder Rules, 1940 framed under the Indian Explosives Act, 1884 (IV of 1884);

(e) vessels in which internal pressure is due solely to the static head of liquid;

(f) vessels in which a nominal water capacity not exceeding 500 liters connected in a water-pumping system containing air that is compressed to serve as a cushion;

(g) vessels for nuclear energy application;

(h) refrigeration plant having a capacity of 3 tons or less of refrigeration in 24 hours; and

(i) working cylinders of steam engines or prime movers, feed pumps and stream traps, turbine cashing compressor cylinders; steam separators or dryers; steam strainers, steam de-super-

heater, oil separators, air receivers for fire sprinkler installations; air receivers of monotype machines provided that the maximum working pressure of the air receiver does not exceed 1.33

Kg.f/cm./2 (201 bi/sq. inch) and the capacity 84.05 liters (3 cu. ft.) air-receivers of electrical circuit breakers; air receivers of electrical relays air vessels on pumps, pipe coils, accessories of instruments and appliances, such as cylinders and piston assemblies used for operating relays and interlocking type of guards, vessels with liquids subjected to static head only and hydraulically operating cylinders other than any cylinder communicating with an air loaded accumulator.

3. Design and construction: Every pressure vessel or plant used in a factory

(a) shall be properly designed on sound engineering practice;

(b) shall be of good construction, sound material, adequate strength and free from any patent defects; and

(c) shall be properly maintained in a safe condition.

Provided that the pressure vessel or plant in respect of the design and construction of which there is an Indian standard or a standard of the country of manufacture or any other law or regulation in force, shall be designed and constructed in accordance with the said standard law or regulation, as the case may be' and a certificate thereof shall be obtained from the manufacture or from the competent person which shall be kept and produced as demanded by an Inspector.

4. Safety devices: Every pressure vessel shall be fitted with

(a) a suitable safety valve or other effective pressure relieving device of adequate capacity to ensure that the maximum permissible working pressure of the pressure vessel shall not be exceeded. It is being met to operate at a pressure not exceeding the maximum permissible working pressure and when more than one protective device is provided, only one of the devices need be set to operate at the maximum permissible working pressure and the additional device shall be set to discharge at pressure not more than 5 per cent in excess of the maximum permissible working pressure;

(b) a suitable pressure gauge with a dial range not less than 1.5 times the maximum permissible work in pressure, easily visible and designed to show at all times the correct internal pressure and marked with a prominent red mark at the maximum permissible working pressure of the pressure vessel;

(c) a suitable nipple and globe valve connected for the exclusive purpose of attaching a test pressure gauge for checking the accuracy of the pressure gauge referred to in Clause (b) of this sub-rule;

(d) a suitable stop valve or valves by which the pressure vessel may be isolated from other pressure vessels or plant or source of supply of pressure. Such a stop valve or valves shall be located as close to the pressure vessel as possible and shall be easily accessible; and

(e) a suitable drain cock or valve at the lowest part of the pressure vessel for the discharge of the liquid or other substances that may collect in the pressure vessel.

Provided that it shall be sufficient for the purpose of this sub-rule if the safety valve or pressure relieving device, the pressure gauge and the stop valve are mounted on a pipeline immediately adjacent to the pressure vessel and where there is a range of two or more similar pressure vessels served by the same pressure lead, only one set of such mountings need be fitted on the pressure lead immediately adjacent to the range of pressure vessels, provided they cannot be isolated.

5. Pressure reducing devices

(a) Every pressure vessel which is designed for a working pressure less than the pressure at the source of supply, or less than the pressure which can be obtained in the pipe connecting the pressure vessel with any other course of supply, shall be fitted with a suitable pressure reducing valve or other suitable automatic device to prevent the maximum permissible working pressure of the pressure vessel being exceeded.

(b) To further protect the pressure vessel in the event of failure of the reducing value or device, at least one safety valve having a capacity sufficient to release all the steam, vapour or gas without undue pressure rise as determined by the pressure at the source of supply and size of the pipe connecting the source of supply, shall be fitted on the low pressure side of the reducing valve.

6. Pressure vessel or plant being taken into use

(a) No new pressure vessel or plant shall be taken into use in a factory after coming into force of this rule unless it has been by hydrostatically tested by a competent person at a pressure at least 1.3 times the design pressure, and no pressure vessel or plant which has been previously used or has remained isolated or idle for a period exceeding two months or which has undergone alterations or repairs shall be taken into use in a factory unless it has been thoroughly examined by a competent person externally, tested by the competent person and internally if practicable, and has been hydrostatically tested by the competent person at a pressure which shall be 1.5 times the maximum permissible working pressure:

Provided, however, that the pressure vessel or plants which is to be designed and constructed that it cannot be safely filled with water or liquid or is used in service even some traces of water cannot be tolerated shall be pneumatically tested at a pressure not less than the design pressure or the maximum permissible working pressure, as the case may be; provided further that the pressure vessel or plant which is lined with glass shall be hydrostatically or pneumatically as required at a pressure not less than the design pressure or maximum permissible working pressure as the case may

be. Design pressure shall be not less than the maximum permissible working pressure and shall take into account the possible fluctuations of pressure during actual operation.

(b) No pressure vessel or plant shall be used in a factory unless there has been obtained from the maker of the pressure vessel or plant or from the competent person a certificate specifying the design pressure or maximum permissible working pressure thereof and stating the nature of tests to which the pressure vessel or plant and its fittings (if any) have been subjected and every pressure vessel or plant so used in a factory shall be marked so as to enable it to be identified as to be the pressure vessel or plant to which the certificate shall be available for perusal by the Inspector.

(c) No pressure vessel or plant shall be permitted to be operated or used at a pressure higher than its design pressure or maximum permissible working pressure as shown in the certificate.

7. In service test and examinations

Every pressure vessel or plant in service shall be thoroughly examined by a competent person
(a) externally, once in every period of six months;
(b) internally, once in every period of twelve months; if by person of the construction of a pressure vessel or plant, a thorough internal examination is not possible, this examination may be replaced by a hydrostatic test which shall be carried out once in every period of two years: Provided that for a pressure vessel or plant in continuous process which cannot be frequently opened, the period of internal examination may be extended to four years; and
(c) hydrostatically tested once in every period of four years

Provided that in respect of a pressure vessel or plant with thin walls, such as sizing cylinder made of copper or any other non-ferrous metal, periodic hydrostatic test may be dispensed with subject to the condition that the requirements laid down in Sub-rule (8) are fulfilled. Provided further that when it is impracticable to carry out through external examination of any pressure vessel or plant every six months as required in Clause (a) of this sub-rule, or if owing to its construction and use a pressure vessel or plant cannot be hydrostatically tested as required in Clauses (b) and (c) of this sub-rule, a thorough external examination of the pressure vessel or plant shall be carried out at least once in every period of two years, and at least once in every period of four years a thorough systematic non-destructive test like ultrasonic test for metal thickness or other defects of all

parts the failure of which might lead to eventual capture of the pressure vessel or plant shall be carried out.
8. Thin walled pressure vessel or plant
(a) In respect of any pressure vessel or plant of thin walls such as sizing cylinder made of copper or any other non-ferrous metal the maximum permissible working pressure shall be reduced at the rate of 5 per cent of the original maximum, permissible working pressure for every year of its use after the first five years and no such cylinder shall be allowed to continue to be used for more than twenty years after it was first taken into use.
(b) If any information as to the date of construction, thickness of walls, or maximum permissible working pressure is not available, the age of such pressure vessel or plant shall be determined by the competent person in consultation with the Chief Inspector from the other particulars available with the matter.
(c) Every new and second band vessel or plant of thin walls to which repairs likely to affect its strength or safety have been carried out shall be tested before use to at least 1.5 times its maximum permissible working pressure.
9. Report by competent person
(a) If during any examination any doubt arises as to the ability of the pressure vessel or plant to work safely until the next prescribed examination, the competent person shall enter in the prescribed register his observations, findings and conclusions with other relevant remarks with

reasons and may authorize the pressure vessel or plant to be used and kept in operation subject to a lowering of maximum permissible working pressure, or to more frequent or special examination.
(b) A report of the result of every examination or test carried out shall be completed in the prescribed Form No. 8 and shall be signed by the person making the examination or test, and shall he kept available for perusal by the Inspector at all hours when the factory or any part thereof is working.
(c) When the report of any examination under this rule specified any condition for securing the safe working of any pressure vessel or plant, the pressure vessel or plant shall not be used unless the specified condition is fulfilled.
(d) The competent person making 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 examination shows that the pressure vessel or plant or any part thereof cannot continue to be used with safety unless certain repairs are carried out or unless any other safety measure is taken.
10. Application of other laws

(a) The requirements of this rule shall be in addition to and without any prejudice to and not in derogation of the requirements of any other law in force.
(b) Certificate or reports of any examination, or test of any pressure vessel or plant to which Sub-rules 7 to 9 do not apply, conducted or required to be conducted under any other law in force and other relevant record relating to such pressure vessel or plant, shall be properly maintained as required under the said law and shall be produced on demand by the Inspector.]

56 - A. [44][Water sealed Gasholder
(1) The expression "Gasholder" means a water-sealed gasholder which has a storage capacity of not less than 141.5 cubic meters (5,000 Sft.).
(2) Every gasholder shall be of adequate material and strength, sound construction and properly maintained.
(3) When there is more than one gasholder in the factory every gasholder shall be marked in a conspicuous position with a distinguishing number or letter.
(4) Every gasholder shall be thoroughly examined externally by a competent person at least once in a period of twelve months.
(5) In the case of gasholder of which any lift has been in use for more than ten years, the internal state of the sheeting shall, within one year of the coming into operation of these rules and thereafter at least once in every period of four years, examined by a competent person by means of electronic or other accurate devices: Provided that if the above 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.
(6) All possible steps shall, be taken to prevent or minimize ingress of impurities in the gasholder.

(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.
(8)
(i) All sample documents under sub-rule (5) above, shall be kept readily available for inspection;
(ii) A permanent register in prescribed Form 83 duly signed by the occupier or manager shall be maintained giving the following particulars:

(a) The serial number of the gasholder, vide Sub-rule (3) above and the particulars of manufacturer, i.e., maker's name, date of manufacture, capacity, number of lifts, pressure thrown by holder, when full of gas;
(b) The dates of inspection carried out as required under Rule 425 and by whom carried out;
(c) The method of inspection used;
(d) Date of painting etc.;
(e) Nature of repairs and name of person carrying out repairs; and
(f) Remarks.
(iii) The results of examinations by a competent person carried out under Sub-rules (4) and (5) shall be in the prescribed Form No. 33.
(9) A competent person for the purpose of these rules shall be the person, whose appointment has been approved by the Chief Inspector of Factories.]

57. Excessive weights
(1) No [45][xxx] 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 the following Schedule:

[46][SCHEDULE

Person	Maximum weight for material article, tool or appliance
(1)	(2)
(a) Adult male	[47][50 kgs.]
(b) Adult female.	30 kgs
(c) Adolescent male	30 kgs.
(d) Adolescent female	20 kgs.
(e) Male child	16 kgs.
(f) Female child	13 kgs.]

(2) No [48][xxx] person shall engage, in conjunction with others, in lifting, carrying or moving by hand or on head, any material, article, tool or 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.

58. Protection of eyes

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

(a) the processes specified in Schedule annexed hereto, being processes which involve risk of injury to the eyes from particles or 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 11 [49][or infra-red or ultra violet radiation.]

SCHEDULE – I

Dry grinding of metals or articles of metals applied by hand in a revolving wheel or disc driven by mechanical power. Turning (external or internal) of non-ferrous metals or of cast iron, or article of such metals or such iron, where the work is done dry, other than precision turning where the use of goggles or a screen would seriously interfere with the work, or turning by means of hand tools.
Welding or cutting of metals by means of an electric oxyacetylene or similar process.
The following processes when carried on by means of hand tools or other portable tools.
Fettling of metal involving the removal of metal.
Cutting out or cutting of cold rivets or bolts from boiler or other plant, or from ships.
Chipping or scaling of boilers of ships plates. Breaking or dressing of stone, concrete or slag.

50[SCHEDULE – II

1. Welding or cutting of metals by means of art electrical oxyacetylene or similar process.
2. All works on furnaces where there is risk of exposure to excessive light or infra-red radiations.
3. Process such as railing casting or forging of metals where there is risk of exposure to excessive light or infra-red radiations.
4. Any other process wherein there is a risk of injury to eyes from exposure to excessive light or ultra violet or infra-red radiations.)

59. 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 a rectangular or oval shape, be not less than 16 inches long and 12 inches wide;
(b) in the case of a circular shape, be not less than 16 inches in diameter.

60. Exemptions

The requirements of Sub-section (4) of Section 37 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 gasses, 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 gasholder containing acetylene or mixture of gases to which acetylene has been added intentionally;
(ii) welding shall only be done by the electric welding process and shall be carried out by experience operatives under the constant supervision of a competent person.
(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:
(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;
(ii) the main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been added intentionally;
(iii) the operation shall be carried out by an experienced person or persons and at least two persons (including those carrying out the operations) experienced in work on gas mains and over eighteen years of age shall be present during the operation;
(iv) the side of the operation shall be free from any inflammable or explosive gas or vapour;
(v) where acetylene gas is used as a source of heat in connection with an operation, it shall be compressed and contained in a porous substance in a cylinder; and
(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 an oil tank on any ship by the electric welding process, subject to the following conditions

(i) The only oil contained in the tank shall have a flash point of not less than 1,500 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 an 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 from oil or oil leakage 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.

61. 51Fire
(1) All processes 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.

(2) 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.
(3) Equipment and plant involving serious fire or flash fire hazards shall, wherever possible, be so constructed and installed that in case of fire, they can he easily isolated.
(4) Ventilation ducts pneumatic conveyors and similar equipment's involving a serious fire risk shall be provided with flame arresting or automatic fire extinguishing appliances.
(5) In all work places having serious fire or flash hazards passages between Machines, installations or piles or material should be at least 90 cm. wide.
(6) Buildings and plants shall be so, laid out and roads, passage ways, etc., so maintained as to permit unobstructed access for firefighting.
(7) Protection from lightning shall be provided for
(i) buildings in which explosive or highly flammable substances are manufactured, used, handled or stored;
(ii) storage tanks containing oils, paints or other flammable liquids;
(iii) grain elevators; and
(iv) buildings, tall chimneys or stacks where flammable gases, fumes, dust or lint are likely to be present.
(8) All explosives shall be handled, transported, stored and used in accordance with the provisions in the India Explosives Act, 1884.

(9) Wherever there is danger of fire or explosion from accumulation of flammable or explosive substance in air
(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;
(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
(c) workers shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;
(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;
(e) transmission belts with iron fasteners shall not be used; and
(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 of machinery or plant, chemical or physical chemical and radiant heat.
(10) Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pockets and to ensure adequate ventilation.
(11) 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 substances, furnaces or hot processes. The room where such cylinders are stored shall have adequate ventilation.
(12)
(a) The quantity of flammable liquids in any workroom 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 covers:

Provided that not more than twenty liters of flammable liquids having a flash point of 21° 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 remaining portion of the building by fire walls and self-closing fire doors.
(c) Large quantities of such liquids shall be stored in isolated adequately ventilated building of fire resisting construction or in storage tanks, preferably undergrounds and at a distance from any building as required in the Petroleum Rules, 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.
(13)
(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.
(14)
(a) In this sub-rule
(i) horizontal exit" means 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 exit.
(b) An exit may be a doorway, corridor, passage way to an internal or external stairway or to a verandah. An exit may also include a horizontal exit leading to an adjoining building at the same level.
(c) Lifts, escalators and revolving doors shall not be considered as exit for the purpose of this sub-rule.
(d) In every room of a factory exit, 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 suitably illuminated with suitable arrangement, 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 exit shall be marked in a language understood by the majority of the workers.
(g) Fire resisting doors or roller shutters shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stairs, where funnel or flue effect may be created including an upward spread of fire.

(h) All exits shall provide continuous means of egress to the exterior of a building or to an exterior open pace leading to a street.
(i) Exits shall be so located that the travel distance on the floor shall not exceed 30 metres.
(j) In case of those factories where high hazard materials are stored or used, the travel distance to the exit shall not exceed 22.5 meters 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 cut off or suitably shielded from areas of high hazard.
(k) Wherever more than one exit is required for any room, space or floor, exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate directions from any point in the area served.
(l) The unit of exit width used to measure capacity of any exit shall be 50 centimeters. A clear width of 25 centimeters shall be counted as an additional half unit. Clear width of less than 25 centimeters shall not be counted for exit width.
(m) Occupants per unit width shall be 50 for stairs and 75 for doors.
(n) For determining the exit required, the occupant load shall be reckoned on the basis o1 actual number of occupants within any floor area or 10 square metres per person whichever is more.
(o) 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.
(p) Every building or structure used for storage only, and every section thereof considered separately, shall have access to at least one exit so arranged and located is to provide a suitable means of escape for any person employed therein, and in any such room wherein more than 10 persons may be normally present, at least two separate means of exits shall be available, as remote from each other as practicable.
(q) Every storage area shall have access to at least one means of exit which can be readily opened.
(r) Every exit doorway shall open into an enclosed stairway, a horizontal exit in a corridor or passageway providing continuous and protected means of egress.
(s) No exit doorway shall be less than 100 centimeters in width. Doorway shall not be less than 200 centimeters in height.
(t) 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 or landing to less than 90 centimeters. Overhead or sliding doors shall not be installed for this purpose.

(u) An exit door shall not open immediately upon a flight of stairs. A landing equal to at least the width of the doorway shall be provided in the, stairway at each doorway. The level of landing shall be the same as that of the floor which it serves.
(v) The exit doorways shall be openable from the side which, they serve without the use of a key.
(w) Exit corridors shall be of a width not less than the aggregate required width of exit doorway leading from there in the direction of travel to the exterior.
(x) Where stairways discharge through corridors and passageways, the height of the corridors and passageways shall not be less than 2.4 metres.
(y) (y) Internal stairs shall be constructed of non-combustible materials throughout.
(z) Internal stairs shall be constructed as a self-contained unit width at least one side adjacent to an external wall and shall be completely enclosed.

(aa) 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.
(bb) Hollow combustible construction shall not be permitted.
(cc) The minimum width of an internal staircase shall be 100 centimeters.
(dd) The minimum width of treads without nosing shall be 25 centimeters for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping.
(ee) The maximum height of a riser shall be 19 centimeters and the number of risers shall be limited to 12 per flight.
(ff) Hand rails shall be provided with a minimum height of 100 centimeters and shall be firmly supported.
(gg) The use of spiral staircase shall be limited to low occupant load and to a building of height of 9 metres unless they are connected to platforms such as balconies and terraces to allow escapees to pause. A spiral staircase shall not be less than 300 centimeters in diameter and have adequate head room.
(hh) The width of a horizontal exit shall be same as per the exit doorways.
(ii) The horizontal exit shall be equipped with at least one fire door of self-closing type.
(jj) The floor area on the opposite or refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor areas served; allowing not less than 0.3 square meter per person. The refuge area shall be provided with exits adequate to meet the requirements of this clause. At least one of the exits shall lead directly to the exterior or street.

(kk) Where there is difference in level between connected areas for horizontal exit, ramps not more than 1 in 8 slopes shall be provided. For this purpose, steps shall not be used.
(ll) Doors in horizontal exits shall be openable at all times.
(mm) Ramps with a slope of not more than 1 in 10 may be substituted for the requirements of staircase. For all slopes exceeding 1 in 10 and wherever the use is such as to involve danger of slipping, the map shall be surfaced with non-slipping material.
(nn) In any building not provided with automatic fire alarm, a manual fire alarm system shall be provided if the total capacity of the buildings 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 storage buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.
(15)
(a) In every factory, there shall be provided and maintained adequate and suitable firefighting equipment for fighting fires in the early stages, those being referred to as first-aid firefighting equipment in this sub-rule,
(b) The types of first-aid firefighting equipment to be provided shall be determined by considering the different types of fire risks which are classified as follows:
(i) "Class A Fire" - fire due to combustible materials such as wood, textiles, paper, rubbish and the like;
(1) "Light hazard" - occupancies like offices, assembly halls, canteens, rest-rooms, ambulance rooms and the like;

(2) "Ordinary hazard" - occupancies like saw mills, carpentry shop, small timber yards, book binding shops, engineering workshop and the like;
(3) "Extra hazard" - occupancies like large timber yards, godowns, storing-fibrous materials, flour mills, cotton mills, jute mills, large wood working factories and the like.
(ii) "Class B fire" - Inflammable liquids like oil, petroleum products, solvents, grease, paint, etc.
(iii) "Class C fire" - fire arising out of gaseous substances.
(iv) "Class D fire" - fire from relative chemicals, active metals and the like.
(v) "Class E fire" - fire involving electrical equipment and delicate machinery and the like.

(c) The number and types of first-aid firefighting equipment to be provided shall be as per the following scales
(i) Class A fire
(1) Light hazard - One 9 liters' water bucket for every 100 square metres of floor area or part thereof and one 9 liters' water type (Soda-acid or gas pressure or bucket pump) extinguisher shall be provided for each 6 buckets or part thereof with a minimum of an extinguisher and two buckets per compartment of building. This equipment's shall be so distributed over the entire floor areas that a person shall have to travel not more than 25 metres from any point to reach the nearest equipment.
(2) Ordinary hazard - One 9 liters' water bucket for every 100 square metres of floor area or part thereof and one 9-liter water types (Soda acid, gas pressure or bucket pump) extinguisher shall be provided for each six buckets or part thereof, with a minimum of 2 extinguishers and 4 buckets per compartment of the building. This equipment's shall be so distributed over the entire floor area that a person shall have to travel not more than 15 metres from any point to reach the nearest equipment.
(3) Extra hazard - The scale of equipment would be what is prescribed for ordinary hazard and in addition, such extra equipment's as, in the opinion of the Inspector, are necessary, having regard to the special nature of occupancy:

Provided that in special cases, the Inspector may, after taking into consideration the circumstances, authorize that the buckets prescribed in this clause may be dispensed with, where the number of the extinguishers provided is double of that what is prescribed.
(ii) Class B Fire - There shall be at least one fire extinguisher either foam type or carbon dioxide or dry power type per 60 square metres of floor area and shall be so distributed that no person is required to travel more than 15 metres from any point to reach the nearest equipment. In addition to the requirements of extinguishers specified here, requirements as laid down in Clause (1) shall also be provided.
(iii) Class C Fire - Carbon dioxide or dry chemical power extinguishers shall be provided near each plant or group of plants.
(iv) Class D Fire - Special dry power (Chloride based) type of extinguishers, or sand buckets, shall be provided on a scale as laid down for Class B fire. The Inspector may require a higher scale of portable equipment to be provided depending upon the risk involved.

(v) Class E Fire-Carbon dioxide or dry power type extinguishers shall be provided near each plant or group of plants depending upon the risk involved.

(d) The first-aid firefighting equipment's shall conform to the relevant Indian standards.
(e) As far as possible the first-aid firefighting equipment shall be similar in shape and appearance and shall have the same method of operation.
(f) All first-aid firefighting equipment's shall be placed in conspicuous positions and shall be readily and easily accessible for immediate use. Generally, this equipment's shall be placed as near as possible to the exits or stair landings or normal routes of escape.
(g) All water buckets and bucket pump type extinguishers shall be filled with clean water. All sand buckets shall be filled with clean dry and fine sand.
(h) All other extinguishers shall be charged appropriately in accordance with the instructions of the manufacturer.
(i) Each first-aid firefighting equipment shall be allotted a serial number by which the records shall be referred to. The following details shall be painted with white paint on the body of each equipment
1. Serial number,
2. Date of last refilling, and
3. Date of last inspection.
(j) First-aid fighting equipment shall be, placed on platforms or in cabinets in such a way that their bottom is 750 mm. above the floor level. Fire buckets shall be placed on hooks attached to a suitable stand or wall in such a way that their bottom is 750 mm. above the floor level. Such equipment if placed outside the building shall be under sheds or covers.
(k) All extinguishers shall be thoroughly cleaned and recharged immediately after discharge. Sufficient refill material shall be kept readily available for this purpose at all times.
(l) All first-aid firefighting equipment's 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.
(16)
(a) In every factory, adequate provision of water-supply for firefighting shall be made and where the amount of water required in liters 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 requirement of water as calculated above shall be provided and maintained.

In the above formula
A — the total areas in square metres of all floors including galleries in all buildings of the factory;
B — the total areas in square metres of all floors and galleries including open spaces in which combustible materials are handled or stored;
C — the total areas in square metres of all floors over 15 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 require 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 installations approved by any fire association of Fire Insurance Company, such areas may, for the purpose of calculation, be halved:
Provided also that where the factory is situated at not more than three kilometers from an established city or town fire service/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 the Schedule appended to this rule. Such equipment shall conform to the relevant Indian Standards.
(c) Trailer pumps shall be housed in a separate shed or sheds which shall be situated close to a principal source of water supplies in the vicinity of the main risk of the factory.
(d) In factories where the areas are such as cannot be reached by man-hauling of trailer pumps within reasonable lime, 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 100 minutes. At least fifty per cent of this water-supply or 450,000 liters, whichever is less, shall be in the form of static tanks of adequate capacities (not less than 450,000 liters each) distributed round the factory with due regard to the potential fire risks in the factory. Where piped supply is provided, the size of the main shall not be less than 15 centimeters

diameter and it shall be capable of supplying a minimum of 4500 liters per minute at a pressure of not less than seven kilograms per square centimeter.
(f) All trailer pumps including the equipment provided with them and the vehicles for towing them shall be maintained in good condition and subjected to periodical inspection and testing as required.
(17)
(a) The first-aid and other firefighting equipment's to be provided as required in Sub-rules (15) and (16) shall be in charge of a trained responsible person.
(b) Sufficient number of persons shall be trained in the proper handling of firefighting equipment's as referred to in Clause (a) their use against the types of fire for which they are intended to ensure that adequate number of persons are available for firefighting both by means of first-aid firefighting equipment and others. Wherever vehicles with towing attachment are to be provided as required in Clause (d) of Sub-rule (16), 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.
(c) Firefighting drills shall be held at least once in every three months.
(18) Automatic sprinklers and fire hydrants shall be in addition and not in substitution of the requirements in Sub-rules (15) and (16).
(19) 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 in adequacy of water-supply or infrequency of the manufacturing process or for any other reasons 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, by 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 conditions as he may by such order prescribe.

SCHEDULE

EQUIPMENTS TO BE PROVIDED WITH TRAILER PUMP FOR LIGHT TRAILER PUMP OF A CAPACITY OF 680 LITRES/MINUTE

1— Armored suction hose of 9 meters' length, with wrenches
1— Metal suction strainer
1— Basket strainer
1— Two-way suction collecting head
1— Suction adaptor
10— Unlined or rubber lined 70 mm. delivery hose of 25 metres length complete with quick release couplings.

1— Dividing breaching piece
2 — Branch-piece with 15 mm. nozzles
1— Diffuser nozzles
1 — Standpipe with blank cap
1 — Hydrant key
4 — Collapsible canvas buckets
1 — Fire hook (Preventer) with cutting edge
1— 25 mm. manila rope of 30 meters' length
1 — Extension ladder of 9 meters' length (where necessary)
1 — Heavy axe
1 — Spade
1 — Pick axe
1 — Crowbar
1 — Saw
1 — Hurricane lamp
1 — Electric torch
1 — Pair rubber gloves

For large trailer pump of a capacity of 1, 800 liters/minute

1 — Armored suction hose of 9 meters' length with wrenches
1 — Metal strainer
1 — Basket strainer
1 — Three-way suction collecting head
1 — Suction adaptor
14 — Unlined or rubber lined 70 mm. delivery hose of 25 metres length complete with quick release couplings.
1 — Dividing breaching piece
1 — Collecting breaching piece
4 — Branch pipes with one 25 mm. two 20 mm. and one diffuser nozzle
2 — Standpipe with black caps
2 — Hydrant keys

6 — Collapsible canvas buckets

1 — Ceiling hook (preventer) with cutting edge
1 — 50 mm. manila rope of 30 meters' length
1 — Extension ladder of 9 meters' length (where necessary)
1 — Heavy axe
1 — Spade
1 — Pick axe
1 — Crowbar
1 — Saw
1 — Hurricane lamp
1 — Electric torch
1— Pair rubber gloves
Note - If it appears to the Chief Inspector of Factories that in any factory the provision of breathing able breathing apparatus in addition to the equipment for light trailer pump or large trailer pump, as the case may be.]

61 – A Safety Officers

(1) Qualification

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

(i) possesses a recognized degree in any branch of engineering or technology and has had practical experience of working in a factory for a period of not less than two years, or a recognized degree in Physics or Chemistry of a recognized diploma in any branch of engineering or technology and has had practical experience of working in a factory in a supervisory capacity for a period of not less than five years;

(ii) possesses a degree or diploma in Industrial Safety recognised by the State Government in this behalf; and

(iii) has adequate knowledge of Oriya language.

(b) Notwithstanding the provisions contained in Clause (a), any Person who possesses a recognised degree or diploma in engineering or technology and has had, experience of not less than five years in a department of the Central or State Government which deals with the administration of Factories Act, 1948 or the Indian Dock Laborers Act, 1934 or possesses a recognised degree or diploma in Engineering or technology and has had experience of not less than five years full-time, or training, education, consultancy or research in the field of accident prevention in industry or in any institution, shall also be eligible for appointment as 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 for a period of not less than three years on the date of commencement of this rule, the Chief Inspector may, subject to such conditions as he may specify, relax all or any of the above said qualifications.

(c) [52][A person possessing qualifications required under clauses (a) and (b) of sub-rule (1) shall only be appointed as Safety Officer on acceptance by the Chief Inspector on submission of details of his qualification and experience.]
(2)
(a) Where the number of Safety Officer to be appointed in a factory as required by a notification in the Official Gazette exceeds one, one of them shall be designated as the Chief Safety Officer and shall have a status higher than that of the others. The Chief Safety Officer shall be in overall charge of the safety functions envisaged in Sub-rule (3), the other Safety Officer working under his control.
(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 he shall work directly under the control of the Chief Executive of the factory. All other Safety Officers shall be given appropriate status to enable them to discharge their functions effectively.
(c) The scale 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 other officers of corresponding status in the factory.
(d) In the case of dismissal or discharge, a Safety Officer shall have a right to appeal to the State Government, whose decision thereon shall be final.
(3)
(a) The duties of a Safety Officer shall be to advise and assist the factory management in the fulfillment of its obligations, statutory or otherwise, concerning prevention of personal injuries and maintaining a safe working environment. The duties shall include the following namely:
(i) to advise the concerned departments in planning and organizing measures necessary for the effective control of personal 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 purchasing and stores departments in ensuring high quality and availability of personal protective equipment;
(v) to provide advice on matters related to carrying out plant safety inspections;
(vi) to carry out plant safety inspections in order to observe the physical conditions of work and the work practices and procedure 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 render advice on matters related to reporting and investigation of industrial accidents and diseases;
(viii) to investigate selected accidents;
(ix) to investigate cases of dangerous occurrences and industrial diseases contracted reportable under Rules 97 and 98;
(x) to advise on the maintenance of such records as necessary relating to accidents, dangerous occurrences and industrial diseases:
(xi) to promote setting up safety committees and act as adviser and catalyst to such committees;

(xii) to organize, in association with the concerned departments, 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, suitable training and educational programmes for the prevention of personal injuries.
(4) The 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.
(5) 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 (3).

62. Safety Committee
(1) In every factory in which two hundred and fifty or more workers are ordinarily employed, there shall be constituted a Safety Committee for the purpose of keeping under review the measures taken to ensure the health and safety of workers and to

undertake such coordinative functions as under the direction of the management assigned to it for promoting safety and health of workers.
(2) The Safety Committee shall consist of equal number of representatives of the management and the employees, and the minimum number of representatives shall be six.
(3) The representatives of the management shall include the Manager of the factory and the committee shall be headed by a Senior Official nominated by the occupier of the factory who, by his position and authority in the Organization, can contributes effectively to the functions of the committee.
(4) The Safety Committee shall meet as often as necessary but at least once a month.
(5) Where, due to the size of the factory or any other reason, the functions referred to in Sub-rule (1) cannot be effectively carried out by one Safety Committee, the occupier of the factory shall establish further subcommittees as may be required and they shall function under the control and guidance of the aforesaid safety committee.
(6) The provisions of Sub-rules (2) and (4) shall apply to subcommittees wherever such sub-committees are constituted-]

62 - A. Fragile Roofs, Provision of crawling board etc.
In any factory, no person shall be required to work in and/or pass over near any roof or ceiling covered with fragile material through which he is likely to fall, in case it breaks or gives way, a distance of more than two metres, unless
(a) suitable and sufficient ladders, duck ladders or crawling, boards, which shall be securely supported, are provided and used;
(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.

62 -B. Construction of buildings, etc.

No building wall, chimney, bridges, tunnel, 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 or bodily injury.

62 - C. 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 or bodily injury.

62 - D. Methods of work

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

62 - E. Stacking and storing of materials, etc.

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

62 - F. Reaction vessels and kettles

(1) This rule shall apply to reaction vessels and kettles (hereinafter referred to as reaction vessels) which normally work at a pressure not above the atmospheric pressure but in which there is likelihood of pressure being created above the atmospheric pressure due to reaction getting out of control or any other circumstances.

(2) In the event of the vessel being heated by electrical means a suitable thermostatic control device shall be provided to prevent the temperature exceeding the safe limit.

(3) Where steam is used for heating purposes in a reaction vessel, it shall be supplied through a suitable pressure reducing valve or any other suitable automatic device to prevent the maximum permissible steam pressure being exceeded unless the pressure of the steam in the supply line itself cannot exceed the said maximum permissible pressure.

(4) A suitable safety valve or rupture disc of adequate size old capacity shall be provided to effectively prevent the pressure being built up in the reaction vessel beyond the safe limit. Effective arrangements shall be made to ensure that the released, gases, fumes, vapors, liquids or dusts, as the case may be, are led away and disposed of through suitable pipes without causing any hazard where flammable gases or vapors are likely to be vented out from the vessel, and the discharge end shall be provided with a flame arrestor.

(5) Every reaction vessel shall be provided with a pressure gauge having the appropriate range.

(6) In addition to the devices as mentioned in the foregoing provisions, means to be provided for automatically stopping the feed into the vessel as soon as process conditions deviate from the normal limits to an extent which can be considered as dangerous,

(7) Where necessary an effective system for cooling flooding or blanketing shall be provided, for the purpose of controlling the reaction and process conditions within the safe limits of temperature and pressure.

(8) An automatic auditory and visual warning device shall be provided for clear warning whenever process conditions exceed the present limits. This device, wherever possible shall be integrated with automatic process correction systems.

(9) A notice pointing out the possible circumstances in which pressures above atmospheric pressure may be built up in the reaction vessel, the danger involved

and the precaution to be taken by the operators shall be displayed at a conspicuous place near the vessel.

62 - G. Ovens and driers

(1) The rule shall apply to ovens and driers, except those used in laboratories or kitchens of any establishment and those which have a capacity below 325 liters.

(2) For the purpose of this rule, "oven" or "drier" means any enclosed structure, receptacle, compartment or box which is used for backing, drying or otherwise processing of any article or substance at a temperature higher than the ambient temperature of the air in the room or space in which the oven or drier is situated and in which a flammable or explosive mixture of air and a flammable substance is likely to be evolved within the enclosed structure receptacle, compartment or box or part thereof on account of the article of substance which is baked, dried or otherwise processed within it.

(3) Electrical power supplied to every oven or drier shall be by means of a separate circuit provided with an isolation switch.

(4)

(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 defects and safe if properly used.

(b) No oven or drier shall be taken into use in a factory for the first time unless a competent person has thoroughly examined all its parts and carried out the tests as are required to establish that the necessary safe systems and controls provided for safety in operation for the processed which to be used and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection.

(c) All parts of an oven or drier that has undergone any alteration or repair-which has the effect of modifying any of design characteristics, shall not be used unless a thorough examination and test as mentioned in Clause (b) have been carried out by a competent person and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection,

(5)

(a) Every oven or drier shall be provided with a positive and effective safety ventilation system using one or more motor-drive centrifugal falls so as to dilute any mixture of air and any flammable substance that may be formed within the oven or drier and maintain the concentration of the flammable substance in the air at a safe level of dilution.

(b) The safe level of dilution referred to in Clause (a) shall be so as to achieve concentration of the concerned flammable substance in air of not more than twenty-five per cent of its lower explosive limit:

Provided that a level of concentration in air up to fifty per cent 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 instance;
(ii) sound an alarm when the concentration of the flammable substance in air in any part of the oven or drier reaches a level of fifty per cent of its lower explosive limit; and
(iii) shuts down the heating system of the oven or drier automatically when the concentration in air of the flammable substance in any part of the oven or drier reaches a level of sixty per cent of its lower explosive limit, is provided to the oven or drier and maintained in efficient working condition.
(c) No oven or drier shall be operated without its safety ventilation system working in an efficient manner.
(d) No oven or drier shall be operated with a level of dilution less than what is referred to in Clause (b).
(e) Exhaust ducts of safety ventilation system shall be so designed and placed that these ducts discharge the mixture of air and flammable substance away from the work rooms and not near windows or doors or other openings from where the mixture could re-enter the work rooms.
(f) The fresh air admitted in the oven or drier by means of the safety ventilation system shall be circulated adequately by means of circulating fan or fans through parts of the oven or drier so as to ensure that there are no locations where the flammable substance can accumulate in the air or become pocketed to any dangerous degree.
(g) Throttling dampers in any safety ventilation system shall be so designed by cutting away a portion of the damper otherwise that the system will handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.
(6)
(a) Every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably designed explosion panels so as to allow release of the pressure of any possible explosion within the oven or drier through explosion vents. The area of openings to be provided by means of such vents together with the area of openings of any access doors which are

provided with suitable arrangements for their release in case of an explosion shall not be less than 2.200 square centimeters for every one cubic meter of volume of the oven or drier. The design of the explosion panels and doors as above said shall be such as secure their complete release under an internal pressure of 0.25 Kg. per square centimeter.
(b) The explosion releasing panels, shall as far as practicable, be situated at the roof of the oven or drier or at those portions of the wall where persons do not remain in connection with operation of the oven or drier.
(7) Inter-locking arrangements
(a) In each oven or drier, efficient interlocking arrangement shall be provided and maintained 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 articles or substances to be processed in the oven or drier is put into operation:
(ii) failure of the ventilating or circulating fans automatically stops any conveyor as referred to in Clause (i) as may be provided, as well as stop the fuel supply by closing the shut off valve and

shut off of the ignition in the case of gas or oil fired ovens, and in the case of electrically heated ovens, switch off-the electrical supply to the heaters;
(iii) the above sale mechanical conveyor is set in operation before the above said shut off valve can be energized; and
(iv) The failure of the above said conveyor automatically closes the above said shut off valve in the case of over and driers heated by gas oil or steam and deactivate the ignition system, or cut off the electrical heaters in the case of electrically heated ovens or furnaces.
(8) Every oven or drier heated by oil gas, steam or electricity shall be provided with an efficient arrangement for automatic preventilation consisting of at least three volume changes with fresh air by operation of the safety ventilation fans and the circulating fans (if used) so as to effect purging of the oven or drier of any mixture of air and a flammable substance before the heating system can be activated and before the convey or can be placed in position.
(9) Every oven or drier shall be provided with an automatic arrangement, to ensure that the temperature which does not exceed a safe upper present limit to be decided in respect of the particular processing being carried on.
(10) Wherever materials are to be processed in ovens or driers in successive operations, suitable arrangement shall be provided to ensure that the operating temperatures necessary for safe operation at each stage are maintained within the design limits.

(11) Effective arrangements shall be provided in every oven or drier to prevent dripping of combustible substances on electric heaters of burner flame used for heating.
(12)
(a) All parts of every oven and drier shall be properly maintained and thoroughly examined and the various controls as mentioned in this rule and the working of the oven or drier tested at frequent intervals to ensure its safe operation by a responsible person designated by the occupier or manager who, by his experience and knowledge of necessary precautions against risks of explosion, is fit to undertake such work.
(b) A register shall be maintained in which the details of the various tests carried out from time to time under Clause (a) shall be entered and every entry made shall be signed by the person making the tests.
(13) No person shall be assigned any task connected with operation of any oven or drier unless he has completed eighteen years of age and he is properly trained.

(14)
(a) Printed fabric shall be thoroughly dried by passing them over drying cans or through hot flue or other equally effective means, before the same is allowed to pass through polymerizing machines.
(b) Infrared ray heaters of polymerizing machines shall be cut off while running the prints.

62 - H. 53[Personal protective equipment
(1) The Inspector may be having regard to the nature of the hazards involved in the work to be performed by the workers, order the occupier or the Manager in writing to supply to such worker’s personal protective equipment as may be found necessary.

(2) All personal protective equipment's provided to workers as required under any of the provisions of the Act or these rules including Sub-rule (1) shall conform to the relevant Indian Standards.]

62 - I.

[54][No vehicle shall ply exceeding the speed limit of 20 K.MV Hour inside the factory premises].

[62 - J.

[55][Health record as required under Section 41C shall be maintained in Form No.31-A.]

CHAPTER - V

63. 56[Washing facilities

(1) This rule shall come into force in respect of any class or description of factories on such dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.

(2) There shall be provided and maintained in every factory for the use of employed persons adequate and suitable facilities for washing which shall include soap and nail brushes or other suitable means of cleaning and the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.

(3) Without prejudice to the generality of the foregoing provisions the washing facilities shall include

(a) a trough with taps or jets at intervals of not less than two feet; or

(b) wash-basins with taps attached thereto; or

(c) taps oh stand pipes; or

(d) showers controlled by taps; or

(e) circular troughs of the fountain type provided that the Inspector may, having regard to the needs and habits of the workers, fix the proportion in which the aforementioned types of facilities shall be installed.

(4)

(a) Every trough and basin shall have a smooth, impervious surface and shall be fitted with a waste-pipe and plug.

(b) The floor or ground under and in the immediate vicinity of every trough tap-jet, wash basin, stand- pipe and shower shall be so laid or finished as to provide a smooth impervious surface and shall be adequately drained.

(5) For persons whose work involves contact with any injurious or noxious sub stage there shall be at least one tap for every fifteen persons and for persons whose work does not involve such contact the number of taps shall be as follows:

Number of workers Up to	Number of taps
20	1
21 to 35	2

36 to 50	3
51 to 150	4
151 to 200	5

exceeding 200 but not	5 plus one tap for every 50 or fraction of 50.
exceeding 500 exceeding 500	11 plus one tap for every 100 or fraction of 100

(6) 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.
(7) The water supply to the washing facilities shall be capable of yielding at least six 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 by 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

63 - A.
All classes of factories mentioned in the schedule annexed hereto shall provide facilities for keeping clothing not worn during working hours and for the drying of wet clothing. Such facilities shall include the provision of arrangements approved by the Chief Inspector of Factories.
SCHEDULE
GLASS WORKS, ENGINEERING WORKSHOPS, IRON AND STEEL WORKS
Oil Mills
Chemical works
Automobile workshops
Dying works
64. First-aid appliance
[57][The first-aid boxes or cupboards shall be distinctively marked with 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, each first-aid box or cup board shall contain the following equipment:
(i) Six small size sterilized dressings.
(ii) Three medium size sterilized dressings.
(iii) Three large size sterilized dressings.

(iv) Three large size sterilized burn dressings.

(v) One (60 ml.) bottle of certrimide solution (1 percent) or a suitable antiseptic solution.
(vi) One (60 ml.) bottle or Mercurochrome solution (2 per cent) in water.
(vii) One (30 ml.) bottle containing salvolatile having the dose and mode of administration on the label.
(viii) One pair scissors.
(ix) One roll of adhesive plaster (2 cms. x 1 meter).
(x) Six pieces of sterilized eye pads in separate sealed box.
(xi) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic.
(xii) Polythene wash bottle (1⁄2 liter, i.e., 500 c.c.) for washing eyes.
(xiii) A snake bite lancet.
(xiv) One (30 ml.) bottle containing Potassium permanganate crystals,
(xv) One copy of first-aid leaflet issued by the Director-General of Factory Advice Service and Labour Institutes, Government of India, Bombay.
B. For factories in which mechanical power is used and in which the number of persons employed exceeds ten but does not exceed fifty, each first aid box or cupboard shall contain the following equipment:
(i) Twelve small size sterilized dressings.
(ii) Six medium size sterilized dressings.
(iii) Six large size sterilized dressings.
(iv) Six large size sterilized burn dressings.
(v) Six (15 gm.) packets of sterilized cotton wool.
(vi) One (120 ml.) bottle of cetrimide solution (one per cent) or a suitable antiseptic solution.
(vii) One (120 ml.) bottle of Mercurochrome solution (two per cent) in water.
(viii) One (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
(ix) One pair scissors,
(x) Two rolls of adhesive plaster (2 cms. x 1 metre).
(xi) Eight pieces of sterilized eye pads in separate sealed packets.
(xii) One tourniquet.

(xiii) One dozen safety pins.
(xiv) A bottle containing 100 tablets (each of 5 grams) of aspirin or any other analgesic.
(xv) One Polythene wash bottle (1⁄2 liter i.e., 500 c.c.) for washing eyes.
(xvi) A snake bite lancet.
(xvii) One (30 ml.) bottle containing Potassium Permanganate crystals.
(xviii) One copy of the first-aid leaflet issued by the Director-General of Factory Advice Service and Labour Institutes, Government of India, Bombay.
C. For factories employing more than fifty persons each first-aid box or cupboard shall contain the following equipment;
(i) Twenty-four small sterilized dressings.
(ii) Twelve medium size sterilized dressings.
(iii) Twelve large size sterilized dressings.
(iv) Twelve large size sterilized burn dressing.
(v) Twelve (15 gm.) packets of sterilized cotton wool.

(vi) One (299 ml.) bottle of cetrimide solution (one per cent) or a suitable antiseptic solution.
(vii) One (200 ml.) bottle of Mercurochrome (2 per cent) solution in water.
(viii) One (120 ml.) bottle of sal-volatiie having the dose and mode of administration indicated on the label.
(ix) One pair of scissors.
(x) One roll of adhesive plaster (6 cms. x 1 metre).
(xi) Two rolls of adhesive plaster (2 cms. x 1 metre).
(xii) Twelve pieces of sterilized eye pads in separate sealed packets.
(xiii) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic.
(xiv) One Polythene wash bottle (500 c. c.) for washing eyes;
(xv) Twelve roller bandages 10 cms. wide.
(xvi) Twelve roller bandages 5 cms. wide.
(xvii) Six triangular bandages.
(xviii) One tourniquet.
(xix) A supply of suitable splints
(xx) Two packets of safety pins.

(xxi) Kidney tray.
(xxii) A snake bite lancet.
(xxiii) One (30ml.) bottle containing Potassium Permanganate crystals.
(xxiv) First-aid leaflet issued by the Directorate-General of Factory Advice Service and Labour Institute, Government of India, Bombay:

Provided that items (xiv) to (xxi) inclusive need not be included in the standard first-aid box or cupboard (a) where there is a properly equipped ambulance room; or (b) if at least one box containing such items and placed and maintained in accordance with the requirements of Section 45 is separately provided.
D. In lieu of the dressings required under items (i) and (ii), there may be substituted adhesive wound dressings approved by the Chief Inspector of Factories and other equipment or medicines that may be considered essential and recommended by the Chief Inspector of Factories from time to time.]

64 - A. Notice regarding first-aid
[58][A notice containing the names of the persons working within the precincts of the factory who are trained in first-aid treatment and who are in charge of the first-aid boxes or cupboards shall be posted in every factory at a conspicuous place and near each such box or cupboard. The notice shall also indicate work-room where the said person shall be available. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.]
65. 59[Ambulance room
(1) The ambulance room or dispensary shall be in charge of a qualified medical practitioner assisted by at least one qualified nurse and such subordinate staff as the Chief Inspector may direct.

(2) There shall be displayed in the ambulance room or dispensary 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.
(3) The ambulance room or dispensary 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 Sq. metres and smooth, hard and impervious walls and floors, shall be adequately ventilated and lighted by both natural and artificial means. An adequate supply of wholesome drinking, water shall be laid on and the room shall contain at least
(i) A glazed sink with hot and cold water always available.
(ii) A table with a smooth top at least 180 cms. x 105.
(iii) Means for sterilizing instruments.
(iv) A couch.

(v) Two stretchers.
(vi) Two buckets of containers with close fitting lids.
(vii) Two rubber hot water bags.
(viii) A kettle and spirit stove or other suitable means of boiling water.
(ix) Twelve plain wooden splints 900 mm. x 100 mm. x 6 mm.
(x) Twelve plain wooden splints 350 mm. x 75 mm. x 6 mm.
(xi) Six plain wooden splints 250 mm. x 50 mm. x 12 mm.
(xii) Six woolen blankets.
(xiii) Three pairs artery forceps.
(xiv) One bottle of spiritus ammonia aromatics (120 ml.).
(xv) Smelling salts (80 gms.)
(xvi) Two medium size sponges,
(xvii) Six hand towels.
(xviii) Four kidney trays.
(xix) Four cakes of toilet, preferably antiseptic soap.
(xx) Two glass tumblers and wine glasses.
(xxi) Two clinical thermometers.
(xxii) Tea Spoons-Two
(xxiii) Graduated (120 ml.) measuring glasses -Two.
(xxiv) Minimum measuring Glass-Two.
(xxv) One wash bottle (1000 C.C.) for washing eyes.
(xxvi) One bottle (one liter) carbolic lotion 1 in 20.
(xxvii) Three chairs.
(xxviii) One screen,
(xxix) One electric hand torch.
(xxx) Four first-aid boxes or cupboards stocked to the standards prescribed under C of Rule 64.
(xxxi) An adequate supply of anti-tetanus toxoid.
(xxxii) Injection Morphia, Pethidine, Atropine, Adrenaline, Coramine, Novacam-6 each
(xxxiii) Commane liquid (60 ml.),
(xxxiv) Tablets anti-instaminic, anti-spasmodic (25 each).

(xxxv) Syringes with needles 2 c.c, 5 c.c, 10 c.c. and 50 c.c.
(xxxvi) Surgical scissors-Three.
(xxxvii) Needle holder.
(xxxviii) Saturing needles and materials.
(xxxix) Dissecting forceps-Three.
(xl) Dressing forceps-Three.
(xli) Scalpels-Three.
(xlii) Stethescope -One.
(xliii) Rubber bandage pleasure bandage,
(xliv) Oxygen cylinder with necessary attachments.
(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 had made arrangements for obtaining such a conveyance from a hospital.

Explanation
For the purposes of this rule "qualified medical practitioner" means a person holding a qualification granted by an authority specified in the Schedule to the Indian Medical Degrees Act, 1916 or in the Schedules to the Indian Medical Council Act, 1956.
65 - A.
[60][The Chief Inspector of Factories may, by an order in writing, exempt any factory from the requirements of Sub-section (4) of Section 45 of the Act subject to such conditions as he may specify in the said order if there is a hospital ambulance room or dispensary at or near the factory and the necessary arrangements are made to ensure immediate treatment of all injuries to workers occurring within the factory and for providing rest to the injured workers.]
66. Canteens
(1) Rules 66 to 72 shall come into force in respect of any class or description of factories on such dates as the State Government may, by notification in the Official Gazette appoint in this behalf.
(2) The occupier of every factory notified by the State Government, and 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) The manager of a factory shall submit for the approval of the Chief Inspector plans and site plan, in duplicate, of the building to be constructed or adapted for use as a canteen.
(4) The canteen building shall be situated not less than fifty feet from any latrine, urinal, boiler house, coal stocks, ash dumps and any other source of dust smoke or obnoxious fumes:
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.
(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 and washing places separately for workers and for utensils.

(6) In a canteen the floor and inside walls up to a height of 4 feet from the floor shall be made of smooth hand impervious material the remaining portion of the inside walls shall be made smooth by cement plaster or in any other manner approved by the Chief Inspector.
(7) The doors and windows of a canteen building shall be of fly proof construction and shall allow adequate ventilation.
(8) The canteen shall be sufficiently lighted at all times when any persons have access to it.
(9)
(a) In every canteen
(i) all inside walls of rooms and all ceilings and passages and staircases shall be lime-washed or colour washed at least once in each year or painted once in three years, dating from the period when last lime- washed or painted, as the case may be;
(ii) all wood work shall be varnished or painted once in three years, dating from the period when last varnished or painted; and
(iii) all internal structural iron or steel work be varnished or painted once in three years, dating from the period when last varnished or painted; provided that inside walls of the kitchen shall be lime washed once in every four months.
(b) Records of date on which lime-washing, colour-washing, varnishing or painting is carried out shall be maintained in the prescribed Register (Form No. 7).
(10) The precincts of the canteen shall be maintained in a clean and sanitary condition. Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance. Suitable arrangement shall be made for the collection and disposal of garbage.

67. Dining hall
(1) The dining hall shall accommodate at a time at least 30 per cent of the working at time:

Provided that, in any particular factory or in any particular class of factories, the State Government may, by a notification in this behalf, alter the percentage of workers to be accommodated.
(2) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs, shall be not less than 10 square feet per diner to be accommodated as prescribed in Sub-rule (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 separated and screened to secure privacy.
(4) Sufficient tables, chairs or benches shall be available for the number of diners to be accommodated as prescribed in Sub-rule (1).

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

69. Prices to be charged

(1) Food, drink and other items served in the canteen shall be sold on a non-profit basis and the price charges shall be subject to the approval of the Canteen Managing Committee:

Provided that where the canteen is managed by a Co-operative Society registered under the Orissa Co- Operative Societies Act, 1951, such society may be allowed to include in the charges to be made for the foodstuffs, served, a profit up to five per cent on its working capital employed in running the canteen.

a. [61][In computing the prices referred to in Sub-rule (1) the following items of expenditure shall not be taken into account, but shall be borne by the occupier

(a) the rent for the land and buildings;

(b) the depreciations and maintenance charges of the building and equipment provided for the canteen;

(c) the cost of purchase, repairs and replacement of equipment 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;

(f) the cost of fuel required for cooking or heating food-stuffs or water; and

(g) The wages of employees serving in the canteen and the cost of uniform if any provided to them.)

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

70. Accounts

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

(2) The accounts pertaining to the canteen shall be audited once every twelve months, by registered accountants and auditors. The balance sheet prepared by the said auditors shall be submitted to the Canteen Managing Committee not later than two months after the closing of the audited accounts:

Provided that where the canteen is managed by a Co-operative Society registered under the Orissa Co- Operative Societies Act, 1951 the accounts pertaining to such canteen may be audited in accordance with the provisions of the Orissa Co-operative Societies Act, 1951.

71. Managing Committee

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

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

(b) the arrangement of the menus

(c) times of meals in the canteen; and
(d) any other matter as may be directed by the Committee

Provided that where the canteen is managed by a Co-operative Society registered under the Orissa Co- Operative Societies Act, 1951, it shall not be necessary to appoint a Canteen Managing Committee.
(2) The Canteen Managing Committee shall consist of an equal number of persons nominated by the occupier and elected by the workers. The number of elected

workers shall be proportion of for every 1,000 workers employed in the factory; provided that in no case shall there be more than 5 or less than 2 workers on the Committee.
(3) The manager shall determine and supervise the procedure for elections to the Canteen Managing Committee.
(4) A Canteen Managing Committee shall be dissolved by the Manager two years after the last election, no account being taken of a by-election.

72. 62[xxx]
72 - A.
63[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:
(i) Routine blood examinations
(ii) Routine and bacteriological testing of faces and urine for germs of dysentery and typhoid fever;
(iii) Any other examination including chest X-Ray that may be considered necessary by the Factory Medical Officer or the Certifying Surgeon.

Any person who, in the opinion of the Factory Medical Officer or the Certifying Surgeon, is unsuitable for employment on account of possible risk to the health of others shall not be employed as such staff.]
73. Shelters, rest room and lunch rooms
(1) This rule shall come into force in respect of any class or description of factories, on such dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.
(2) The shelters, or rest rooms and lunch rooms shall conform to the following standards and the manager of a factory shall submit for the approval of the Chief Inspector a site plan in duplicate of the building to be constructed or adopted:
(a) The building shall be soundly constructed and all the walls and roofs shall be of suitable heat resisting materials and shall be waterproof. The floor and walls to a height of 3 feet shall be so laid or finished as to provide a smooth, hard and impervious surface.
(b) The height of every room in the building shall be not less than 12 feet from floor level to the lowest part of the roof and there shall be at least 12 square feet of floor area for, every person employed; provided that where it is impracticable owing to lack of space to provide 12 square

feet 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 back rests.
(e) Sweepers shall be employed whose primary duty is to keep the rooms, building and precincts thereof in a clean and tidy condition.

74. Crèches
(1) Rules 74 to 77 shall come into force, in respect of any class or description of factories, on such dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.
(2) The crèche shall be conveniently accessible to the mothers of the children accommodated therein and so far as is reasonably practicable it shall not be situated in close proximity to any part of the factory where obnoxious fumes, dust or odors are given off or in which excessively noise processes are carried on.
(3) The building in which the crèche 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 crèche shall be so laid or finished as to provide a smooth impervious surface.
(4) The height of the rooms in the building shall be not less than 12 feet from the floor to the lowest part of the roof and there shall be not less than 20 square feet of floor area for each child to be accommodated.
(5) Effective and suitable provision shall be made in every part of the crèche for securing and maintaining adequate ventilation by the circulation of fresh air.
(6) The crèche 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 one chair or equivalent seating accommodation for the use of each mother while she is feeding or attending to her child, and sufficient supply of suitable toys for the older children.
(7) A suitably fenced and shady open air play-ground shall be providing for the older children; provided that the Chief Inspector may by order in writing exempt any factory from the compliance with the sub- rule if he is satisfied that there is not sufficient space available for the provisions of such playground.

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

(a) The floor and internal walls of the room to a height of 3 feet shall be so laid or finished 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.

(b) There shall be at least one basin or similar vessel for every four children accommodated in the crèche at any one time together with a supply of water provided, if practicable, through taps from a 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.
(c) An adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the crèche.
(2) Adjoining the washing room referred to above, a latrine shall be provided for the sole use of the children in the crèche. The design of latrine and the scale of accommodation to be provided shall either be approved by the Public Health Authorities, or where there is no such Public Health Authority, by the Chief Inspector of Factories.

76. Supply of milk and refreshment
At least half a pint of clean pure milk shall be available for each child on everyday it is accommodated in the crèche and the mother of such child shall be allowed in the course of her daily work two intervals of at least 15 minutes to feed that child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.
77. Clothes for crèche staff
The crèche staff shall be provided with suitable clean clothes for use while on duty in the crèche.
CHAPTER - VI
WORKING HOURS OF ADULTS
78. Compensatory holidays
(1) Except in the case of workers engaged in the work 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 spaced that not more than two holidays are given in one week.
(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 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.

(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.
(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 the 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 or return required under this rule for that factory.
(b) The register maintained under Clause (a) shall be preserved for a period of three years the last entry in it and shall be produced before tile Inspector on demand.

79. Muster-roll for exempted factories
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 [64][combined register of overtime working and payment] showing the normal piecework rate of pay, or the rate of pay per hour, of all exempted employees. In this muster-roll shall be correctly entered the overtime hours of work and payments therefor of all exempted workers. The [combined register of overtime working and payment] shall always be available for inspection.
79 - A.
The cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles shall be computed at the end of every wage period fixed under the provisions of the Payment of Wages Act, 1936.
79 - B.
For the purpose of computing cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles, the difference between the value of food grains and other articles at the average rates in the nearest market prevailing-during the wage period in which overtime was worked and value of food grains and other-articles supplied at concessional rules shall be calculated and allowed for the number of overtime hours worked.
This rule shall not apply to any Federal Railway Factory whose alternative method of computation has been approved by the State Government.

79 - C. Overtime slip
Period of overtime worked shall be entered in the overtime slip in duplicate, a copy of which duly signed by the manager or by a person duly authorized by him shall be given to the worker immediately after completion of the overtime work.
80. Notice of periods of work for adults
The notice of period of work for adult workers shall be in Form No. 11.
81. Register of adult workers
The Register of audit workers shall be in Form No. 12.
[65][xxx]

SCHEDULE

Section of the Act empowering grant of exemption	Class of factory	Nature of exempted work	Extent of exemption	Remarks
(1)	(2)	(3)	(4)	(5)

65(2)(a) and 64(3)	All factories	Urgent repairs	Section 51, 52, 54, 55, 56 and 61	(i) No worker shall be employed on such repair for more than 15 hours on any one day, 39 hours during any three consecutive days, or 66 hours during each period of seven consecutive days commencing from his first employment on such repairs. (ii) Within 24 hours of the commencement of the work, notice shall be sent to the Inspector describing the nature of the urgent repairs and the period probably required for their completion. (iii) Exemption from the provisions of Section 54 shall apply only in the case of adult male workers.
64(2)(b) and 64(3)	All factories	1. Work in the mechanic shop, the smithy or the foundry or in connection with the mill gearing the electric driving or lighting apparatus, the mechanical or electrical lifts or the steam or water pipes or pumps of a factory 2. Work of examining or repairing any machinery or other part of the plant	Section 51, 54, 55, 56 and 61	

Ordinance factory			which is necessary for carrying on the work in factory 3. Work in boiler houses and engine rooms, such as lighting fires in order to raise steam or generate gas preparatory to the commencement of regular work in the factory. The work viz., firing gun, recovery of fired shells and demolition of blinds	
64(2)(c) and 64(3)	All factories	Work performed by drivers, on lighting, ventilating and humidifying apparatus	Section 51, 54, 55, 56 and 61	Ditto
Work performed by fire pump men		Section 51, 54 and 56		The limit of work inclusive of over-time shall not exceed those mentioned in Sub-section (4) of Section 64.
Work of persons engaged in loading or unloading or transporting raw materials or finished articles in Factories where such work is intermittent and mainly outside the factory premises				
64(2)(d) and 64(3)	Oil tank installations	Work performed by workers in connection with	Section 51, 52, 54, 55, 56 and	No worker shall be employed for more than 56 hours in any one week.
pumping operations			61	

Hydro-electric public supply factories	Operation and maintenance of prime movers and auxiliaries, transformers and switches		Section 52, 54 and 55	The limit of work inclusive of over-time shall not exceed those mentioned in Sub-section (4) of Section 64.
Public electric supply companies generating electricity from oil in internal combustion engines	The work of engine drivers and assistants, generator attendant, oilers and greasers, switchboard operators and pump-men		Ditto	Ditto
Electrical transforming factories	The work, viz., operation and maintenance of the transforming plant switches and synchronous condensers		Ditto	Ditto
Distilleries	Work on the extraction of sugar from various bases, fermentation of sugar juice from the cane, clarification, evaporation and boiling of the juice, curing of the massecutic, Bagging		Ditto	Ditto
64(2)(d) and 64(3) contd.	Sugar factories	Extraction of the juice from the cane, clarification, evaporation and boiling of the juice, curing of the massecutic, Bagging	Section 52, 54 and 55	The limit of work inclusive of over-time shall not exceed those mentioned in Sub-section (4) of Section 64.

Chemical factories	Work on the Sulphur burners, chambers, concentrators and pumps; roasting furnace, the manufacture of hydrochloric and nitric acid, sulphates, sulphides, nitrates, superphosphates and chlorides, work on the steam service		Ditto	Ditto
Vegetable oil hydrogenation factories	The work, viz., refining, bleaching, filtering, generation of hydrogen, hydrogenating and deodorizing process]; also compression of oxygen and the cylinder filing and work on the electrical power plant		Ditto	Ditto
64(2)(d) and 64(3)	Ice factories	Work of the engine and compressor drivers and assistant and oilers	Section 52, 54 and 55	The limit of work inclusive of over-time shall not exceed those mentioned in Sub-section (4) of Section 64.
Oil Mills Flour Mills	All work		Section 54 and 55	
Glass factories	Work in attending to furnace		Ditto	
All work and process from mixing and process from mixing of batch to removal			Section 52	
of the manufactured glassware from the lears				
Paper factories	All work on paper making machinery and on the generation and supply of power connected therewith		Section 54 and 55	

Work on choppers, digesters, kneaders, strainers and washers, beaters, paper making machines, pumping plant, reelers, cutters and power plant			Section 52, 54 and 55	
Rubber tyre factories	All work on curing process			Section 55
64(2)(d) and 64(3) contd.	Iron and Steel factories	All work on steel furnaces	Section 51, 52, 54, 55 and 56	No worker shall be employed for more than 56 hours in any one week
Cement factories	All workers engaged in manufacture which is essentially continuous		Section 51, 52 and 55	(1) No workers shall be employed for more than 54 hours in any one week. The total number of hours of over-time work shall not exceed 50 for any one quarter (2) Interval of at least half an hour for food and rest shall be given on each working day to all persons employed in such work. (3) No worker shall be allowed to work on consecutive weekly holidays. (4) This exemption shall not apply in cases of female workers.

64(2)(f)	Newspaper printing factories	Teleprinter service	Section 51, 54 and 56	In the absence of a worker who has failed to report for duty, a shift worker shall be allowed to work the whole or part of a subsequent shift provided that- (i) The next shift of the shift worker shall not commence before a period of 16 hours has elapsed. (ii) Within 24 hours of the commencement of the subsequent shift notice shall be sent to the inspector describing the circumstances under which the worker is required to work in the subsequent shift. (iii) The exemption will be restricted to only male adult worker.
64(2)(j)	All factories	Loading and unloading of railway wagons	Section 51, 52, 54, 55 and 56	
64(2)(d)	Ceramic Industry	Workers attending to kilns and furnaces in ceramic and pottery industry	Section 52 and 55	
Aluminum factories	All adult male workers engaged in manufacture which is essentially continuous	Section 51, 52, 54, 55 and 56	1. (a) No worker shall be employed for more than 10 hours on any one day; and (b) The spread over inclusive of interval for rest shall not exceed 12 hours in any one day: Provided that for a period of six months from the date of publication of notification of the Government of Orissa in the Labour Department No. 55, dated the 6th January, 1959 in order to enable a shift worker to work the whole or a	

			part of subsequent shift in the absence of a worker who has

failed to report for duty, the above daily limitations may be exceeded by six hours.
2. No worker shall be employed for more than 56 hours in any one week and the total number of hours of over-time shall not exceed 50 for any quarter.
3. No worker shall be employed for more than 13 days of twenty-four consecutive hours.]

Explanations
(1) The following shall be considered to be urgent repairs
(a) Repairs to any part of the machinery, plant or structure of a factory which are of such nature that delay in their execution would involve danger to human life or the stoppage of manufacturing process.
(b) Breakdown repairs to the motive power, transmission or other essential plant of other factories, collieries, railway dockyards, harbors, tramways, motor transport, gas, electrical generating and- transmission, pumping or similar essential or public utility services carried out in general engineering works and foundries and which are necessary to enable such concerns to maintain their main manufacturing processes, production or service during normal working hours.
(c) Repairs to deep-sea ships and repairs to commercial air-craft done in a factory which are essential to enable such ships or air-craft to leave port at proper time or continue their normal operations in a sea or air-worthy conditions, as the case may be.
(d) Repairs in connection with a change of motive power, for example, from steam to electricity for vice versa when such work cannot possibly be done without stoppage of the normal manufacturing process.
(2) Periodical cleaning is not included in the terms "cumining" or "repairing".

CHAPTER – VII

Employment of young persons

82. 66[x x x]

83. 67 [x x x]

84. 68 [x x x]

85. 69 [x x x]

86. Notice of periods of work for children

The notice of periods of work for child worker shall be in 70[Form No. 11.]

87. Registers of child workers

The Register of child workers shall be in 71[Form No.12.]

87 - A.

(1) The certifying surgeon shall issue his certificate of fitness in Form No. 5. When a person to whom a certificate of fitness under Section 69 has been granted, loses such certificate, he may apply to the certifying surgeon for a copy of the same. The certifying surgeon after making enquiries from such person's employer (or if unemployed from such person's last employer) or from such other source as he may

deem fit, may grant him a duplicate thereof. The word "Duplicate" shall be clearly written in red ink across such certificate and initialed by the certifying surgeon. The counterfoil in the bound book of forms shall be similarly marked "Duplicate" and initialed. Again in case of renewals of certificates the word "Renewed" shall be clearly written in red ink across such certificate and initialed by the Certifying Surgeon. The counterfoil in the bound book of forms shall be similarly marked "Renewed" and initialed.

(2) A fee of one rupee shall be payable to the certifying surgeon by the occupier or the Manager for the issue of every certificate issued under Sub-rule (2) of Rule 14.

(3) A fee of annas eight shall be payable to the certifying surgeon by the occupier or the Manager of the Factory for the issue of every duplicate or renewal of certificate.

(4) The certifying surgeon shall maintain a Register in Form No. 5-A of all fee received for the issue of certificates or their duplicates or renewals and shall initial each entry made therein.

(5) The certifying surgeon shall credit all the collection of fees made under this rule in the Government Treasury under the head "XXXVI-Miscellaneous-Miscellaneous Departments-Receipts under the Factories Act" and submit a copy of the challan to the Chief Inspector.

87 - B.

For employment of children in factories the following conditions shall be fulfilled, namely:

1. Age

(i) A child must be over 14 years of age.

(ii) An adolescent must be over 15 years and below 18 years of age.

2. Eye-sight

Squint or any morbid condition of the eyes or the lids of either eye, unless is liable to the risk of aggravation will not be regarded as a cause of rejection.

3. General Health

(i) Hearing in each ear is good and that a candidate has no mental infirmity.

(ii) His/her limbs hands, and feet are well-formed and developed and that there is free and perfect normal motion of his/her joints.
(iii) His/her chest is well-formed and that his/her heart and lungs are sound.
(iv) There is no evidence of any abdominal disease and that he/ she does not suffer from any invertebrate skin disease.
(v) The candidate does not bear any traces of acute or chronic disease pointing to an impaired constitution.
(vi) He/she bears mark of vaccination.

(vii) He/she has a proper degree of intelligence:

Provided that
(1) the candidates who are suffering from any physical deformity or heart affectations, noticeable anemic, epilepsy, deafness, suppurating glands, hernia and pthisis should be rejected;
(2) those suffering from curable diseases should be rejected until cured;
(3) special attention should be paid to the presence of obvious signs of malnutrition and under-development.

87 - C.
(i) The duties of a certifying surgeon appointed under Sub-section (1) of Section 10 of the Act shall comprise the examination of young person's desirous of being employed and the re-examination of young persons in respect of whom a notice under Section 75 has been served upon the manager of who desires to be re-employed. Certificate of age and fitness shall be given only to such young persons as are found qualified.
(ii) The certifying surgeon shall fix such date and place and time as may be mutually convenient for the attendance of persons wishing to obtain certificates of age and physical fitness. He shall give notice of the place, date and time thus fixed to the manager of the factory within the local limits for which he is appointed.

87 - D.
The cash equivalent of the advantage accruing through the concessional sale of food grains 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 of food grains and other articles he is entitled to.
For the purpose of the cash equivalent monthly average market rate of food-grains and other articles shall be computed at the end of every month.

CHAPTER – VIII
LEAVES WITH WAGES
88. Leave with wages register
(1) The Manager shall keep a register in Form No. 15 hereinafter called the Leave with Wages Register:

Provided that if the Chief Inspector is of the opinion that any muster-roll or Register maintained as part of the 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 Chapter-VII of the Act, 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 or return required under this rule in respect of that factory.
(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.

89. Leave Book
(1) The Manager shall provide each worker who has become entitled to leave during a calendar year with a book in Form No. 15 (hereinafter called the Leave Book) not later than the 31st January of the following calendar year. The leave book shall be the property of the worker and the Manager or his agent shall not demand it except to make entries of the dates or holidays or interruptions in service and shall not kept it for more than a week at a time:

Provided that in the case of a worker who is discharged or dismissed from service during the course of the year, i.e., who is covered under Sub-section (3) of Section 79 of the Factories Act, 1948, the Manager shall issue an abstract from the 'Register of Leave with Wages' [Form No. 16] within a week from the date of discharge or dismissal, as the case may be.
(2) If a worker loses his Leave Book, the Manager shall provide him with another copy on the payment of 15 naye paise and shall complete if from his record.

90. 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 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 to his work or other reliable evidence to prove that he was actually sick during the period for which the leave is to be availed of.
91. 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 that Leave with Wages Register and the Leave Book in respect of each worker concerned.
92. Notice by Worker
Before or at the end of every calendar year, a worker who may be required to avail of leave in accordance with Sub-section (8) of Section 79 of the Factories Act, 1948, may give notice to the Manager of his intention not to avail himself of the leave with wages failing due during the

following calendar year. The Manager shall make an entry to that effect in the Leave with Wages Register and in the Leave Book of the worker concerned.

93. Notice of leave with wages

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

94. 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 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 the Form No. 28 duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.

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

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

(2) He shall display at the main entrance of the factory, a 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) No alteration shall he made in the scheme approved by the State Government at the time of granting exemption under Section 84 without its previous sanction.

CHAPTER - IX

SPECIAL PROVISIONS

96. [72][Dangerous [73][manufacturing processes or operations]]

(1) The following [manufacturing processes or operations] when carried on in any factory are declared to be dangerous operations under Section 87.

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

(2) Electrolyte plating or oxidation of metal articles by use of an electrolyte containing chromic acid or other chromium compounds.

(3) Manufacture and repair of electric accumulators.

(4) Glass manufacture.

(5) Grinding or glazing of metals.

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

(7) Generation of gas from dangerous petroleum as defined in the Petroleum Act, 1934.

(8) Cleaning or smoothing, roughening, etc., of articles, by a jet of sand, metal shot or grift or other abrasive propelled by a blast of compressed air or stream.

(9) Liming and tanning of raw hides and skins and processes incidental thereto.

(10) Printing Presses and Type foundries (certain lead processes carried therein).

(11) Manufacture of Pottery.

(12) Chemical works.

(13) [xxx]

(14) Handling and processing of asbestos, manufacturing of any article of asbestos and any other processes of manufacturer or otherwise in which asbestos is used in any form.
(15) Manufacture of articles from refractory materials including manufacture of refractory bricks.
(16) [74][Handling and manipulation of corrosive substance.]
(17) [75][Process of extracting oils and fats from vegetable and animal sources in Solvent Extraction Plants.]
(18) [76][Manufacture or manipulation of Cereinogenic dye intermediates.
(19) Manufacture or manipulation of manganese and its compounds.
(20) Handling and use of Benzene.
(21) Manufacture or manipulation of dangerous pesticides.]
(22) [77][Processing of Cashew nuts.
(23) Manufacturing process and operations in carbon-disulphate plants.
(24) Operations involving high noise level.
(25) Manufacture of rayon by viscose process.
(26) Highly flammable liquids and flammable compressed gases.]
(2) The provisions specified in the schedules annexed hereto shall apply to any class or description of factories wherein dangerous [manufacturing processes or operations] specified in each schedule are carried out.
(3) This rule shall come into force in respect of any class or description of factories, wherein the said [78][manufacturing processes or operations] are carried on, on such dates as the State Government may by notification in the Official Gazette appoint in this behalf.
(4)
(a) [79][For the medical examination of workers to be carried out by the Certifying Surgeon as required by Schedule annexed to this rule, the occupier of the

factory shall pay fees to the rate of ten rupees for examination of each worker every time he/she is examined.
(b) The fees prescribed in Clause (a) shall be exclusive of any charges for biological, radiological or other tests which 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 to the local treasury under the Head of Account "087-Labour and Employment (d)-Fess realized under Factories Act".
(5) Notwithstanding the provisions specified in the Schedules annexed to this rule, the Inspector may, by issue of orders in writing to the Manager or to the occupier or both, of the factory, direct them to carry out such measures and within such time, as may be specified in such order, with a view to removing conditions dangerous to the health of workers or to suspend any process where such process constitutes, in the opinion of the Inspector, imminent danger of poisoning or toxicity.
(6) Any register or record of medical examination and tests connected therewith required to be carried out under any of the Schedules annexed hereto, in respect of any worker, shall be kept readily available to the Inspector and shall be preserved till the expiry of the year after the worker ceases to be in employment of the factory.]

SCHEDULE – I

MANUFACTURE OF AERATED WATERS AND PROCESSES INCIDENTAL THERETO

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 bursting bottle or syphon from striking any person employed in the factory.

2. Face guards and gauntlets

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

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

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

Provided that

(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; and

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

(2) The occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowning, screwing, wiring, foiling, compulsory sighting, labelling bottles or siphons

(a) Suitable face-guards to protect the face, neck and throat and

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

3. Wearing of face guards and gauntlets

All persons engaged in any of the processes specified in paragraph 2 shall, while at work in such processes, wear the face-guards and gauntlets provided under the provisions of the said paragraph.

SCHEDULE-II

ELECTROLYTIC PLATING OR OXIDATION OF METAL ARTICLES BY USE OF AN ELECTROLYTE CONTAINING CHROMIC ACID OR OTHER CHROMIUM COMPOUND

1. Definitions

For the purposes of this schedule

(a) "Electrolytic chromium process" means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing chromic acid or other chromium compounds.

(b) "Bath" means any vessel used for an electrolytic chromium process or for any subsequent process.

(c) "Employed" means in paragraphs 5, 7, 8, and 9 of this schedule, employed in any process involving contract with liquid from a bath.

(d) 80[xxx]

2. Exhaust draught

An efficient exhaust draught shall be applied to every vessel in which an electrolytic chromium process is carried on. Such draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as may be at the point of origin. 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.
3. Prohibition relating to women and young person: No woman, adolescent or child shall be employed or permitted to work at bath.
4. Floor of workrooms: The floor of every room 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.
5. Protective clothing

(1) The occupier of the factory shall provide and maintain in good and clean condition the following articles of protective clothing 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 clothing shall be worn by the persons concerned
(a) water-proof aprons and bibs, and
(b) for persons actually working at a bath, loose-fitting rubber gloves and rubber boots or other water- proof footwear.
(2) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and adequate arrangements for the drying of the protective clothing.
6. Medical requisites: The occupier shall provide and maintain a sufficient supply of suitable ointment and impermeable water-proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping the ointment and plaster.
7. 81[Medical facilities and records of examinations and tests
(1) The occupier of every factory in which electrolytic chrome process are carried on 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;
(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 ointment and impermeable water-proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping the ointment and the plaster.
(2) The medical practitioner shall examine all workers before they are employed in electrolytic chrome processes. Such examination shall include inspection of hands, forearms and nose and will be carried out at intervals of not more than one week.
(3) The record of the examination referred to in Sub-paragraph (2) 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. Medical examination by the Certifying Surgeon
(1) Every worker employed in the electrolytic chrome processes shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include

tests for chromium in urine and nasal septum perforation. No worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every three calendar months. Such re-examination shall,

wherever the Certifying Surgeon considers appropriate, include tests as specified under Sub-paragraph (1).
(3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 30. 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 31.
(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
(5) If 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 shall also include the period for which he considers that the said person is unfit for 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 these processes.]
9. 82[xxx]

SCHEDULE - III
MANUFACTURE AND REPAIR OF ELECTRIC ACCUMULATORS
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. Definitions

For the purposes of this Schedule
(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.
(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.
(c) 83[xxx]

3. Prohibition relating to women and young persons: No woman 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 or lead pasting is carried on.
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 any other process
(a) Manipulation of raw oxide of lead;
(b) Pasting;
(c) Driving of pasted plates;
(d) Formation with lead during ("tacking") necessarily carried on in connection therewith;
(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 500 cubic feet of air space for each person employed therein, and in computing this air space no height over 12 feet shall be taken into account.
6. Ventilation: Every work room 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 distances between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than five feet.
8. Floor of work rooms
(1) The floor of every room in a 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;
(c) Kept free from materials, plant, or other obstruction 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 cleaned 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 cleaned daily.
(4) Without prejudice to the requirements of Sub-paragraphs (1), (2) 4nd (3) where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be -
(a) kept constantly moisty while work is being done;
(b) provided with suitable and adequate arrangements for drainage;
(c) thoroughly washed daily by means of a hose pipe.

9. Work-benches: The work benches at which any lead process is carried on shall
(a) have a smooth surface and maintained in sound condition;
(b) be kept from all materials or plant not required for, or produced in the process carried on thereat; and all such work-benches other than those in grid casting shops shall
(c) be 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; and all such work-benches in grid casting shops, shall
(d) be cleansed daily; and every work-benches used for pasting shall
(e) be covered throughout with sheet lead or other impervious material;
(f) be provided with raised edges;

(g) be kept constantly moist while pasting is being carried on.
10. Exhaust draught

The following process shall not be carried on without the use of an efficient exhaust draught:
(a) Melting of lead or materials containing lead;
(b) Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of, dust into the workroom;
(c) Pasting;
(d) Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust;
(e) Lead burning, other than
(i) "taking" in the formation room,
(ii) Chemical burning for the making of lead linings for cell cases necessarily carried on in such a manner that the application of efficient exhaust is impracticable.

Such exhaust draught shall be effected by mechanical means and shall operate on the dust or fume given off as nearly as may be at its points of origin, so as to prevent it entering the air of any room in which persons work.
11. Fumes and gases from melting pots: The products of combustion produced in the heating of any melting pot shall not be allowed to escape into a room in which persons work.
12. 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 work-room, except when dross is being deposited therein.
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 dust shall be deposited.

14. Racks and shelves in drying room: The racks or shelves provided in any drying room shall not be more than 8 feet from the floor nor more than 2 feet in width; provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 4 feet.

Such racks or shelves shall be cleaned only after being thoroughly damped unless an efficient suction cleaning apparatus is used for this purpose.
15. 84[Medical facilities and records of examinations and tests
(1) The occupier of every factory in which manufacture and repair of electric accumulators are carried on 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 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.

15 - A. Medical examination by Certifying Surgeon
(1) Every worker employed in lead processes shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shad include tests for lead in urine and blood. ALA in urine, hemoglobin content stippling of cells and steadiness test. No worker shall be allowed to work after fifteen 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 process shall be re-examined by a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate include tests specified in Sub-paragraph (1).
(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form) 30. 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 31.
(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 shall also include the period for which he considers that the said person is unfit for work in the said processes.
(6) No person who has been found unfit to work as said in Subparagraph (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.]
16. Protective clothing

Protective clothing shall be provided and maintained in good repair for all persons employed in
(a) manipulation of raw oxide of lead;
(b) pasting;
(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 regards persons employed in the manipulation of raw oxide of lead or in pasting, head coverings. The head coverings shall be washed daily.
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 (a) sufficient tables and benches and (b) adequate means for warming food. The mess-room shall be placed under the charge of a responsible person, and shall be kept clean.
18. Cloak-room

There shall be provided and maintained for the use of all persons employed in a lead process
(a) a cloak-room for clothing put off during working hours with adequate arrangements for drying the clothing, if wet. Such accommodation shall be separate from any mess-room.
(b) Separate and suitable arrangement for the storage of protective clothing provided under paragraph 16.
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
(a) A wash place under cover, with either

(i) 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 two feet; or
(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 constant supply-water laid down;
(iii) a sufficient supply of clean towels made of suitable materials renewed daily which supply, in the case of pasters and persons employed in the manipulation of raw oxide of lead shall include a separate marked towel for each such worker or;
(iv) a sufficient supply of soap of other suitable cleaning material and of nail brushes.
(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, it required by notice in writing from the Chief Inspector.
20. Time to be allowed for washing: Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meat times, shall be allowed for washing to each person who has been employed in the manipulation of raw oxide of lead or in pasting:

Provided that, if there be one basin of two feet or trough for each such person this paragraph shall not apply.
21. Facilities for bathing: Sufficient bath accommodation to the satisfaction of the Chief Inspector shall be provided for all persons engaged in the manipulation of raw oxide of lead or in pasting, and a sufficient supply of soap and clean towels.
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. 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, by 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. Definitions

For the purpose of this Schedule
(a) "Efficient exhaust draught" means localized 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.
(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 of soluble lead compound exceeding, when calculated as lead monoxide, five per cent of the dry weight of the portion taken for analysis. The method of treatment shall be as follows:

A weighed quantity of the material which has been dried at 100° C. 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 filterate shall then be precipitated as lead sulphide and weighed as lead sulphate.
(c) [85][xxx]
3. Exhaust draught

The following processes shall not be carried on except under an efficient exhaust draught or under 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 vapour are given off.
(d) All processes in the making of furnace moulds or "pots" including the grinding or crushing of used “pot".
(e) All processes involving the use of a dry lead compound.
4. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 3 or at any place where such operations are carried on.
5. Floors 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:

The floors shall be

(a) of cement or similar material, so as to be smooth and impervious to water;
(b) maintained in sound condition; and
(c) cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

The work-benches shall
(a) have a smooth surface and be maintained in sound condition; and
(b) be 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 work places shall be so enclosed in projecting foods that opening required for 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 gasses 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.
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 sterilizing his blow-pipe.
9. Food, drinks, etc., prohibited in work-rooms

No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any room or work-place wherein any process specified in paragraph 3 is carried on.
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 3 suitable protective clothing, foot wear and goggles according to the nature of the work and such clothing, foot-wear, etc., shall be worn by the persons concerned.

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
(a) a wash place with either
(i) 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 of jets above the trough at intervals of not more than 2 feet; or
(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
a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleansing material and nail brushes;
and
(b) a sufficient number of stand-pipes with taps-the number and location of such stand-pipes shall be to the satisfaction of the Chief Inspector,
12. [86][Medical facilities and record of examinations and tests
(1) The occupier of every factory in which glass manufacturing processes 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).

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) Every worker employed in processes specified in paragraph 2 shall be examined by a Certifying Surgeon within fifteen 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 in blood and urine. No worker shall be allowed to work after fifteen 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 a 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 30. 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-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 31.

(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 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 shall also include the period for which he considers that the said person is unfit for 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 Surgeons, after further examination again certifies him fit for employment in those processes.)

SCHEDULE – V
GRINDING OR GLAZING OF METALS AND PROCESS INCIDENTAL THERETO
1. Definitions

For the purpose of this schedule
(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.
(b) "Abrasive wheel" means a wheel manufactured of bonded emery or similar abrasive.
(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 first time.
(f) "Hacking" means the chipping of the surface of a grindstone by hack or similar tool.
(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.
2. Exceptions
(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 grinding or glazing of metals.
(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) The Chief Inspector may by certificates in writing subject to such condition as he may specify therein, relax or suspend any of the provisions of this Schedule in respect of any factory, if owing 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.
3. Equipment for removal of dust: No racing, dry grinding or glazing shall be performed without

(a) a hood or other appliance so constructed, arranged, placed and maintained as substantially to intercept the dust thrown off; and
(b) a duct of an 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;
(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.
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 manipulations of heavy or bulky articles at any such grindstone, abrasive wheel or glazing appliance.

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.
6. Hacking aid 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.
7. Examination of dust equipment
(a) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by a competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.
(b) [87][A register containing particulars of such examinations and tests shall be kept in Form No. 24.]

7 - A. [88][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).
(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.

7 - B. Medical examination by Certifying Surgeon
(1) Every worker employed in grinding or glazing of metal and processes incidental thereto shall be examined by a Certifying Surgeon within fifteen 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 fifteen 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 a 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 30. 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 be entered by the Certifying Surgeon in a health register in Form 31.
(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 shall also include the period for which he considers that the said person is unfit for 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.]

SCHEDULE – VI
MANUFACTURE AND TREATMENT OF LEAD AND CERTAIN COMPOUNDS OF LEAD
1. Exemptions

Where the Chief Inspector is satisfied that all or any of the provisions of this Schedule are not necessary for the protection of the persons employed, he may by certificate in writing exempt any factory from all or any of such provisions, subject to such conditions as he may specify therein.
2. Definitions

For the purposes of this Schedule
(a) "Lead Compound" means any compound of lead other than galena which, when treated in the manner prescribed 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° C 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. The 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,
(b) "Efficient Exhaust draught" means localized ventilation effected by heat or 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, fumes or dust 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 desilvarising of lead or the melting of scrap lead or zinc.
(c) The manufacture of solder or alloys containing more than ten per cent of lead.
(d) The manufacture of any oxide, carbonate, sulphate, chromate acetate, nitrate or silicate of lead.
(e) Handling or mixing of lead tetraethyl.
(f) Any other operation involving the use of a lead compound.
(g) The cleaning of work rooms where any of the operations aforesaid are carried on.
4. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 3.
5. Requirement 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 6 to 14 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 exhausted draught so contrived so to operate on the dust fume, gas or vapour as closely as possible to the point of origin.

7. 89[Medical facilities and records of examinations and tests
(1) The occupier of every factory to which the Schedule applies 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).
(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. 90[Medical examination by Certifying Surgeon
(1) Every worker employed in the processes referred to in paragraph 1 shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include test for lead in blood and urine. ALA in urine, hemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate include tests specified in sub-paragraph (1).
(3) The Certifying Surgeon, after examining a worker shall issue a Certificate of Fitness in Form 30. 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 test, shall also be entered by the Certifying Surgeon in a health register in Form 31.
(4) The Certificate of Fitness and the heath 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 shall also include the period for which he considers that the said person is unfit for 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.]
9. Food, drinks, etc., prohibited in work rooms

No food, drink, pan and supari or tobacco shall be brought into or consumed by 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. Protective clothing

Suitable protective overalls and head coverings shall be provided, maintained and kept clean by the factory occupier and such overalls and head coverings shall be worn by the persons employed.
11. Cleanliness of work-rooms, tools, etc.

The rooms in which the persons employed and all tools and apparatus used by them shall be kept in a clean state.
12. Washing facilities
(1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of
(a) a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least two feet for every ten 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 feet; or
(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.
(2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.
13. Mess-room or canteen: The occupier shall provide and maintain for the use of the persons employed, suitable 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 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.
14. Cloak-room: 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
GENERATION OF GAS FROM DANGEROUS PETROLEUM AS DEFINED IN THE PETROLEUM ACT, 1934
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 in which the generation of gas from dangerous petroleum as defined in the Petroleum Act 1934, is carried on.

2. Flame traps

The plant for generation of gas from dangerous petroleum as defined in the Petroleum Act, 1934, 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 from leaks.

3. Generating building or room

All plants for generation of gas from dangerous petroleum as defined in the Petroleum Act, 1934, erected after the coming into force of the provisions specified in the Schedule, shall be erected outside the factory buildings proper in a separate well-ventilated building (hereinafter referred to as the “generating building"). in the case of such plant erected before the coming into force of the provisions specified in this Schedule there shall be no direct communication between the room 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.

4. Fire extinguishers

An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generation of gas from dangerous petroleum as defined in the Petroleum Act, 1934.

5. Plant to be approved by Chief Inspector

Petrol gas shall not be manufactured except in a plant for generating petrol gas, the design and construction of which has been approved by the Chief Inspector.

6. Escape of petrol

Effective steps shall be taken to prevent petrol from escaping into any drain or sewer.

7. 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 the generating 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.

8. Access to petrol or container

No unauthorized person shall have access to any petrol or to a vessel containing or having actually contained petrol.

9. Electric fittings

All electric fittings shall be of flame-proof construction and all electric conductors shall either be enclosed in metal-conduits or be lead-sheathed.

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 such 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.

11. Repair of containers

No Vessel that has contained petrol 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 petrol of inflammable vapour.

SCHEDULE – VIII

CLEANING OR SMOOTHING, ROUGHENING, ETC., OF ARTICLES, BY A JET OF SAND, METAL SHOT, OR OTHER ABRASIVE PROPELLED BY A BLAST OF COMPRESSED AIR OR STEAM (BLASTING REGULATIONS)

1. Definitions

For the purposes of this Schedule

"Blasting" means cleaning, smoothing, roughening or removing of any part of the surface of any article by the use as air abrasive of a jet of sand, metal shot or grit or other material, propelled by a blast of compressed air or steam,

"Blasting enclosure" means a chamber, barrel cabinet or any other enclosure designed for the performance of blasting therein.

"Blasting enclosure" means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise.

"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 smoothing 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.

PRECAUTIONS IN CONNECTION WITH BLASTING OPERATIONS

3. Blasting to be done in blasting enclosure

(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 plants and appliances situated therein, shall be performed in a blasting enclosure. Every door, aperture and joint of blasting enclosure shall be kept closed and air tight while blasting is being done therein.

(2) Maintenance of blasting enclosure

Blasting enclosure shall always be maintained in good condition and effective measure shall be taken to prevent dust escaping from such enclosures, and from apparatus connected therewith, into the air of any room.

(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 use 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.

(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 such method and in such manner that it shall not escape into the air of any room; and every other filtering 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.

(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.

4. Inspection and examination

(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.

(2) Particulars of the result of every such inspection, examination and 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.

5. Provision of protective helmet, gauntlets and overalls

(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.

(2) Each protective helmet shall carry 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.

(3) Each protective helmet when in use shad be supplied with clean and not unreasonably cold air at a rate of not less than six cubic feet per minute.

(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.

6. Precautions in connection with cleaning and other work

(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 ventilators 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.

(2) In connection with any cleaning operation referred to in Clause 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.

7. Storage accommodation for protective wear

Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by Clause 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.

8. Maintenance and cleaning of protective wear

All the helmets, gauntlets, overalls and other protective devices or clothing's 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 week day 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.

9. Maintenance of vacuum cleaning plant

Vacuum cleaning plant used for the purpose of this Schedule shall be properly maintained.

9 – A 91[Medical facilities and records of examinations and test

(1) The occupier of every factory to 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; 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 the inspection by the Inspector.

9 - B. Medical examination by Certifying Surgeon

(1) Every worker employed in any of the processes to which this Schedule applies shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include pulmonary function test and chest X-ray. No worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every twelve 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.

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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 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 31.

(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 shall also include the period for which he considers that the said person is unfit for work in the said processes.

(6) No person who has been found unfit to work in the said processes as said in sub-paragraph (5) shall be re-employed or permitted to work unless the Certifying Surgeon after further examination, again certifies him fit for employment in those processes.]

10. Restrictions in employment of young persons
(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.
(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.

11. Power to exempt or relax
(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 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 suspended either temporarily or permanently, or can be relaxed without endangering the health of the persons employed or that application of any of 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 extent and subject to such conditions and for such period as may be specified in the said order.
(2) Where an exemption has been granted under Sub-clause (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.

SCHEDULE – IX
LIMING AND TANNING OF RAW HIDES AND SKINS AND PROCESSES INCIDENTAL THERETO
1. Cautionary notices
(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.
(2) A copy of 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 subsequent if still employed, on the first day of each calendar year,
(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.
(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.
(5) [92]["Medical facilities and records of examination and tests
(1) The occupier of every, factory to which this Schedule applies, shall
(a) employ a qualified 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 record of the 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. 93[Medical examination by Certifying Surgeon
(1) Every worker employed in any of the processes to which this Schedule applies shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include skin test for dermatitis and detection of anthrax bacillus from local lesion by gram stain. No worker shall be allowed to work after fifteen 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 a 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 30. The record of examination and re-examinations carried out shall be entered in the Certificate and 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 be entered by the Certifying Surgeon in a health register in Form 31.
(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 shall also include the period for which he considers that the said person is unfit for 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.)

2. 94[Protective clothing

The occupier shall, provide and maintain in good condition the following articles of protective clothing:
(a) Water proof, 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; and
(c) Protective footwear, aprons and gloves for persons employed in processes involving the handling of hides or skins, other than in processes specified in Clauses (a) and (b):

Provided that
(i) the gloves, aprons, leg coverings or boots, may be of rubber or leather, but the gloves and boots to be provided under Sub-clauses (a) and (b) shall be of rubber;
(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.]
3. Washing facilities, mess-room and cloak-room

There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed
(a) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least two feet for every ten persons employed at any one time, and having a constant supply of water from taps or jets above the through at intervals of not more than two feet; or
(b) at least one 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 water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleaning material, and clean towels;
(c) a suitable mess-room, adequate for the number remaining on the premises during the meal intervals, which shall be furnished with (1) sufficient tables and benches; and (2) adequate means for warming food and for boiling water.

The mess-room shall (1) be separated from any room or shed in which hides or skins are stored, treated or manipulated; (2) be separated from the cloak room; and (3) be placed under the barge of a responsible person;
(d) 95[The occupier shall provide and maintain, for the use of all persons employed, suitable accommodation for clothing put off during working hours and another accommodation for protective clothing and shall also make 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 work-rooms

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. First-aid arrangements

The occupier shall
(a) arrange for an inspection of the hands of all persons coming into contact with chrome solutions to be made twice a week by a responsible person;
(b) provide and maintain a sufficient supply of suitable ointment and impermeable waterproof plaster in a box readily accessible to the worker and used solely for the purpose of keeping the ointment and plaster.

SCHEDULE – X

PRINTING PRESSES AND TYPE FOUNDRIES (CERTAIN LEAD PROCESSES CARRIED THEREIN)

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 of such provisions subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector.

2. Definitions

In these regulations
"Lead material" means material containing not less than five per cent of lead.
"Lead process" means
(a) the melting of lead or any lead material for casting and mechanical composing; and
(b) the recharging of machines with used lead material; or
(c) any other work including removal of dross from melting pots, cleaning of plungers; and
(d) manipulation, movement or other treatment of lead material.

"Efficient exhaust draught" means localized ventilation effected by heat 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 gas, vapour, fume or dust at the point where they originate.

3. Exhaust draught

None of the following processes shall be carried on except with an efficient exhaust draught:
(a) melting lead material or slugs;
(b) heating lead material so that vapour containing lead is given off;

or, 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 post.
Such exhaust draught shall be effected by mechanical means and so contrived as to operate o-n the dust, fume, gas or vapour given off as closely as may be at its point of origin.

4. Prohibition relating to women and young person’s

No woman or young person shall be employed or permitted to work in any lead process.

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 process
(a) melting of lead or any lead material;
(b) casting of lead ingots;
(c) Mechanical composing.

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.

7. Floor of work-room

The floor of every work-room where 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 conditions; and
(c) Shall be cleaned throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.

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 mess-room which shall be furnished with sufficient tables and benches.

9. 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
(a) a wash place with either
(i) a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow 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 2 feet; or
(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 available; and
(b) a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleaning material.

10. 96[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 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. 97[Medical examination by Certifying Surgeon

(1) Every worker employed in a lead process shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, hemoglobin, stippling of cells and steadiness test. No worker shall be allowed to work after fifteen 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 process shall be re-examined by a Certifying Surgeon at least once in every six calendar months such re-examination shall, whenever 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 30. 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 31.
(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 process 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 include the period for which he considers that the said person is unfit for 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.]
11. Food, drinks, etc., prohibited in work-rooms

No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any workroom in which any led process is carried on.

SCHEDULE – XI

MANUFACTURE OF POTTERY

1. Definitions

For the purposes of this Schedule, unless the context otherwise requires
(a) "Pottery" includes earthenware, stoneware, porcelain, China tiles and any other articles made from clay or from a mixture containing clay and other materials such as quartz, flint, feldspar and Gypsus.
(b) "Efficient exhaust draught" means localized ventilation effected by mechanical or other means for the removal of dust or fume so as to prevent it from escaping into the 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.
(c) "Fetting" includes scalloping, towing, sand papering, sand sticking, brushing or any other process of cleaning of pottery ware in which dust is given off.

(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.
(e) "Low solubility glaze" means a glaze which does not yield to dilute Hydrochloric acid more than five percent 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° C 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.
(f) "Ground or powdered flint or quartz" does not include natural sands.
(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, namely:
(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 titles 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)
(a) The pressing of titles from clay dust, an exhaust opening being connected with each press;
(b) The pressing from clay dust of articles other than tiles unless the material is so damp that no dust is given off.
(v)
(a) The fettling of tiles made from clay dust by pressure, except where the fettling is done wholly on, or with, damp material.
(b) The 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 sugars where handling and manipulation of ground and powdered flint, quartz, alumina or other materials are involved.
(vii) The brushing of earthenware biscuit, unless the process is carried on in a room provided with an 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) Feltling 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 than 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.
(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.
(xiv) The preparation of weighing out of flow material, lawning of dry colours dusting and colour blowing.
(xv) In moulds making unless the bins or similar receptacles used for holding plaster of Paris are provided with suitable covers.
(xvi) The manipulation of calcined material unless the material has been made and remains so wet that no dust is given off.
3. Each of the following processes shall be carried on in such a manner and under such conditions so as to secure effectual separation from one another, and from other wet processes:
(a) Crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and green- ware loading and unloading of saggars;
(b) All processes involving the use of a dry lead compound.
4. No glaze which is not a leadless glaze or a low solubility glaze shall be used in a factory in which pottery is manufactured.
5. 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.
6. The potter's wheel (Jolly and Jaggery) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel.
7.
(1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.

(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.
8. 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.
9. 98[Medical facilities and records of examinations and tests

(1) The occupier of every factory in which manufacture of pottery is carried on 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 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. Medical examination by Certifying Surgeon
(1) Every worker employed in any processes mentioned under paragraph 2, shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, hemoglobin content, stippling of cells and pulmonary function tests and chest X-ray for workers engaged in processes mentioned in Clauses (i) and (xiv) of paragraph 2 and pulmonary function tests and chest X-ray for the Others. No worker shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
(2) All persons employed in any of the processes included under Clauses (i) and (xiv) of paragraph 2, shall be examined by a Certifying Surgeon once in every three calendar months. Those employed in any other processes mentioned in the remaining clauses of paragraph shall be examined by a Certifying Surgeon once in every twelve calendar 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 three years.
(3) The Certifying Surgeon, after examining a worker, shall issue Certificate of Fitness in Form 30. The record of examinations 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 result of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 31.

(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 Surgeons 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.
(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 certified him fit for employment in those processes.]
11. Protective equipment
(1) The occupier shall provide and maintain suitable overalls and head coverings for all persons employed in processes included under paragraph 2.

(2) The occupier shall provide and maintain suitable aprons of waterproof or similar material which can be sponged daily, for the use of the dippers, dippers' assistants, throwers, jolly workers, casters, moulds makers and fitter press and pug mill workers.
(3) Aprons provided in pursuance of paragraph 11 (2) shad a 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 and mending shall be provided for by the occupier.
(4) No person shall be allowed to work in emptying sacks of dusty materials, weighing out and mixing of dusty materials and charging of ball mills and plungers without wearing a suitable and efficient dust respirator.
12. Washing facilities

The occupier shall provide and maintain, in a cleanly state and in good repair for the use of all persons employed in any of the process specified in paragraph 2 a wash place under cover, with either
(a)
(i) a trough with smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow at least two feet for every five such persons employed at any one time, and having a constant supply of clear water from taps or lets above the trough at intervals of not more than two feet; or
(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, and such tap or stand pipe being spaced not less than 4 feet apart; and

(b) a sufficient supply of clean towels made of suitable materials changed daily, with sufficient supply of nail brushes and soap.
13. Time allowed for washing: Before each meal and before the end of the days' work at least ten minutes in addition to the regular meal time, shall be allowed for washing to each person employed in any of the processes mentioned in paragraph 2.
14. Mess-room
(1) There shall be provided and maintained for use of all persons remaining within the promises of the potter’s shop during the rest intervals, a suitable mess-room providing accommodation of 10 square feet per head and furnished with
(i) a sufficient number of tables and chairs or benches with back rest;
(ii) arrangements for washing utensils;
(iii) adequate means for warming food;
(iv) Adequate quantity of drinking water.
(2) The room shall be adequately ventilated by the circulation of fresh air placed under the charge of a responsible person and shall be kept clean.
15. Food, drinks, etc., prohibited in work-rooms: No food, drinks, pan and supari, or tobacco shall be brought into or consumed by any worker in any work-room in which any of the processes mentioned in paragraph 2 are carried on and no person shall remain in any such room during intervals for meals or rest.
16. Cloak-room, etc.

There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in paragraph 2:
(a) a cloak-room for clothing put off during working hours and such accommodation shall be separate from any mess-room;
(b) separate and suitable arrangements for the storage of protective equipment prescribed under paragraph 11.
17. These rules shall not apply to a factory in which any of the following articles, but no other pottery, are made, namely
(a) unglazed or salt glazed bricks and tiles; and
(b) architectural terra cotta made from plastic clay either unglazed or glazed with a leadless glaze only.
18. Exemption

If in respect of any factory the Chief Inspector of Factories is satisfied that all or any of the provisions of these rules 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 said Chief Inspector without assigning any reasons.

SCHEDULE – XII

MANUFACTURES IN CHEMICAL WORKS AND PROCESSES INCIDENTAL THERETO

Definitions "Chemical work" means any factory or such parts of any factory as are named in Annexure - I to these rules.
"Breathing apparatus" means (1) a helmet or face-piece with necessary connections by means of which a person using it in poisonous, asphyxiating or irritant atmosphere breathes ordinary' air, or (2) any other suitable apparatus approved in writing by the Chief Inspector.
"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.
"Efficient exhaust draught" means localized 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.
"Surgeon" means a Certifying Surgeon appointed under Section 10 of the Factories Act, 1948 (63 of 1948).
"Suspension" means suspension by written certificate in the Health Register signed by the Surgeon, from employment in any process mentioned in the certificate.
"Bleaching powder" means the bleaching powder commonly called chloride of lime.
"Chlorate" means chlorate or perchlorate.
"Caustic" means hydroxide of potassium or sodium.
"Chrome pot" means a metal pot fixed over a furnace or flue and surrounded by brickwork, such as is commonly used for concentrating caustic liquor, whether such pot be used for concentrating of boiling caustic or other liquor.

"Chrome process" means the manufacture of chromate or bichromate of potassium or sodium or the manipulation, movement or other treatment of these substances in connection with their manufacture.
"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.

Exceptions

If the Chief inspector is satisfied in respect of any factory or any process that, owing to the special conditions or special methods of work, or by reason of the infrequency of the process or for other reasons all or any of the requirements of those rules are not necessary for the protection of persons employed in any factory or process, he may, by

order in writing (which he may in his discretion revoke) exempt such factory or process from all or any of the provisions of these rules, subject to such conditions as he may, by such order, prescribe.

PART – 1

APPLYING TO ALL THE WORKS IN ANNEXURE – I

GENERAL

1. House-keeping

(a) Every part of the ways, works, machinery and plant shall be maintained in a clean and tidy condition.
(b) Any spillage of materials shall be cleaned up without delay.
(c) Floors, platform, stairways, passages and gangways shall be kept free of temporary obstructions.
(d) There shall be provided easy means of access to all parts of the plant to facilitate cleaning, maintenance and repairs.

2. Improper use of chemicals

(a) No chemicals or solvents shall be used by workers for any purposes apart from the processes for which they are supplied.
(b) Workers shall be instructed on the possible dangers arising from such misuse. These instructions shall further be displayed in bold letters in prominent places in different sections.

3. Storage of food

(a) No food, tobacco, pan or similar article shall be stored or consumed on or near any part of the plant.
(b) Testing -Workers shall be instructed on the possible dangers arising from the testing of materials, or of the use for drinking purposes of any vessel used in or in connection with the manufacture of chemicals. These instructions shall further be displayed in bold letters in prominent places in different sections.

4. Process hazards

Before commencing any large-scale experimental work, or any new manufacture, all possible steps shall be taken to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions. The properties of the raw materials used, the final products to be made and any by- products arising during manufacture, shall be carefully

studied and provisions shall be made for dealing with any hazards including effects on workers which may arise during manufacture. The design of the buildings and plant shall be based on the information so obtained.

5. Unauthorized personnel
(a) Unauthorized persons shall not be permitted to enter any section of the factory or plant where there are special dangers.
(b) Visitors - Visitors shall be provided, where necessary, with suitable safety equipment and shall be accompanied round dangerous plant by a responsible official.
6. Instruments

All instruments such as pressure gauges, thermometers, flow meters and weighing machines shall be tested at regular intervals by competent person and records of these tests shall be kept in a register.
7. Cocks and valves

Suitable valves shall be provided in all service lines at sufficiently short intervals for convenience in blanking off, etc. All cocks and valves shall be operated at least once a month, and tested periodically by a competent person; and records of these tests shall be kept in a register. A plan of service installations shall be kept readily available for perusal.
8. Manholes

No manhole shall be opened for entry until effective fencing has been erected round it.
9. Emergency instructions

Simple and special instructions shall be framed to ensure that effective measures will be carried out in cases of emergency, to deal with escapes of inflammable, poisonous or deleterious gases, vapours, liquids, or dusts. These instructions shall further be displayed in bold letters in prominent places in the different sections. All workers shall be trained and instructed in the action to be taken in such emergencies, and in the general hazards of their employment.
10. Precaution of reaction mixtures

Suitable arrangements shall be made to ensure that no foreign matter of any sort can fall into reaction mixtures.
11. Electrical apparatus

Electrical plant, fittings and conductors shall, if exposed to a damp or corrosive atmosphere be adequately protected. Periodic tests shall be carried out on all circuits.
12. Place of work
(a) Workers shall only be allowed in those places in which they have been given orders to work.
(b) In dangerous sections of a factory, the number of workers shall be kept to a minimum compatible with the need of the process.

13. Packing, storage and transport of chemicals

Chemicals shall be packed and stored in containers suitable for the purpose and of adequate strength for storage or transport. All such containers shall be suitably labelled so that they will be stored and transported in such a manner as to ensure that, in the event of a spillage they will neither produce a reacting mixture, nor cause the development of toxic or fire risks in contact with other products in its vicinity, or with walls, floors, or dust thereon. Fire and explosion risks

14. Site

(a) Buildings and plant shall be sited with due regard to the danger which may arise from the processes involved, and in particular shall be spaced at distances which are deemed safe for the fire and explosive risks connected with the processes in adjacent buildings. Due consideration shall be given to the effect of processes carried out in adjacent factories.

(b) Isolation of buildings

Where special dangers exist, separate building shall be used for the different parts of a process. They shall be spaced at sufficient distances apart and shielded to prevent damage to each other in the event of fire or explosion, and shall be safeguarded by the provision of suitable blow- out panels or roots. Where the risk of fire or explosion is considerable, the building shall be divided by blast or protective screen walls.

(c) Fire resistance

No combustible materials shall be used in the erection of working buildings, unless there are special reasons necessitating their use, when they shall be rendered fire-resistant. The roof shall be of light fire-resistant construction and floors shall be of impervious fire-resistant material and shall be regularly maintained in such condition.

15. Dangers of ignition (including lighting installations)

(a) No internal combustion engine, and no electric motor or other electric equipment, capable of generating sparks or otherwise causing combustion shall be installed or used in a building or danger zone. Electric conductor shall be fitted with screwed steel conduct.

(b) All hot exhaust pipes shall be installed outside a building and other hot pipes shall be suitably protected.

(c) Portable electric hand lamps shall not be used unless of an intrinsically safe type, and portable electric tools connected by flexible wires shall not be used, unless of the flame-proof type.

(d) Where an inflammable atmosphere may occur the soles of footwear worn by workers shall have no metal on them, and the wheels of trucks or conveyors shall be of conducting non-sparking materials. Adequate precautions shall be taken to

prevent the ignition of explosive or inflammable substances by sparks emitted from locomotives or other vehicles operated in the factory or on public lines.

(e) No electric arc lamp or naked light, fixed or portable, shall be used and no person shall have in his possession any match or any apparatus of any kind for producing a naked light or spark in or on, or about any part of tile factory where there is liability to fire or explosion from

inflammable gas, vapour or dust, and all incandescent electric lights in such parts shall be in double air-tight glass covers.
(f) Prominent notices in the language understood by the majority of the workers and legible by day and by night, prohibiting smoking, the use of naked lights, and the carrying of matches or any apparatus for producing a naked light or spark, shall be affixed at the entrance of every room or place where there is the risk of fire or explosion from inflammable gas, vapour or dust. In the case of illiterate workers, the contents of the notices shall be fully and carefully explained to them when they commence work in the factory for the first time and again when they have completed one week at the factory.
(g) Non-sparking tools

A sufficient supply of spades, scrapers and pails made from non-sparking material shall be provided for the use of persons employed in cleaning out or removing residues from any chamber, still, tank, or other vessel where an inflammable or explosive danger may occur.
(**Note** - The-risk is not always obvious and arise, for example, through the production of hydrogen in acid tanks).
16. Static electricity
(a) All machinery and plant, particularly, pipe lines and belt drives, on which static electricity is likely to accumulate, shall be effectively earthed. Receptacles for inflammable liquids shall have metallic connection to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be controlled.
(b) Mobile tank wagons shall be earthed during filling and discharge and precautions shall be taken to ensure that Earthing is effective before such filling or discharge takes place.
(c) Lighting condition

Lighting protection apparatus shall be fitted where necessary, and shall be maintained in good condition.
17. Process heating

The method providing heat for a process 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 inflammable gas, vapour or dust coming into contact with the flame, or exhaust gases, or other hot agency likely to cause ignition. So far as practicable, the heating medium shall

be automatically controlled at a pre-determined temperature below the danger temperature.
18. Escape of materials
(a) Provision shall be made in all plant, sewers, drains, flues, ducts culverts and buried pipes to prevent the escape and spread of any liquid, has vapour, fume or dust likely to give rise to fire or explosion, both during normal working and in the event of accident or emergency.
(b) If escape occurs, such substances shall be removed expeditiously and efficiently at the point of liberation. The effluent shall be trapped and rendered safe outside the danger area.
19. Leakage of inflammable liquids
(a) Provision shall be made to confine by means of bound walls, sumps, etc., possible leakages from vessels from containing inflammable liquids.

(b) Adequate and suitable fixed fire-fighting appliances shall be installed in the vicinity of-such vessels.

20. Cleaning of empty container

(a) All empty containers which have held inflammable liquids, and metal containers which have held sulphuric acid shall be rendered permanently safe as soon as practicable, and shall not be repaired or destroyed until such cleaning has been completed.

(b) Storage of combustible materials - Combustible and inflammable materials shall not be stored in close proximity to chemicals which are liable to cause ignition.

(c) Rubbish shall be removed from buildings without delay and placed in special metal containers provided with close fitting lids. The contents shall be removed daily and suitably dealt with. Waste products containing inflammable or explosive materials shall not be placed on rubbish heaps but shall be destroyed in an appropriate manner.

21. Installing of pipe lines for inflammable liquids

All pipe lines for the transport of inflammable liquids shall be protected from breakage, shall be arranged so that there is no risk of mechanical damage from vehicles and shall be so laid that they drain throughout without the collection of deposits at any part. All flanged joints, bends and other connections shall be regularly inspected. Cocks and valves shall be so constructed that explosive residues cannot collect therein. The open and closed positions of all cocks and valves shall be clearly indicated on the outside.

22. Packing of reaction vessels

Packing and jointing materials for reaction vessels (including covers, manhole covers and exhaust pipes) and in pipe lines and high or low temperature insulating materials shall not contain materials which are combustible or which react with the products of the plant.

23. Safety valves

Every still and every closed vessel in which gas is evolved or into which gas is passed, and in which the pressure is liable to rise to a dangerous degree, shall have attached to it a pressure gauge, and a proper safety valve or other equally efficient means to relieve the pressure, maintained in good condition- Nothing in these rules shall apply to metal bottles or cylinders used for the transport of compressed gasses.

24. Vigorous or delayed reactions

Suitable provision, such as automatic and distant control shall be made for controlling the effects of unduly vigorous or delayed reactions. Automatic flooding or blanketing shall be provided for in the event of an accident.

25. Examination, testing and repair of plant

Examination, testing and repair of plant parts which have been in contact with explosive and inflammable material, or which is under pressure, shall only be carried out under proper supervision.

26. Alarm systems

(a) Gravity or pressure feed systems of supplying inflammable materials to the various parts of the buildings or plant shall be fitted with alarm systems, automatic cut-offs or other devices to prevent overcharging or otherwise endangering the plant.
(b) The amount of inflammable material taken into a building in bulk containers at any one time shall be kept as low as practicable.
(c) Adequate steps shall be taken to prevent the escape of inflammable and explosive vapours from any container into the atmosphere of any building.

GAS, VAPOUR, FUME OR DUST RISKS

27. Escape of gases, etc.
(a) Effective steps shall be taken to prevent the escape of dangerous gases, vapours, fumes or dust from any part of the plant by the total enclosure of the process involved or by the provision of efficient exhaust draught. Effective arrangements shall be made to ensure that in the event of failure of the control measure provided in compliance of the forgoing, the process shall stop immediately.
(b) In the event of any such escape, provision shall be made to trap the materials and render them safe.
28. Danger due to effluent
(a) Adequate precautions shall be taken to prevent the mixing of effluents which may cause dangerous or poisonous gases to be evolved.
(b) Effluents which may contain or give rise in the presence of other effluents to such gases shall be provided with independent drainage systems to ensure that they may be trapped and rendered safe.

29. Staging
(a) Staging shall not be erected over any open vessel unless the vessel is so constructed and ventilated to prevent the remission of vapour or fumes about such staging.
(b) Where such staging is provided to give access to higher levels in large plants, effective means shall be provided at all levels with direct means of access to the outside of the room or building and thence to ground level.
(c) Such staging shall be fitted with suitable handrails and toe boards, and the floors and staging shall be impervious and easily cleaned.
30. Instructions as regards risk

Before commencing work, every worker shall be fully instructed on the properties of the materials they have to handle, and of the dangers arising from any gas, fume, vapour or dust which may be evolved during the process. Workers shall also be instructed in the measures to be taken to deal with such an escape in the event of emergency.
31. Breathing apparatus
(a) There shall be provided in every factory where dangerous gas or fume is liable to escape a sufficient supply of
(i) breathing apparatus of an approved make for the hazards involved;
(ii) Oxygen and suitable means of its administration; and
(iii) Life-belts.

The breathing apparatus and other appliances required by this rule shall
(i) be maintained in good order and kept in an ambulance room or in some other place approved in writing by the Chief Inspector; and
(ii) be thoroughly inspected once every month by a competent person, appointed in writing by the occupier, and a record of their condition shall be entered in a book provided for that purpose, which shall be produced when required by an Inspector.
(b) Workers shall be trained, and given a periodic refresher course, in the use of breathing apparatus and respirators.
(c) Respirators shall be kept properly labelled in clean dry light-proof cabinets, and if liable to be affected by fumes, shall be protected by suitable containers. Respirators shall be dried and cleaned after use and shall be periodically disinfected.
32. Treatment of persons

In every room or place wherever required in writing by the Chief Inspector there shall be affixed the official cautionary notice regarding grazing and burns. Such notices shall be legible by day and by night and shall be printed in the language understood by the majority of the workers.

33. Personal protective equipment
(a) Suitable protective clothing shall be provided for the use of operatives
(i) when operating valves or cocks controlling fluids which, by their nature, pressure or temperature would be highly dangerous if a blow-out occurred or when cleaning chokes in systems containing such fluids if pressure is likely to exist behind the chokes;
(ii) when there is danger of injury by absorption through the skin during the performance of normal duties or in the event of emergency;
(iii) whenever there is the risk of injury in handling corrosive substances, hot or cold articles and sharp or rough objects; and
(iv) when there is the risk of poisonous materials being carried away on their clothes.
(b) There shall be provided for the use of all persons employed in the processes specified in Annexure- II to these rules an adequate supply of suitable protective equipment including gloves, overalls and protective foot-wear, and of goggles and respirators. Respirators shall be of a type approved in writing by the Chief Inspector.
(c) Protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions in an emergency.
(d) Arrangements shall be made for the proper and efficient cleaning of all such protective equipment's.
34. Cloak rooms

There shall be provided and maintained for the use of all persons employed in the processes specified in Annexure - II to these rules a suitable cloak room, for clothing put off during working hours and a suitable place separate from the cloak room, for the storage of overalls or working clothes. The accommodation so provided shall be placed in charge of a responsible person, and shall be kept clean.
35. Special bathing accommodation

(a) There shall be provided for the use of all persons employed in the processes specified in Annexure - III to these rules separate sanitary conveniences and sufficient and suitable bathing facilities which shall be to the satisfaction of the Chief Inspector.
(b) A bath register shall be kept containing the names of all persons employed in these processes and an entry of the date when each person takes a bath.
36. Entry into vessels
(a) Before any person enters, for any purpose except that of rescue, any absorber, boiler, culvert, drain, flue gas purifier, sewer, still, tank, tower vitriol chamber or other place where there is reason to apprehend the presence of dangerous gas or fume a responsible person appointed in writing by the occupier for the purpose,

shall personally examine such place and shall certify in writing in a book kept for the purpose either that such place is isolated and sealed from every source of such gas or fume and is free from danger, or that it is not so isolated and sealed and free from danger. No person shall enter any such place which is certified not to be so isolated and sealed and free from danger unless he wears a breathing apparatus, and (where there are no cross stays or obstructions likely to cause entanglement) a life-belt, the free end of the rope attached to which shall be left with a man outside whose sole duty shall be to keep watch and to draw out the wearer if he appears to be affected by gas or fume. The belt and rope shall be so adjusted and worn that the wearer can be drawn up head foremost through any manhole or opening.
(b) A person entering for the purpose of rescue in any such place for which a clearance certificate has been issued shall wear a breathing apparatus and a life-belt in the manner specified.
37. Examination and repair of plant

Where poisonous materials are likely to be present the examination and repair and plant and piping shall only be done under the supervision of a competent person, and after the plant and piping has been thoroughly cleaned and ventilated. When opening vessels and breaking joints in pipe lines, respirators, goggles and protective clothing shall be worn to the extent required by the competent person.
38. Storage of acid carboys

Carboys containing nitric acid or "mixed acid" shall be stored in open-sided sheds detached from other buildings, and placed on a flooring of sandstone, bricks, or other suitable inorganic material. A passageway shall be provided and kept free from obstruction between every four rows of such carboys. An ample supply of water shall be available for washing away spilt acid and all precautions shall be taken to prevent workers being exposed to fumes.
CORROSIVE OR DELETERIOUS SUBSTANCES RISKS
39. Buildings

All buildings and plant shall be sited with due regard to possible dangers from accidental liberation or splashing of corrosive and deleterious liquids, and shall be so designed as to facilitate through washing and cleaning. The construction of staging and other parts of buildings shall be carried out with materials impervious and resistant to corrosion so far as practicable.

40. Leakage
(a) All plant shall be so designed and constructed as to obviate the escape of corrosive liquid. Where necessary separate buildings, rooms, or protective structures shall be used for the dangerous stages of the process and the buildings shall be so designed as to localize any escape of liquid.

(b) Catch pits, bund walls, or other suitable precautions shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipe-lines where there is danger involved to maintenance and other workers from such leakage.
(c) Passages and work-stations shall not be situated directly below any part of plant where there is risk of escape of dangerous liquid. Access to such part shall, so far as practicable, be prohibited, and danger notices shall be affixed at suitable points.
41. Precautions against escape

Adequate precautions shall be taken to prevent the escape of corrosive or deleterious substances and means shall be provided for rendering sake any such escape.
42. Drainage

Adequate drainage shall be provided and shall lead to special treatment tanks where deleterious material shall be neutralized or otherwise rendered safe before it is discharged into ordinary drain or sewers.
43. Covering of vessels
(a) Every fixed vessel or structure containing any dangerous material, and not so covered as to eliminate all reasonable risk of accidental immersion in it of any portion of the body of a worker, shall be so constructed that there is no foothold on the top of the sides.
(b) Such vessel shall, unless its edge is at least three feet above the adjoining ground or platform, be securely fenced to a height of at least three feet above such adjoining ground or platform.
(c) No plank or gangway shall be placed across or inside any such vessels, unless such plank or gangway is at least 18 inches wide, and is securely fenced on both sides by rails, spaced at 9 inches apart to a height of at least 3 feet, or by other equally efficient means.
(d) Where such vessels adjoin and the space between them clear of any surrounding brick or other work, is either less than 18 inches in width or is 18 or more inches in width, but is not securely fenced on both sides to a height of at least three feet, secure barriers shall be so placed as to prevent passage between them:

Provided that paragraph (b) of this rule shall not apply to
(i) saturators used in the manufacture of Sulphate of Ammonia; and
(ii) that part of the sides of brine evaporating pans which require ranking, drawing or filling.
44. Ventilation

Adequate ventilation shall be provided and maintained at all times in rooms or buildings where dangerous gas, vapour, fume or dust may be evolved.

45. Means of escape

Adequate means of escape from rooms or buildings in the event of a leakage of corrosive liquid shall be provided and maintained.

46. Treatment of personnel

In alt places where strong acids or dangerous corrosive liquids are used

(a) there shall be provided for use in an emergency

(i) adequate and readily accessible means of drenching with cold water, persons and the clothing of persons, who have become splashed with such liquid;

(ii) adequate special arrangements to deal with any person who has been splashed with poisonous material that can be absorbed through the skin;

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

(b) Except where the manipulation of such corrosive liquids is so, carried on as to prevent risk of personal injury from splashing or otherwise, there shall be provided for those who have to manipulate such liquid sufficient arid suitable goggles and gloves or other suitable protection for the eyes and hands; If gloves are provided, they shall be collected, examined and cleaned at the close of the day's work and shall be repaired or renewed when necessary.

47. Maintenance

(a) Before any examination or repairs are carried out on plant or pipelines, a competent person shall issue a clearance certificate permitted such examination or repairs.

(b) Adequate precautions shall be taken to liberate any packets of gas or liquid which may have been formed in pipe-lines, and which may cause corrosive spray at the point where dismantling takes place.

48. Washing facilities

(1) There shall be provided and maintained in any factory for the use of employed persons adequate and suitable facilities for washing which shall include soap and nail brushes or other suitable means of cleaning and the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.

(2) 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.

49. Mess-room facilities

In every factory there shall be provided and maintained for the use of those remaining on the premises during the rest intervals, suitable and adequate mess-room or canteen accommodation which shall be furnished with sufficient tables and chairs or benches with back rests and where sufficient drinking water is available.

50. Ambulance room

(a)
(i) In every factory in which more than 250 persons are employed on the process for which these rules apply there shall be provided and maintained in good order an Ambulance Room.
(ii) The Ambulance Room shall be a separate room used only for the purpose of treatment and rest. It shall have a floor space of not less than 100 square feet, and smooth, hard and impervious walls and floor, and shall be provided with ample means of natural and artificial lighting. It shall contain all items shown in Annexure - IV.
(iii) Where persons of both sexes are employed, arrangements shall be made at the Ambulance Room for their separate treatment.
(iv) The Ambulance Room shall be placed under the charge of a qualified-nurse or other person trained in First Aid, who shall always be readily available during working hours, and shall keep a record of all cases of accidents or sickness treated in the room.
(b) In every factory there shall be provided and maintained in good condition a suitably constructed ambulance van of the removal of serious cases of accident or sickness, unless arrangements have been made with a hospital or other place in telephonic communication with the factory for obtaining such a carriage immediately when required.
51. Medical personnel

There shall be whole time Medical Officer in every factory employing 250 persons or more.
52. Medical examination

In manufacture, processing, formulation or use of
(i) Hexathyl tetra phosphate;
(ii) Tetraothyle Pyrophosphate;
(iii) O.O. Diethyl O.P. nitrophenyle, thiophosphate (Parathion);
(iv) Nicotine, nicotine sulphate;
(v) Mercury derivatives;

(vi) Methyle Bromide;
(vii) Cyanides;
(viii) Arsenical derivatives;
(ix) Chrome process compounds;
(x) Nitro or amino process compounds.
(a) A Health Register containing the names of all persons employed in the manufacture, processing, formulation or use of the above chemicals shall be kept in a form approved by the Chief Inspector;
(b) No person shall be newly employed for more than fourteen days without a certificate of fitness granted after examination by the Certifying Surgeon by a signed entry in the Health Register;
(c) Every person shall be examined by the Certifying Surgeon once in three months on a date or dates of which due notice shall be given to all concerned;
(d) Every person so employed shall present himself at the appointed time for examination by the Certifying Surgeon as provided in (b) and (c) of this rule;

(e) The Certifying Surgeon shall have power of suspension as regards all persons employed and no person after suspension shall be employed without written sanction from the Certifying Surgeon entered in the Health Register.
53. Duties of workers

Every person employed shall
(a) report to his foreman any defect in any fencing, breathing apparatus, appliance or other requisite provided in pursuance of these rules, as soon as he becomes aware of such defect;
(b) use of articles, appliances or accommodation required by these rules for the purpose for which they are provided;
(c) wear the breathing apparatus and life-belt where required under Rule 36 (a) and (b).
54. No person shall
(a) remove any fencing provided in pursuance of Rule 43 unless duly authorized; or
(b) stand on the edge or on the side of any vessel to which Rule 43 applies;
(c) pass or attempt to pass any barrier erected in pursuance of Rule 43;
(d) place across or inside any vessel to which Rule 43 applies any plank or gangway which does not comply with that rule or make use of any such prank or gangway while in such position;

(e) Take a naked light or any lamp or matches or any apparatus for producing a naked light or spark into or smoke in, any part of the works where there is liability to explosion from inflammable gas. vapour or dust;
(f) use of metal spade, scraper or pail when cleaning out or removing the residues from any chamber, still, tank or other vessel which has contained sulphuric acid or hydrochloric acid or other substance which may cause evolution of arseniuretted hydrogen;
(g) remove from a First Aid box or cupboard or from the Ambulance Room any First Aid appliance or dressing-except for the treatment of injuries in the works.

ANNEXURE – I
"Chemical works" means any work or that part of a work in which
1. The manufacture or recovery of any of the following is carried on
(a) Carbonates, chromates, chlorates, oxides or hydroxides of potassium, sodium, iron, aluminium, cobalt, nickel, arsenic, antimony, zinc or magnesium;
(b) Ammonia and the hydroxide and salts of ammonium;
(c) Sulphurous, sulphuric, nitric, hydrochloric, hydrofluoric, hydriodic hydrosulphuric, boric, phosphoric, oxalic, arsenious, arsenic, lactic, acetic, tartaric or citric acids and their metallic or organic salts; and
(d) Cyanogen compounds.
2. A wet process is carried on
(a) for the extraction of metal from ore or from any by-product or residual material; or
(b) in which electric energy is used in any process of chemical manufacture.
3. Alkali waste or the drainage therefrom is subject to any chemical process for the recovery of Sulphur, or, for the utilization of any constituent of such waste or drainage.
4. Carbon bisulphide is made or hydrogen sulphide is evolved by the decomposition of metallic sulphides or hydrogen sulphide is used in the production of such sulphides.

5. Bleaching powder is manufactured or chlorine gas is made or issued in any process of chemical manufacture.
6.
(a) Gas tar or coal tar or any compound product or residue of such tars is distilled or is used in any process of chemical manufacture.
(b) Synthetic coloring matters or their intermediates are made.
7. Refining of crude shale oil or any process incidental thereto is carried out.
8. Nitric acid is used in the manufacture of nitro compounds.

9. Explosives are made with the use of nitro compounds.
10. Insecticides which may be phosphorus, nicotine, mercury, naphthalene, cyanogen, arsenic, fluorine, copper, benzene and ethane compounds, derivatives and methyl bromide are manufactured, mixed, bonded and packed.

The following insecticides and pesticides have been declared to be poisonous, vide Government of India, Ministry of Home Affairs, Notification No. 28-2-1958-P-IV, dated the 8th August, 1958:
Insecticides
(1) Parathion
(2) Tetraethyl pyrophosphate Rodenticides

Alpha naphthyl Thiourea Fungicides
(1) Ethory ethyl Mercury chloride
(2) Ethyl Mercury phosphate
(3) Phenyl Mercury acetate
(4) Ethyl Mercury chloride
(5) Phenyl Mercury chloride
(6) Phenyl Mercury urea.

Funigrants
(1) Methyl Bromide
(2) Cyanides, viz., the following Liquid Hydrocyanic Acid Sodium cyanide Potasium cyanide

Calcium cyanide
Preparation
Any preparation containing any of the aforesaid poisons.

ANNEXURE – II

1. A nitro or amino process (overalls suits or working clothes and protective footwear).
2. Grinding raw materials in chrome process (overall suits).
3. The crystal department and in packing in a chrome process (protective coverings).
4. Packing in a chrome process (respirators).
5. Any room or place in which chlorate is crystallized, ground or packed (clothing of woolen material and boots or overshoes, the, soles of which have no metal on them).

6. Any room in which caustic is ground or crushed by machinery (goggles and gloves or other suitable protection for the eyes and hands).
7. Bleaching powder chambers, or in packing charges drawn from such chambers (suitable respirators).
8. Drawing off of molten Sulphur from Sulphur pots in the process of carbon disulphide manufacture (overalls, face shields, gloves and footwear of fireproof material).
9.
(a) Manufacture, mixing, blending and packing of insecticides which are phosphorous, nicotine, naphthalene, cyanagen arsenic, fluorine, mercury and copper compounds or derivatives and methyl bromide (rubber aprons, chemical type goggles and suitable respirators and in addition rubber gloves and boots for phosphorus and nicotine derivatives, synthetic rubber aprons, gloves and boots when working with oil solutions; and washable working clothes laundered daily).
(b) Manufacture, mixing, blending and packing of insecticides which are derivatives of bexene or ethane (rubber aprons, and suitable respirators; separate work clothes, laundered frequently).

ANNEXURE – III
1. A nitro or amino process.
2. The crystal department and the packing room in a chrome, process.
3. The process of distilling gas or coal-tar (other than blast furnace tar) and any process of chemical manufacture in which such tar is used.
4. The manufacture, mixing, blending and packing of the insecticides mentioned in Annexure - 1.

ANNEXURE – IV
PART – I
(i) A glazed sink with hot and cold water always available.
(ii) A table with a smooth top.
(iii) Means for sterilizing instruments.
(iv) A couch.
(v) Stretcher.
(vi) Two buckets or containers with close-fitting lids.
(vii) Tow rubber hot water bags.
(viii) A kettle and spirit stove or other suitable means for boiling water.

(ix) Twelve plain wooden splints, 36" x 4" x 1⁄4".
(x) Twelve plain wooden splints, 14" x 3" x 1⁄4".
(xi) Six plain wooden splints, 10" x 2" x 1⁄2".
(xii) Three woolen blankets.
(xiii) One pair artery forceps.
(xiv) One bottle of brandy.
(xv) Two medium size sponges.
(xvi) Three hand towels.

(xvii) Two kidney trays.
(xviii) Four carbolic soaps.
(xix) Two glass tumblers and two wine glasses.
(xx) Two clinical thermometers.
(xxi) Graduated measuring glass with teaspoon.
(xxii) One eye bath.
(xxiii) One bottle (2.lbs.) carbolic lotion 1 in 20.
(xxiv) Two chairs.
(xxv) One screen.
(xxvi) One electric hand torch.
(xxvii) An adequate supply of anti-tetanus serum.
(xxviii) Two first aid boxes, each containing (a) 24 small sterilized dressings, (b) 12 medium size sterilized dressings, (c) 12 large size sterilized dressings, (d) 12 large size sterilized burn dressings, (e) 12 half ounce packets sterilized cotton wool, (f) one snake bit lancet, (g) one pair scissors, (h) two (1 oz.) bottles of potassium permanganate crystals, (i) one (4 oz.) bottle containing a two per cent alcoholic solution of iodine, (j) one (4 oz.) bottle of sal-volatile having the dose and mode of administration indicated on the label, (k) 1 copy of the first aid leaflet issued by the Chief Advisor of Factories, Government of India.

PART – II
Applying to works or parts thereof in which
I. Caustic pots are used; or
II. Chlorate or bleaching powder is manufactured; or
III.

(a) Gas tar or coal tar is distilled of is used in any process of chemical manufacture; or
(b) A nitro or amtno process is carried on; or
(c) A chrome process is carried on; or
IV. Crude shale oil is refined or processes incidental thereto are carried on; or
V. Nitric acid is used in the manufacture of nitro compounds; or
VI. The evaporation of brine in open pans and the stoving of salt are carried on; or.
VII. The manufacture or recovery of hydro-fluoric acid or any of its salts is carried on; and
VIII. Work at a furnace where the treatment of zinc ores is carried on.
IX. Insecticides mentioned in Annexure I are manufactured, mixed, blended or packed.
1. Entry of gas tar or coal tar still

Before any person enters a gas tar or coal tar still for any purpose except that of rescue, it shall be completely isolated from adjoining tar stills, either by disconnecting
(a) the pipe leading from the swan neck to the condenser worm, or
(b) the waste gas pipe fixed to the worm or receiver; and in addition, blank flanges shall be inserted between the disconnected parts, and the pitch discharge pipe or cock at the bottom of the still shall be disconnected.
2. Entry into bleaching powder chambers

No person shall enter a chamber for the purpose of withdrawing the charge of bleaching powder unless and, until
(i) the chamber is efficiently ventilated; and
(ii) The air in the chamber has been tested and found to contain no more than 2.5 grains of free chlorine gas per cubic foot.

A register containing details of all such tests shall be kept in a form approved by the Chief Inspector or Factories.
3. Special precautions for nitro and amino processes

In a nitro or amino process
(a) If crystallized substances are broken or any liquor agitated by hand, means shall be taken to prevent, as far as practicable, the escape pf dust or fume into the air of any place in which any person is employed. The handles of all implements used in the operations shall be cleansed daily.
(b) Cartridges shall not be filled by hand except by means of suitable scoop.

(c) Every drying stove shall be efficiently ventilated to the outside air in such a manner that hot air from the stove shall not be drawn into any work-room.
(d) No person shall enter a stove to remove the contents until a free current of air has been passed through it.
(e) Every vessel containing nitro or amino derivatives of phenol or of benzene or its homologues shall, if steam is passed into or around it, or if the temperature of the contents be at or above the temperature of boiling water be- covered in such a way that steam or vapour shall be discharged into the open air at a height of not less than 25 feet from the ground or the working platform, and at a point where it cannot be blown back again into the work-room.
4. Precautions during caustic grinding, etc.
(a) Every machine used for grinding or crushing caustic shall be enclosed; and
(b) where any of the following processes are carried on
(i) grinding or crushing of caustic;
(ii) packing of ground caustic;
(iii) grinding, sieving, evaporating or packing in a chrome process;
(iv) crushing, grinding or mixing of material or cartridge filling in a nitro or amino process; an efficient exhaust draught shall be provided;
(v) the insecticides mentioned in Annexure I are manufactured, mixed, blended or packed.

EXPLANATORY NOTE
The insecticides which belong to the highly toxic group are the following: Hexaethyl tetra phosphate; Tetra ethyl pyrophosphate; 0.0 Diethyl 0-P-nitrophenyl thiophosphate (parathinon); and Nicotine, Nicotine sulphate, Mercury derivatives Methylbromide; cyanides.
The active chemical in these insecticides can be quickly and easily absorbed through the unbroken skin; poisoning can occur from breathing the vapour of the active chemical or dusts impregnated with these chemicals; minute amounts if accidentally swallowed are quite likely to be fatal.

The plant requirements for ensuring safety to the workers are
(1) Instruct all personnel with regard to properties and characteristic (Draft chemical Rule 30 ensures this)
(2) Enclosure and ventilation on all mixing, blending and packing operations (Draft chemical work Rule 27 meets this requirement).
(3) Full protective clothing, including natural rubber gloves, boots and aprons (Synthetic rubber when working with of solutions) include a provision to this effect in Annexure - II.

(4) Washable working clothes laundered daily (To be added to Annexure-II).
(5) Separate looker for street clothing (Draft chemical works Rule 34 ensures this).
(6) Respiratory protection and chemical type goggles (To be provided in Annexure-II).
(7) No food or smoking on the job (Draft chemical works Rule 3 covers this).
(8) Excellent personnel hygiene (Draft chemical works Rule 35 covers this).
(9) Proper labelling and antidote and suggestions to doctor for treatment (This can be covered by issue of a cautionary notice).

The following insecticides belong to the moderately toxic group:
Hexachlor-hexahydro-dimethauo-napathalen (aldrin).
Hexachlor-epoxy-octahydro-dimethenonphtholene (dietdrin). Arsenate of lead and calcium; copper arsenite; copper arsenate (paris green) and Sodiumfluo aluminate (cryelite).
They require all the general precautions as for the highly toxic group excepting that rubber boots and gloves may be dispensed with excepting when working with oil solutions.
The following belong to the slightly toxic group:
Benzene hexachloride (gammexane or B.H.C.)
Dtchloio-diphenyl Dichloro ethane (D.D.D.)
Dtchloro dtpherly-trichloro ethane (D.D.T.)
Tetrachloro-dipheryl ethane (T.D.E.)
General precautions are
(1) in the various operations, where there is derstiness use filter type respirators;
(2) use separate work clothes, frequently laundered;
(3) do not consume food etc., in the work-rooms;
(4) have daily showers after work.
5. Chlorate manufacture
(a) Chlorate shall not be crystallized, ground or packed except in a room or place not used for any other purpose, the floor of which room or place shall be of cement or other smooth, impervious and incombustible material, and shall be thoroughly cleansed daily.
(b) Wooden vessels shall. Not be used for the crystallization of chlorate, or to contain crystallized or ground chlorate; provided that this regulation shall not prohibit the packing of chlorate for sale into wooden casks or other wooden vessels.

6. Restrictions on the employment of young persons and women
(a) Persons under 18 years of age and women shall not be employed in any process in which hydro- fluoric acid fumes or ammonical vapours are given off or in any of -the following operations:

(i) evaporation of brine in open pans;
(ii) stoving of salt;
(iii) work at a furnace where the treatment of zinc ores is carried on; and
(iv) the cleaning of work-rooms where the process mentioned in (iii) is carried on.
(b) No person under 18 years of age shall be employed in a chrome process or in a nitro or amino process in which the following materials are used or where the vapour of such materials is given off:

Carbon bisulphide, chlorides of Sulphur, benzene; Carbon tetrachloride, trichlorethiene; and Carbon chlorine compound, or any mixture containing any of such materials.
7. Personal Protective Equipment

Every person employed
(a) in a process to which Rule 33 applies shall wear the protective clothing, footwear, respirators, goggles or gloves provided under Rule-33 and shall deposit overalls or suits or working clothing so provided as well as clothing's put off during hours, in the places provided under Rule 34.
(b) in a process to which Rule 35 applies shall carefully wash the hands and face before partaking of any food or leaving premises;
(c) in any processes to which Part-II of these rules applies shall use the protective appliances supplied in respect of any process which he is engaged.

SCHEDULE – XIII
COMPRESSION OF OXYGEN AND HYDROGEN PRODUCED BY THE ELECTROLYSIS OF WATER
1. The room in which electrolyser plant is installed be separate from the plant for storing and compressing the oxygen and hydrogen and also the electric generator room.
2.
(a) 99[The purity of oxygen and hydrogen shall be tested by a competent person at least once in every shift at following points:
(i) in the electrolysis room;
(ii) at the gas holder inlet; and
(iii) at the suction end of compressor.

(b) The purity figures shall be entered in the register and signed by the person carrying out such tests:

Provided, however, that if the electrolyser plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm lights, it shall be sufficient if the purity of the gases is tested at the suction and of the compressor only.]
3. The oxygen and hydrogen gas shall not be compressed, it their purity as determined under Clause (2) above falls below 98 per cent at any time.
4. 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 holder and the hydrogen compressor to switch off the compressor motor in the event of the gas holder being emptied to the extent as to cause vacuum.
5. The bell of any gas holder shall not be permitted to go within 30 cm. (12 in) of its lowest position when empty, and a visual and an audible warning signal shall be fitted to the gas holder to indicate that this limit is reached.
6. The water and caustic soda used for making dye shall be chemically pure within pharmaceutical limits.
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.
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 re-connection shall be purged of all air before drawing in hydrogen gas.
9. All electrical wiring and apparatus in the electrolyser room shall be of flame-proof construction or enclosed in flame-proof fitting 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.
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.
11. No work or operation, 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 repair shall be switched on to the

electrolysis 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 Rule 7.
12. Every part of the electrolyser plant and the gas holders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith.

100[SCHEDULE – XIV

Handling and processing of Asbestos, manufacture of any article of Asbestos and any other processes of manufacture or otherwise in which Asbestos is used in any form

1. Application

This Schedule shall apply to all factories or parts of factories in which any of the following processes is carried on
(a) breaking, crushing, disintegrating, opening, grinding, mixing or seiving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;

(b) all processes in the manufacture of asbestos textiles including preparatory and finishing processes;
(c) making of insulation slabs or sections, composed wholly or partly of asbestos, and processed incidental thereto;
(d) making of repairing of insulating mattresses, composed wholly or partly of asbestos, and processes Incidental thereto;
(e) manufacture of asbestos cardboard and paper;
(f) manufacture of asbestos cement goods;
(g) application of asbestos by spray method;
(h) sawing, grinding, turning, abrading and polishing in dry state of articles composed wholly or partly of asbestos;
(i) cleaning of any room, vessel, chamber, fixture or appliance for the collection of asbestos dust; and
(j) any other processes in which asbestos dust is given off into the work environment.
2. Definitions

For the purpose of this Schedule
(a) "asbestos" means any fibrous silicate mineral and any admixture containing actionlite, amosite, anthophyllite, dhrysolite, crocidolite tremolite or any mixture thereof, whether crude, crushed or opened;

(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 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 localized 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 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 bed with asbestos; and
(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 loose asbestos is delivered or passes;
(d) work-benches for asbestos waste sorting or for other manipulation of asbestos by hand;
(e) work places 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.
(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.
(3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any work-room.
(4) The asbestos bearing dust removed from any work-room by the exhaust system shall be collected in suitable receptacles or filter bags which shall be isolated from all work areas.
5. Testing and examination of ventilating systems
(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 twelve months. Any defects found by such examinations or test shall be rectified forthwith.
(2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alterations, if any, found to be necessary shall be kept and shall be available for inspection by an Inspector.
6. Segregation in case of certain process

Mixing or blending by the hand of asbestos 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.
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 within a factory except in such receptacles or in a totally enclosed system of conveyance.
8. Asbestos sacks
(1) All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials aid shall be kept in good repair.
(2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine complying with paragraph 3.

9. Maintenance of floors and workplaces
(1) In every room in which any of the requirements of this Schedule apply
(a) the floor's, 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
(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 obstruct the proper cleaning of the floor.
(2) The cleaning as mentioned in Sub-rule (1) shall, so far as is practicable, be 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,
(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 trial room shall be provided with respiratory protective equipment and protective clothing.
(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 clean state and free from asbestos waste and dust.
(5) Asbestos waste shall not be permitted to remain on the floor 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.
10. Breathing apparatus and protective clothing
(1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every person employed
(a) in chambers containing loose asbestos;
(b) in cleaning, dust settling or filtering chambers or apparatus;
(c) in cleaning the cylinders, including the doffer cylinders, or other parts of a carding machine by means of hand-strickles; and
(d) in filling, beating, or levelling in the manufacture or repair of insulating mattresses; and
(e) in any other operation or circumstance in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.
(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.;
(3) All breathing apparatus and protective clothing when not in use shall be stored in the, accommodation, provided in accordance with sub-paragraph (2).
(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 shall be such as to ensure the efficiency, in protecting the wearer.
(5) All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.

(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.
(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.
(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.
11. Separate accommodation for personal clothing

A separate accommodation shall be provided in a conveniently accessible/position for all persons employed in operations to which this Schedule applies for storing of personal clothing. This shall be separated from the accommodation provided under sub-paragraph (2) of paragraph 10 to prevent contamination of personal clothing.
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 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 fifteen 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 it so ordered by the Inspector.
(5) Sufficient supply of soap and nail brushes shall be provided.

13. Mess room
(1) There shall be provided and maintained for the use of all workers 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
(a) sufficient tables and benches with back rest; and
(b) adequate means for warming food.
(2) The mess room shall be placed under the charge of a responsible person and shall be kept clean.
14. Prohibition of employment of young persons

No young person shall be employed in any of the process covered by this Schedule.
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.

16. Cautionary notices
(1) Cautionary notices shall be displayed at the approaches and along the perimeter of every asbestos processing area to warn all persons regarding
(a) hazards to health from asbestos dust;
(b) need to use appropriate protective equipment;
(c) prohibition of entry to unauthorized persons, or authorized person but without protective equipment.
(2) Such notices shall be in the language understood by majority of the workers.
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.
18. Medical facilities and records of medical examinations and tests
(1) The occupier of every factory or part of the factory to which this Schedule applies, shall
(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;
(b) Provide to the said medical practitioner alt 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 Inspectors.
19. Medical examination by Certifying Surgeon
(1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include pulmonary function tests, tests for detecting asbestos fibres in sputum and chest X-ray. No worker shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
(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 examinations 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 three years.
(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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-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 31.
(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 shall 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.
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.]

101[SCHEDULE – XV

MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING FREE SILICA

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. Definitions

For the purpose of this Schedule
(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;
(b) "stone or any other material containing free silica" means a stone or any other solid material containing not less than five per cent by weight of free silica.

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:
(a) damping the stone or other material being, processed,
(b) providing water spray,
(c) enclosing the process,
(d) isolating the process, and
(e) providing localized exhaust ventilation,
(f) 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 17-B:

(g) 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. Maintenance of floors

(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.

(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 cleaned to deduct once at least during each shift after being sprayed with water or by any

other suitable method so as to prevent dust being airborne in the process of cleaning.

5. Prohibition relating to 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 on.

6. 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 officer 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 officer all the necessary facilities for the purpose referred to in Clause (1).

(2) The record of medical examination and appropriate tests carried out by the said medical officer 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.

7. Medical examination by Certifying Surgeon

(1) Every worker employed in the processes specified in paragraph 1, shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such medical examination shall include pulmonary function tests and chest X-ray. No worker shall be allowed to work after fifteen days, unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve months. Such 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 three years.

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. The record of 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- 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 31.

(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 shall also include the. period for which he considers that the said person is unfit for 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.
8. Exemptions

If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or the 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.]

102[SCHEDULE – XVI

HANDLING AND MANIPULATION OF CORROSIVE SUBSTANCES

1. Definitions

For the purpose of this Schedule
(a) "Corrosive operation" means an operation of manufacturing, storing, handling, processing, packing or using any corrosive substance in a factory.
(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 a corrosive substance.
2. Flooring

The floor of every work-room of a factory, in which corrosive operation is carried on, shall be made of impervious, corrosive and fire resistant material and 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.
3. Protective equipment
(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's shall be maintained in good order and shall be kept 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.

(b) The protective equipment and preparations provided shaft be used by the persons employed in any corrosive operations.
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 cms. (7 Ft.), from a pipe of 1.25 cm. (1⁄2 inch) diameter and fitted with a quick acting valve, so that in case of injury to the workers 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 cms., 120 cms. and 60 cms. respectively or such dimensions, as are approved by the Chief Inspector shall be provided as the source of clean water.

5. Cautionary notice

A cautionary notice in the following form and printed in the language which majority of the workers employed understand shall be displaced prominently, close to the place, where any of the operations mentioned in paragraph 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 contract, immediately flood the part affected with plenty of water for at least 15 minutes.

6. Transport

(a) Corrosive substances shall not be filled, moved, or carried except in containers and when they are to be transported, they shall be included in crates of sound construction and sufficient strength.

(b) A container with a capacity of (11.5 liters), 21⁄2 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 levelled.

7. Device for handling corrosives

(a) Suitable tilting or lifting device shall be used for emptying jars, carboys and other containers of corrosive.

(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 a great care if they do, not work freely they shall not be forced open, they shall be opened by a worker suitably trained (or 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 materials shall be used to prevent production of arseniuret 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 Factories Act, 1948 shall be taken to ensure the workers' 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 of 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 liters or mere and every pipeline, valves, and fittings used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects and such defects shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector, whenever required.
11. Fire extinguishers and fire-fighting equipment

An adequate number of suitable type of fire extinguishers or other fire-fighting equipment depending on the nature of chemicals 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.
12. Exemption

If in respect of any factory, on an application made by the Manager, the Chief Inspector is satisfied, that owing to the exceptional circumstances, or the infrequency of the process

for any other reasons to be recorded by him in writing all or any of the provisions of this Schedule, are 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.]

103[SCHEDULE – XVII

SOLVENT EXTRACTION PLANTS

1. Definitions
(a) "Solvent extraction plant" means the plant in which the process of extracting vegetable oils from oil- cakes by the use of solvents is carried on;

(b) "solvent" means an inflammable liquid such as pentene, hexane and heptane used for the recovery of vegetable oils;
(c) "flame-proof" enclosure as applied to electrical machinery or apparatus means an enclosure that will withstand when covers or other process 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 ten 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 specialized knowledge of oils and fats and with a minimum experience of five years in a solvent extraction plant shall also be considered to be 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.
2. Location and layout
(a) No solvent extraction plant shall be permitted to be constructed or extended to within a distance of thirty metres from the nearest residential locality.
(b) A 1.5-meter-high continuous wire fencing shall be provided around the solvent extraction plant up to a minimum distance of fifteen metres from the plant.
(c) No person shall be allowed to carry any matches or an open flame or fire inside the area bound by the fencing.
(d) Boiler house and other buildings where open flame processes are carried on shall be located at least thirty meters' away from the solvent extraction plant.

(e) If godowns and preparatory processes are at less than three meters' distance from the solvent extraction plant, it shall be at least fifteen meters' distance from the plant and a continuous barrier wall of non-combustible material of 1.5 meters' high shall be erected at a distance of not less than fifteen meters' from the solvent extraction plant so that it extends to (at least thirty meters' of vapour travel around its ends from the plants to) the possible sources of ignition.
3. Electrical installations
(a) All electrical meters' and wiring and other electrical equipment's installed or housed in a solvent extraction plant shall be of flame proof 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 energized shall be properly bounded 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 be strictly prohibited with fifteen meters' distance from solvent extraction plant. For this purpose, "No smoking" signs shall be permanently displayed in the area.
5. Precautions against friction

(a) All coils and equipment's including ladders, chains and other lifting tackles required to be used in solvent extraction plants shall be of non-sparking type.
(b) No machinery or equipment in a solvent extraction plants shall be belt-driven unless the belt used is of such 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 a solvent extraction plant by 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 plants.
(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 or 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 convenor through a hopper and a magnetic separator shall be provided to remove any pieces of iron during its transfer.
9. Venting
(a) Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.
(b) All emergency relief vents shall terminate at least six meters above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.
10. Waste water

Processed waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into sump.
11. Ventilation

This 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.
12. House keeping
(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.
(b) Waste materials such as, oil 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.

(c) Space within the solvent extraction plant and within fifteen meters from the plant shall be kept free from any combustible materials and any spills of oil or solvent, shall be cleaned up immediately.

13. Examination and repairs

(a) The solvent extraction plant shall be examined by a competent person to determine any weakness of corrosion and wear once in every twelve 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.

(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 person 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 combustible gas indicator shall be provided and maintained in good working order and 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

If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the process or for any other reason, all or any of the provisions of this Schedule is not necessary for the protection of 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.]

[104][SCHEDULE - XVIII

MANUFACTURE OR MANIPULATION OF CARCINOGENIC DYE INTERMEDIATES

1. Application

This Schedule shall apply in respect of all factories or any part thereof where processes in which the substances mentioned in paragraphs 3 and 4 are formed, manufactured, handled or used and the process incidental thereto in the course of which these substances are formed are carried on. The processes indicated in this paragraph shall be referred to as "the said processes" and such a reference shall mean any or all the processes described in this paragraph.

2. Definitions

For the purpose of this Schedule the following definitions shall apply unless the context otherwise requires
(a) "controlled substances" means chemical substances mentioned in paragraph 4 of this Schedule;
(b) "first employment" means first employment in the said process and also re-employment in such process following cessation of employment for a continuous period exceeding three calendar months;

(c) "efficient exhaust draught" means localized 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;
(d) "prohibited substances" means chemical substances mentioned in paragraph 3 of this Schedule.
3. Prohibited substances

For the purpose of this Schedule the following chemical substances shall be classified as prohibited substances except when these substances are present or are formed as by-product of a chemical reaction in a total concentration not exceeding one per cent-
(a) Beta naphthylamine and its salts;
(b) Benzidine and its salts;
(c) 4-Amino diphenyle and its salts;
(d) 4-Nitro diphenyl and its salts; and
(e) any substance containing any of these compounds.
4. Controlled substances

For the purpose of this Schedule the following chemical substances shall be classified as "controlled substances":
(a) Alpha-naphthylamine or alpha-naphthylamine containing not more than one per cent of beta- naphthylamine either as a by-product of chemical reaction or otherwise and its salts;
(b) Otho-tolidine and its salts;
(c) Dianisidine add its salts;
(d) Dichlorobenzidine and its salts;
(e) Auramine;
(f) Mangnata.
5. Prohibition of employment

No person shall be employed in the said processes in any factory in which any prohibited substance is formed, manufactured, processed handled or used except as exempted by the Chief Inspector as stipulate in paragraph 23.
6. Requirements for processing or handling controlled substances
(1) Wherever any of the controlled substances referred to in paragraph 4 are formed, manufactured, processed, handled or used, all practical steps shall be taken to prevent

inhalation, ingestion or absorption of the said controlled substances by the workers while engaged in processing that substances and its storage or transport

within the plant or in cleaning or maintenance of the concerned equipment, plant, machinery and storage areas.
(2) As far as possible all operations shall be carried out in a totally enclosed system. Wherever such enclosure is not possible, efficient exhaust draught shall be applied at the point where the controlled substances are likely to escape into the atmosphere during the process.
(3) The controlled substances shall be received in the factory in tightly close containers and shall be kept so except when these substances are in process or in use. The controlled substances shall leave the factory only in tightly closed containers of appropriate type. All the containers shall be plainly labelled to indicate the contents.
7. Personal protective equipment
(1) The following items of personal protective equipment's shall be provided and issued to every worker employed in the said processes:
(a) long trousers and shirts or overalls with full sleeves and head coverings. The shirt or overall shall cover the neck completely.
(b) Rubber gum boots.
(2) The following items of personal protective equipment's shall be provided in sufficient numbers for use by workers employed in the aid processes when there is danger of injury during the performance of normal duties or in the event of emergency
(a) rubber hand gloves;
(b) rubber aprons;
(c) airline respirators or other suitable respiratory protective equipment.
(3) It shall be the responsibility of the Manager to maintain all items of personal protective equipment's in a clean and hygienic condition and in good repair.
8. Prohibition relating to employment of women and young person's

No woman or young person shall be employed or permitted to work in any room in which the said processes are carried on.
9. Floors of work-room

The floor of every work-room 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 let into a sewer through a closed channel.
10. Disposal of empty containers

Empty containers used for holding controlled substances shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

11. Manual handling

Controlled substances shall not be allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle. Such scoop shall be thoroughly cleaned daily.

12. 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, 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.

13. 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 easily and conveniently read; Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.

14. 105[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 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.

15. Medical examination by the Certifying Surgeons

(1) Every worker employed in the said processes shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include tests for detection of methemoglobin in blood (Hematological tests). Paranitrophenol in urine pulmonary function tests and C. N. S. tests. No worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every six calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1).

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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-paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 31.

(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 shall 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.]
16. Obligations of the workers

It shall be the duty of the persons employed in the said processes to submit themselves for the medical examination including exfoliative cytology of urine by the Certifying Surgeon or the qualified medical practitioner as provided for under these rules.
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) 56 per cent of the stand pipes provided under Clause (a) shall be located in bath rooms 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.

(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 every day.
18. Food, drinks, etc., prohibited in work-room

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.
19. Cloak room

There shall be provided and maintained in a clean state in good repair for the use of the workers employed in the said processes
(a) a cloak room with lockers having two compartments one for streets clothes and the other for work clothes; and

(b) a place separate from the locker room and the mess- room, for the storage of protective equipment's provided under paragraph 7. The accommodation so provided shall be under the care of a responsible person and shall be kept clean.

20. 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; provided that where a canteen or other proper arrangement exists for the workers to take their meals, the requirement of a mess-room shall be dispensed with.

21. Time allowed for washing

Before the end of each shift 30 minutes shall be allowed for bathing for each worker who is employed in he said processes. Further, at least 10 minutes shall be allowed for washing before each meal in addition to the regular time allowed for meals.

22. Restriction on age of persons employed

No worker under the age of 40 years shall be engaged in the factory in the said processes for the first time after the date on which the schedule comes into force.

23. Exemptions

Prohibited substances

(1) The Chief Inspector may by certificate, in writing (which he may at his discretion revoke at any time) subject to such conditions, if any, as may be specified therein, exempt any process in the course of which any of the prohibited substances is formed, processed, manufactured, handled or used, from the provisions of paragraph 5 if he is satisfied that the process is carried out in a totally enclosed and hermetically sealed system in such manner that the prohibited substance is not

removed from the system except in quantities no greater than that required for the purpose of control of the processes or such purposes as is necessary to ensure that the product is free from any of the prohibited substances.

(2) The Chief Inspector may allow the manufacture, handling or use of benzidine hydrochloride; provided that all the processes in connection with it are carried out in a totally enclosed system in such a manner that no prohibited substance other than benzidine hydrochloride is removed therefrom except in quantities no greater than that required for the purpose of control of the processes or such purposes as is necessary to ensure that the product is free from prohibited substances and that adequate steps are taken to ensure that benzidine hydrochloride is, except while not in a totally enclosed system, kept wet with not less than one part of water to two parts of benzidine hydrochloride at all times.

24. Exemption (General)

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 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.

APPENDIX

CAUTIONARY PLACARD NOTICE CARCINOGENIC DYE INTERMEDIATES

1. Dye intermediates which are nitro or amino derivatives or aromatic hydrocarbons are toxic. You have to handle these chemicals frequently in this factory.
2. Use the various items of protective wear to safeguard your own health.
3. Maintain scrupulous cleanliness at all time. Thoroughly wash hands and feet before taking meals. It is essential to take a bath before leaving the factory.
4. Wash off any chemical failing on your body with soap and water. If splashed with a solution on the chemical remove the contaminated clothing immediately. These chemicals are known to produce cyanosis. Contact the medical officer or appointed doctor immediately any get his advice.
5. Handle the dye intermediates only with long handled scoops, never with bare hands.
6. Alcoholic drinks should be avoided as they enhance the risk of poisoning by the chemicals.
7. Keep your food and drinks away from work place. Consuming food, drinks or tobacco in any form at the place of work is prohibited.

8. Serious effects from work with toxic chemicals may follow after many years. Great care must be taken to maintain absolute cleanliness of body, clothes, machinery and equipment.

SCHEDULE - XIX

MANUFACTURE OR MANIPULATION OF MANGANESE AND ITS COMPOUNDS

1. Definitions

For the purpose of this Schedule

(a) "Manganese process" means processing, manufacture or manipulation of manganese or any compound of manganese or any ore or any mixture containing manganese.

(b) "First employment" means first employment in any manganese process and includes also re-employment in any manganese process following any cessation of employment for a continuous period exceeding three calendar months.

(c) "Manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping or otherwise handling of manganese, or a compound of manganese or an ore or mixture containing manganese.

(d) "Efficient exhaust ventilation" means localized ventilation effected by mechanical means for the removal of dust or fume or mist 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 frequency of the process, or for any other reasons, 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 of 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. [106][Medical facilities and records of examination 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 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.

6 - A. Medical examination by Certifying Surgeon

(1) Every worker employed in any manganese process shall be medically "examined by a Certifying Surgeon within fifteen days of his first employment. Such examination 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 co-ordination tests. No worker shall be allowed to work after fifteen days of his first employment in the factory, unless certified for such employment by the Certifying Surgeon.

(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).

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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-paragraphs (1) and (2), including the nature and the results of these testes, shall also be entered by the Certifying Surgeon in a health register in Form 31.
(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 the 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 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 to work in the said process.
(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 process, unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]
7. Personal protective equipment
(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.
(2) The occupier of the factory shall provide suitable respiratory protective equipment for use by workers in emergency to prevent inhalation of dust 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.
(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 of personal protective equipment's.
8. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any manganese process.
9. Food, drinks prohibited in the work-rooms

No food, drinks, pan and supari or tobacco shall be allowed to be brought into or consumed by any worker in any work-room in which any manganese process is carried on.
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 provided that where a canteen or other proper

arrangements exist for the workers to take their meals, the requirements of a mess-room shall be dispensed with.

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 wash place under cover with either

(1) a trough with a smooth impervious surface fitted with a waste pipe without plug. The trough shall be of sufficient length to allow at least sixty centimeters 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 centimeters or 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 constant supply of water; and

(2) sufficient supply of rope or other suitable cleaning material and nail brushes and clean towels.

12. Cloak room

If the Chief Inspector so requires there shall be provided and maintained for the use of persons employed in manganese process a cloak room for clothing put off during working hours with adequate arrangement for drying the clothing.

13. Cautionary placard and instructions

Cautionary notices in the following form and printed in the language of the majority of the workers 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 measure and methods to protect themselves. The notices shall always be maintained in a legible condition.

Cautionary Notice

Manganese and manganese compound

1. Dust, fumes and mists of manganese and compounds are toxic when inhaled or when ingested.
2. Do not consume food or drink near the work place.
3. Take good wash before taking meals.
4. Keep the working area clean.
5. Use the protective clothing's and equipment's provided.
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.
7. If you get severe headaches, prolonged sleeplessness or abnormal sensation on the body report to the manager who would made arrangements for your examination and treatment.

SCHEDULE – XX

MANUFACTURE, HANDLING AND USAGE OF BENZENE AND SUBSTANCES CONTAINING BENZENE

1. This Schedule shall apply in respect of factories or parts thereof in which benzene or substances containing benzene are manufactured, handled, or used.

2. Definitions

For the purpose of this Schedule
(a) "substances containing benzene" means substances wherein benzene content exceeds 1 percent by volume;
(b) "substitute" means a chemical with his harmless or less harmful than benzene and can be used in place of benzene;
(c) "enclosed system" means a system which will not allow escape of benzene vapours to working atmosphere;
(d) "efficient exhaust draught" means localized ventilation effected by mechanical means for the removal of gases, vapours and dust 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 smokes generated at the point where such gases, vapours fumes, or dusts originate.
3. Prohibition and substitution
(a) Use of benzene and substances containing benzene is prohibited in the following process:
(1) Manufacture, of varnishes, paints and thinners;
(2) Cleaning and greasing operations.
(b) Benzene or substances containing benzene shall not be used as a solvent or dilute unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in a manner which is considered equally safe as if it were carried out in an enclosed system.
(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 following processes:
(1) Production of benzene;
(2) Process where benzene is used for chemical synthesis;
(3) Motor spirits (used and fuel).
(d) The Chief Inspector may subject to confirmation by the State Government permit exemption from the percentage laid down in Clause 2 (a) and also from the provisions of sub-clause (c) temporarily under conditions and within limits of time to be determined after consultation with the employers and workers concerned.
4. Protection against inhalation
(a) The process involving the use of benzene or substances containing benzene shall as far as practicable be carried out in an enclosed system.

(b) Where however it is not practicable to carry out the process in an enclosed system the work-room in which benzene or substances containing benzene are used be equipped with an efficient exhaust draught or other means for removal of benzene vapours to present their escape into the air of the workroom so that the concentration of benzene in the air does not exceed 25 parts per million by Column 3 or 80 mg/m.

(c) Air analyzers 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 25 parts per million by volume of 80 mg/m. The Manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase.
(d) Workers who for special reasons are likely to be exposed to concentration of benzene in the air of the work-room exceeding the maximum referred to in Clause (b) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.
5. Measures against skin contact
(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.
(b) The protective wear referred to in sub-clause (a) shall be maintained in good condition and inspected regularly.
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 substance containing benzene.
7. Labelling

Every container holding 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 inflammability of the chemical.
8. Improper use of benzene
(a) The use of benzene or substances containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.
(b) Workers shall be instructed on the possible dangers arising from such misuse.

9. Prohibition of consuming food, etc., in work-room

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 work-rooms.
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.
11. Cautionary notices

Cautionary notices in the form specified in Appendix and presented 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,

12. Washing facilities, cloak-room and mess-room

In factories in which benzene or substances containing benzene are manufactured, handled or used the occupier shall provide and maintain in clean state and good repairs

(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 clean towel provided individually to each worker if so ordered by the Inspector;

(b) cloak-room with lockers for each worker having two compartments, one for street clothing and one for work clothing;

(c) a mess-room furnished with tables and benches with means for warming food; provided that where a canteen or other proper arrangement exists for the workers to take their meals, the requirements of a mess-room shall be dispensed with.

13. 107[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 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.

14. Medical examination by the Certifying Surgeon

(1) Every worker employed in processes mentioned in paragraph (1) shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include tests for detection of phenol in urine and determination of urinary sulphide ratio and C. N. S. and hematological tests. No worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every twelve calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1). Further, every worker shall also be examined once in every three calendar months by the factory Medical Officer,

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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-paragraphs (1) and (2) including in the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 31.

(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 shall 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.

APPENDIX
CAUTIONARY NOTICE
(a) 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 and other diseases.

(b) Preventive measures
(i) Avoid breathing of benzene vapours;
(ii) avoid prolonged or repeated contact of benzene with skin;
(iii) remove benzene soaked or west clothing promptly;
(iv) if at any time you are exposed to high concentration of benzene vapours and exhibit the 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 house-keeping.
(c) Protective equipment
(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 measure in case of acute benzene poisoning
(i) If liquid benzene enters eyes, flush thoroughly for at least 15 minutes with clean running water and immediately secure medical attention;
(ii) 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 pillow and keep him quiet and warm.

If the exposed person is unconscious
(a) lay him down preferably on the left side with 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 - XXI
MANUFACTURE OR MANIPULATION OF DANGEROUS PESTICIDES
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 pesticides (hereinafter referred to as the said manufacturing process) is carried on.
2. Definitions

For the purpose of this Schedule
(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 formulation which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made thereunder and any other produces 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 localized technical 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. 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;
(d) "first employment" shall mean first employment in any manufacturing process to which this Schedule applies and shall also include re-employment in the said manufacturing process following any cessation of employment for a continuous period exceeding three calendar months; and
(e) 108[xxx]
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 employee shall also be instructed about the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

4. Cautionary notices 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 the 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 health hazards arising in the said manufacturing process and methods of protection. Such notices shall

include brief instruction regarding the periodical clinical tests required to be undertaken for protecting the 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 prohibited

(1) No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any work- room in which the said manufacturing process in carried out.

(2) Smoking shall be prohibited in any work-room in which the said manufacturing process is carried out.

7. Protective clothing and protective equipment

(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.

(2)

(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 process.

(b) Gloves, boots and aprons shall be made from synthetic rubber where a pesticide contains oil.

(3) Protective clothing and equipment's shall be worn by the workers supplied with such clothing and equipment's.

(4) Protective clothing and equipment's shall be washed daily from inside and outside of the workers handle pesticides containing, nicotine or phosphorous and shall be washed frequently if handling other pesticides.

(5) Protective clothing and equipment shall be maintained in good repair.

8. Floors and work benches

(1) Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.

(2) Floors shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with 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, door or on the protective clothing, work by a worker, immediate action shall be taken for thorough decontamination or such areas or articles.
(2) Cloths, rags, papers or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. 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 contract of any part of the body with a dangerous pesticide during its manipulation shall be avoided.
12. Ventilation
(1) In every work-room 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 size containers.
(3) In the event of a failure of the exhaust draught provided or 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 pesticides.
(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
(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.
(2) The washing places shall have stand pipes spaced 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 bath rooms.
(4) Sufficient supply of clean towels made of suitable materials 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.
15. Cloak room

There shall be provided and maintained for the use of all workers employed in the factory where the said manufacturing processes carried on-
(a) a cloak room 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.
16. Mess-room
(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, a suitable mess-room which shall be furnished with –
(a) sufficient tables and benches with back rest; and
(b) adequate means for warming food.
(2) The mess room shall be placed under the charge of a responsible person and shall be kept clean; provided that where a canteen or other proper arrangement exist for the workers to take their meals, the requirements of a mess-room shall be dispensed with.

17. Manipulation not to be undertaken

Manufacture or manipulation of a pesticide shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.
18. [109][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 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.
19. Medical examination by Certifying Surgeon
(1) Every worker employed in the processes mentioned in paragraph 1 shall be examined by the Certifying Surgeon within fifteen days of his first employment. Such examination in respect of Halogenated Pesticides shall include tests for determination of the chemical in blood and in fat

tissues. ECG abnormalities and memory tests. In respect of organ phosphorous compounds, such examinations shall include test for depression of cholineste-rase in plasma and red blood cells. No worker shall be allowed to work after fifteen 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 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 process shall also be examined once in every three months by the factory medical officer.

(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. 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-paragraphs (1) and (2) including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 31.

(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 shall 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.]

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 reasons which he shall record in writing all or any of the provisions of this Schedule are not necessary for the protection of the workers employed in the factory he may, by a certificate in writing, exempt such factory from all or any of the provisions on such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector after recording his reason therefor.

APPENDIX

CAUTIONARY NOTICE INSECTICIDES AND PESTICIDES

1. Chemicals handled in this plant are poisonous substances.
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. Some of these chemicals may be absorbed through skin and may cause poisoning.
4. A good wash shall be taken before meals.
5. A good wash shall be taken at the end of the shift.

6. Protective clothing and equipment supplied shall be used while working in this area.
7. Containers of pesticides shall not be used for keeping food stuff.
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.
9. Clothing contaminated due to splashing shall be removed immediately.
10. Scrupulous cleanliness shall be maintained in this area.
11. Do not handle pesticides with bare hands, use scoops provided with handle.
12. In case of sickness like nausea, vomiting, giddiness, the Manager should be informed who will make necessary arrangements for treatment.
13. All workers shall report for the prescribed medical tests regularly to protect their own health.]

110[SCHEDULE – XXII

PROCESSING OF CASHEWNUTS

1. Application

This Schedule shall apply to all factories in which roasting, scrubbing and shelling of Cashewnut or extracting oil from Cashewnut or Cashewnut shells are carried on.

2. Prohibition of employment of women and young persons

No woman or young person shall be employed in any processes specified in paragraph 1 except in shelling of roasted Cashewnut.

3. Protective clothing and equipment

The occupier shall provide and maintain for the use of all persons employed in roasting and scrubbing of Cashewnut or extracting oil from Cashewnut or Cashewnut shells
(a) suitable rubber or washable leather gloves;
(b) suitable types of impervious aprons with sleeves to cover body down to knees and shoulders; and
(c) suitable types of footwear to afford protection to feet and legs against Cashewnut oil and for the workers employed in Cashewnut shelling, either
(d) a protective ointment containing 10 per cent of shells, 55 per cent of alcohol, 10 per cent of sodium perborate, 5 per cent of carbltol and 20 per cent talc; or
(e) sufficient quantity of kaolin and coconut oil; and
(f) any other material or equipment which the Chief Inspector of Factories may deem to be necessary for the protection of the workers.

4. Use of protective clothing and equipment

Every person employed in processes specified in paragraph 1 shall make use of protective clothing and equipment supplied and arrangements shall be made by the occupier to supervise its use, maintenance and cleanliness.

5. Disposal of shells, ashes or oil of Cashewnut

(1) Shells, ashes or oil of Cashewnut shall not be stored in any room in which workers are employed and shall be removed at least twice a day to any pit or enclosed place in the case of shells and ashes and to closed containers kept in a separate room in the case of oil.
(2) No worker shall be allowed to handle shells or oil of Cashewnut without using the protective clothing or equipment provided under paragraph 3 above.
6. Floors of work-rooms

The floor of every work-room in which processes specified in paragraph 1 are carried on shall be of a hard material so as to be smooth and impervious and of even surface and

shall be cleaned daily, and spillage of any Cashewnut oil in any work-room shall be washed with soap and cleaned immediately.
7. Seating accommodation

Workers engaged in shelling of Cashewnut shall be provided with adequate seats or work benches which shall be cleaned daily.
8. Rest-room
(1) There shall be provided and maintained for the use of all persons employed in processes specified in paragraph 1, a suitable rest-room furnished with sufficient tables and chairs or benches.
(2) Separate lockers shall be provided where food, etc. shall be stored by workers before it is consumed in the rest-room.
9. Food, drinks, etc. prohibited in work-rooms

No food, drink, pan, supari or tobacco shall be brought or consumed by any worker in any room in which processes specified in paragraph 1 are carried out and no person shall remain in any such room during intervals for meals or rest.
10. Washing facilities

Where roasting, scrubbing and shelling of Cashewnut or extracting oil from Cashewnut or Cashewnut shells is carried on, there shall be provided and maintained in a clean state and good repair washing facilities, with a sufficient supply of soap, coconut oil, brushes and towels at the scale of one tap or stand pipe for every ten workers, and the taps or stand pipes shall be space not less than 1.2 metres apart.
11. 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 process specified in paragraph 1.
12. Smoke or gas produced by roasting Cashewnut

Where smoke or gas is produced in the operation of roasting provision shall be made for removing the smoke or gas through a chimney of sufficient height and capacity or by such other

arrangements as may be necessary to prevent the gas or smoke escaping into the air or any place in which workers are employed.

13. Storage of protective equipment

A suitable room or a portion of the factory suitably partitioned off shall be provided exclusively for the storage of all the protective equipment supplied to the workers and no such equipment shall be stored in any place other than the room or places so provided.

14. 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 said medical practitioner shall inspect daily the hands and feet of all the persons employed in the processes specified in paragraph 1.

(3) The record of such examinations carried out by a 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.

(4) The First-aid Box maintained shall also contain Burrough's solution (1:20) and aqueous solution of tannic acid (10%) for treatment of cases of dermatitis.

15. Medical examination by certifying surgeon

(1) Every worker employed in the process specified in paragraph 1 shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include skin test for dermatitis and no worker shall be allowed to work after fifteen 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 a Certifying Surgeon at least once in every three calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include asking test of dermatitis.

(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 30. 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 these tests, shall also be entered by the Certifying Surgeon in the health register in Form 31.

(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 shall 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 (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.
16. Exemption

The Chief Inspector of Factories may grant exemptions from the operation of any of these where he is satisfied that their observance is not necessary for safeguarding the health of the workers.

SCHEDULE – XXIII

MANUFACTURING PROCESS OR OPERATIONS IN CARBON DISULPHIDE PLANTS

1. Application

This Schedule shall apply to all electric furnaces in which carbon disulphide de 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 thereunder.

2. Construction, installation and operation

(1) 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.

(2) 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 adequate strength to sustain the internal pressure to which the furnace or the plant may be subjected to and shall be designed that carbon disulphide liquid and gas are in closed system during their normal working.

(3) The electric furnace supports shall be firmly grouted about sixty centimeters in concrete or by other effective means.

(4) Every electric furnace shall be installed and operated according to manufacturer's instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.

(5) The instructions regarding observance of correct furnace temperature Sulphur dose, admissible current of power consumption and periodical checking of charcoal level shall be strictly complied with.

3. Electrodes

(1) 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 to cooling water system through a siphon built in the electrodes or through a positive pressure water-pump.

(2) 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 stop the further supply of water. The alarm system and the actuating device shall be checked every day.
4. Maintenance of charcoal level

When any electric furnace is in operation it shall be ensured that the electrodes are kept covered with charcoal bed.
5. Charcoal separators

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.
6. Rupture discs and safety seal
(1) 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.
(2) A safety water seal shall be provided and tapped point from a between the charcoal separator and the Sulphur separator.
7. Pyrometer and manometers
(1) Each electric furnace shall be fitted with adequate number of pyrometers 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.
(2) Monometers or any other suitable devices shall be provided for indicating pressure
(a) in the off-take pipe before and after the Sulphur separators; and
(b) in primary and secondary condensers.
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
9. Inspection and maintenance of electric furnaces
(1) Every electric furnace shall be inspected internally by a competent person.
(a) before being placed in service after installation;
(b) before being placed in service after reconstruction or repairs; and

(c) periodically every time the furnace is opened for cleaning or dishing or for replacing electrodes.
(2) When an electric furnace is shut down for cleaning or dishing:
(a) the brick lining shall be checked for continuity and any part found defective remove;
(b) after removal of any part of the lining referred to in Clause (a) the condition of the shell shall be closely inspected; and
(c) any plates forming shell found corroded to the extent that safety of the furnace is endangered shall be replaced.
10. Maintenance of records

The following hourly records shall be maintained in a log book:
(a) manometer readings at the points specified in sub-paragraph 7 (2)
(b) gas temperature indicated by pyrometers and all other vital points near the Sulphur separator and primary and secondary condensers;
(c) water temperature and flow of water through the siphon in the electrodes; and
(d) primary and secondary voltages and current and energy consumed.
11. Electrical apparatus, wiring and fittings

All buildings in which carbon disulphide is refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from fire and explosion.
12. Prohibition relating to smoking

No person shall smoke or carry matches' fire of 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.
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 at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed as to afford easy passage.
14. Warning in case of fire

There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electricity and in case of failure of electricity by some mechanical means.

15. Fire-fighting equipment
(1) 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.
(2) Clear instructions as to how the extinguishers or other equipment shall 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.
16. Bulk Sulphur
(1) Open or semi-enclosed spaces for storage of bulk Sulphur shall be sited with due regard to the danger 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.
(2) All enclosure 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 ledge.

(3) 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 shoveled or otherwise removed by hand.
(4) No repairs involving flames, heat and 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
(1) 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.
(2) Workers in charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.
19. Washing facilities
(1) 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 one hundred and twenty centimeters

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.
(2) All the workers employed in the Sulphur storage, handling and melting operations, shall be provided with a nail brush.
20. Personal protective equipment
(1) Suitable and protective clothing consisting of overalls without pockets, gloves and foot-wear shall be provided for the use of operatives;
(a) when operating valves or cocks controlling, fluids, etc.;
(b) drawing off of molten Sulphur from Sulphur pots; and
(c) handling charcoal or Sulphur.
(2) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
(3) Arrangements shall be made proper and efficient cleaning of all such protective equipment.
21. Cloak-room

There shall be provided and maintained for the use of all persons employed in the processes a suitable cloak-room for clothing put off during work hours and a suitable place separate from the cloakroom for the storage of overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.
22. Unauthorized persons

Only maintenance and repair personnel persons directly connected with the plant operation and those accompanied by authorized persons shall be admitted in the plant.

SCHEDULE - XXIV
OPERATIONS INVOLVING HIGH NOISE LEVELS
1. Application

This Schedule shall apply to all operations in any manufacturing process having high noise level.
2. Definition

For the purpose of this Schedule
(a) "Noise" means any unwanted sound;
(b) "High noise level" means any noise level measured oil the A-weighted scale is 90 dB or above;
(c) "Decibel" means one-tenth of "Bela" which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities,

the number of "Bela1' denoting such a ratio being the logarithm to the base of 10 of this ratio. The noise level (or the sound pressure level) corresponds to a reference pressure of 20 x — 6/10 newton's per square meter of 0.0002 dynes pay square centimeter 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;
(d) "Frequency" is the rate of pressure variations expressed in cycles per second or hertz;
(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;
(f) "A-Weighting" means making graded adjustments in the (tensities of sound of various frequencies for the purpose of the noise measurements, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.
3. Protection against noise
(1) In every factory 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.

TABLE-1
Permissible exposure in cases of continuous noise
Total time of exposure (continuous or a Sound pressure level in d-BA number of short-terms exposures) per

day in hours	level in d-BA
(1)	(2)
8	90
6	92
4	95
3	97

2	100
1 ½	102
1	105
¾	107
½	110
¼	115

Notes –
1. No exposure, in excess of 115 dBA is to be permitted.
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 in pressure level dB	Permitted number of impulses or impact per day
(1)	(2)
140	100
135	315
130	1000
125	3160
120	10000

Notes
1. No exposures in excess of 140 dbA peak sound pressure level is permitted.
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.
(2) For the purposes of this Schedule, if the variations in the noise level involve maxima at interval of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 could apply, in other cases, the noise is to be considered as impulsive of impact noise and the criteria given in Table 2 would apply.
(3) When the daily noise exposure is composed of two or more periods of noise exposure at different levels their combine defect shall be considered, rather than the individual effect of each. The mixed exposure shall be considered to exceed the limit value if the sum of the fractions Where, the C, C2, etc. indicate the total time of actual exposure at a specified noise

level and T1, T2, etc. denote the time of exposure permissible at that level. Noise exposure of less than 90 dbas may be ignored in the above calculation.
(4) Where it is not possible to reduce the noise exposure to the levels specified in sub-paragraph (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 of noise to the levels specified in sub- paragraph (1).
(5) Where the ear protectors provided in accordance with sub-paragraph (2) 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 suitable reduced to correspond to the permissible noise exposures specified in sub-paragraph (1).
(6)
(a) 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 programmer which shall include among other hearing construction 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.
(b) Every worker employed in areas where the noise exceeds the maximum permissible exposure levels specified in sub-paragraph (1) shall be subjected to an auditory examination by a Certifying Surgeon within fourteen days of his first employment and thereafter, shall be re-examined at least once in every twelve months. Such initial and periodical examination shall include tests which the Certifying Surgeon may consider appropriate, and shall include determination of auditory threshold for pure tones of 125, 250, 500, 1,000, 2,000 4,000 and 8,000 cycles per second.

SCHEDULE - XXV
MANUFACTURE OF RAYON BY VISCOSE PROCESS
1. Definitions

For the purpose of this Schedule
(a) "approved" means an approved for the time being in writing by the Chief Inspector;
(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;
(c) "Churn" means the vessel in which alkali cellulose pulp is treated which carbon disulphide;
(d) "dumping" means transfer of cellulose xanthate form a dry churn to a dissolver;
(e) "efficient exhaust draught" means localized 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;
(f) "fume process" means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;
(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;
(h) "protective equipment" means apron, goggles, face shields, footwear, gloves and overalls made of suitable materials.
2. Ventilation
(1) In all work-rooms 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.
(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 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 process, and
(f) spin baths.
(3) In so far as the spinning machines and tri-tellers and cutters used in staple fibre spinning are concerned they shall be, for the purpose of ensuring the effectiveness of the exhaust draught to be provided as required in sub-paragraph (1) 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) Wherever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (2), (3) and (4) is ineffective, falls 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 fifteen 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 in every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of twelve 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 alternations, 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 of as quickly as possible after decontamination.
4. Lining of dry chums

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 at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purposes.
(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 ten minutes and analyzed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.
(3) If the concentration of either carbon-di-sulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in Rule 17-B, 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.
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.
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.

8. Protective equipment
(1) The occupier shall provide and maintain in good condition protective equipment as specified in the Table given below for use of persons employed in the processes referred to therein.

TABLE

Process	Protective equipment
1. Dumping	Overalls, face-shields, gloves and footwear all made of suitable material
2. Spinning	Suitable aprons, gloves and footwear
3. Process involving or likely to involve contact with viscose solution	Suitable gloves and footwear
4. Handling of Sulphur	Suitable chemical goggles
5. Any other process involving contact with hazardous chemicals	Protective equipment as may be directed by the Chief Inspector by an order in with writing.

(2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

9. Breathing apparatus

(1) There shall be provided in every factory, where fume progress is carried on, sufficient supply of –

(a) breathing apparatus;

(b) oxygen and suitable appliances for the administration; and

(c) life belts.

(2)

(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.

(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.

(iii) A record of the maintenance and of the condition of the breathing apparatus and other appliances referred to in sub-paragraph (1) shall be entered in a register provided for that purpose which shall be readily available for the inspection by an Inspector.

(3) Sufficient number of workers shall be trained and periodically retained in the use of breathing apparatus and administering artificial respiration so that at least two such trained person would be available during all the working hours in each room in which fume process is carried on.

(4) Breathing apparatus shall be kept properly labelled in clean, dry, light proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.

(5) 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.

(6) 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.

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 in 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.

11. Prohibition relating to smoking, etc.

No person shall smoke or carry matches, fire or naked light, 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 in prominent locations in the plant prohibiting smoking and carrying of matches, fire of naked light or other means of producing naked light or spark into such room:

Provided that fire, naked light or other means of producing a naked light or 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 in the processes covered by this Schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every twenty-five persons employed.

(2) The washing places shall have stand pipes 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 bath rooms.

(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 sitting 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 step shall be taken to explain carefully to him the contents of the notice so displayed.
(2) Arrangements shall be made to instruct each worker employed in any room in which a fume process in 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.
(3) Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon disulphide and hydrogen sulphide. These instructions shall be displayed in the concerned areas, and workers shall be instructed and trained in the actions to be taken in such emergencies.
15. Medical facilities and records of examinations and tests
(1) The occupier of each factory to which this Schedule applies, shall

(a) employ a qualified medical officer for medical surveillance of the workers employed in the fume process whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical officer all the necessary facilities for the purpose referred to in Clause (a).
(2) The record of medical examination and appropriate tests carried out by the said medical officer 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. Medical examination by the Certifying Surgeon
(1) Every worker employed in the fume process shall be examined by a Certifying Surgeon within fifteen days of his first employment. Such examination shall include tests for estimation of exposure co-efficient (iodine aside test on urine), and cholesterol, as well as electrocardiogram (ECG) and Central Nervous System (CNS) tests. No worker shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
(2) Every worker employed in the fume process 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 as specified in sub-paragraph (1).
(3) The Certifying Surgeon, after examining a worker, shall issue a Certificate of Fitness in Form 30. The record of 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 31.
(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 fume 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 shall also include the period for which he considers that the said person is unfit for work in the fume process.
(6) No person, who has found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the fume process, unless the Certifying Surgeon, after further examination again certifies him fit for employment in such process.

17. 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 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 – XXVI

HIGHLY FLAMMABLE LIQUIDS AND FLAMMABLE COMPRESSED GASES

1. Application

This Schedule shall be applicable to all factories where highly flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

2. Definitions

For the purpose of this Schedule
(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 degrees centigrade;
(b) "flammable compressed gas" means flammable compressed gas as defined in Rule 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Indian Explosives Act, 1884.

3. Storage

(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.
(2) Except as necessary for use, operation or maintenance every, vessel or tank which contains or had contained a highly flammable liquid or flammable compressed gas shall be always kept closed and all reasonably practicable steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.
(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".

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 enclosed systems shall be so designed, installed, operated and maintained as to avoid leakage or the risk of spilling.

5. Preventing formation of flammable mixture with air

Wherever there is a possibility for leakage or spilling of highly flammable liquid or flammable compressed gas from an equipment, pipe line, valve, joint or other part of a system all practicable measures shall be taken to contain, drain off or dilute such spilling or leakage as to prevent formation of flammable mixture with air.

6. Prevention of ignition

(1) In every room, work place or other location where highly flammable liquid or flammable combustible was being 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:

(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;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(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;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;

(e) transmission belts with iron fasteners shall not be used; and

(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.

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 rise to a risk of fire. The occupier shall take all practicable measures to ensure compliance with this requirement including display of a bold notice indicating prohibition of smoking at every place which this requirement applies.

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 61.

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 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 sit or any of such provisions subject to such conditions, if any, as he may specify there.

111[SCHEDULE XXVII

PROCEDURE FOR ACCRETION CUTTING IN KILNS OF SPONGE IRON PLANTS AND INTEGRATED STEEL PLANTS

1. Application

Provision of this Schedule shall apply to all parts of factories where any of the following manufacturing processes or operations are carried on.

(a) Manufacture of sponge iron

(b) integrated steel

2. Definitions

For the purpose of this Schedule

Sponge Iron:

Direct reduced iron process based on melting of iron ore with a mix of coal, dolomite or lime stone at a temperature below the melting point of iron by means of rotary kiln. This results in a spongy mass, known as a bloom, consisting of a mix of incandescent wrought iron and slag.

Direct Reduced Iron:

This means Direct Reduced Iron, is a virgin iron source that is relatively uniform in composition, virtually free from tram elements. It is used increasingly in electric furnace steel making to dilute the contaminants present in the scrap used in these processes. it has an associated energy value in the form of combined carbon which has a tendency to increase furnace efficiency.

For captive Direct Reduced Iron production facilities, there is the added advantage that the delivery of hot Direct Reduced Iron to the furnace can reduce energy consumption 16 to 20%.

Integrated Steel Plant:

Integrated Steel Plant means different manufacturing process within one precinct covering conversion of iron ore to molten iron and then to steel in shape of billet and other rolling products using iron ore, coal (or coke), lime stone and other alloying agents.

Rotary Kiln:

The kiln which is lined with refractory constables and bricks supported on rolls stations and stations and rotated by means of variable speed A/C motor and girth gear mechanism.

Wet Scrapper:

The wet scrapper is to provide contact between the scrubbing liquid, usually water and the particulate to be collected. The contact can be achieved in a variety of ways as the particles are confronted with so called impaction targets which can be wetted surfaces or individual droplets.

Stacker:

Means a large machine used in bulk material handling applications.

Induction Furnace:

An electrical furnace in which the heat is applied by induction heating of a conductive medium (usually a metal) in a crucible around which water water-cooled magnetic coils are wound usually used for melting of ferrous and non-ferrous metals.

After Burning Chamber:

Exhaust gas from the Direct Reduced Iron kiln having surplus carbon and carbon containing materials is after burnt in a fluidized bed reactor called after burning chamber so as to minimize the particulate substances and contents of harmful gases like S02, NOx, etc. and to utilize surplus energy before stack emission.

Dust Settling Chamber:

Dust Settling Chamber located below the After Burning Chamber is used for collection of ash and other non-combustible substances contained in the exhaust gas of Direct Reduced Iron Kiln which is periodically removed by Wet Scrapper.

Process Engineer Supervisor:

Means a person possessing a Bachelor's Degree in Science, Diploma or Degree in Mechanical, Electrical, Chemical, Metallurgical branch of Engineering having sufficient knowledge in the process of operation and maintenance of the plants and equipment's.

3. Procedure for Accretion Cutting:

The occupier of each factory where the process of sponge iron and / or integrated steel production is carried on shall abide by the following

(i) During shut down of the kiln for accretion cutting, it must be ensured that the deposited mass in the After Burn Chamber and Dust Settling Chamber be completely removed after temperature in the kiln falls to ambient temperature.
(ii) The ABC stack cap, doors on it and doors on the DSC must be kept open before accretion cutting.
(iii) A work permit system has to be in force indicating therein isolation of the equipment's and temperature duly signed by the authorized maintenance person and the agency who is deployed in the maintenance job.
(iv) All the works are to be carried out under strict supervision of experienced supervisors or process engineers and the persons is to be identified by the management.
(v) Any deposits in the After Burn Chamber and Dust Settling Chamber must be cleaned before permitting entry of any person for accretion cuffing
(vi) Adequate technical manpower is to be deployed for the process and maintenance work.
(vii) AH the workers must be provided with the required personal protective equipment's like shoes, helmet and the face shield for the purpose of work.
(viii) Only 24-volts bulbs are to be used inside the kiln for the purpose.

(ix) Induction training to all the new workers employed must be imparted by the management before assigning any work and records maintained.
(x) In case of any burn injury during the process of work, the affected person is to be immediately quenched with cool water for sufficient time.
(xi) It must be kept in mind While Cooling. down, water may be poured on the hot object but not the vice versa as It may cause explosion.
4. Safe Operation Procedure

The following procedure must be ensured
(i) Daily temperature monitoring of Dust Settling Chamber I After Bum Chamber is to be carried out and maintained in a log book; and such monitoring may be carried out by use of infrared pyrometers.
(ii) Adequate steps be taken to maintain prescribed temperature in the DSC and ABC to avoid quick formation I sticking of fused materials to the walls.
(iii) The wet scrapper must be functional.
(iv) Provision of vertical slits on the Dust Settling Chamber bottom may help in ensuring functioning of Dust Settling Chamber.
(v) Provision of an auto control pump be provided to spray water in After Burn chamber, when the desired temperature shoots up and is cut off when the temperature is within the prescribed limit.

5. Safe Maintenance Procedure:

The process of accretion cutting shall be made by way of;
(i) Manual process

Below 300 tonnes Per Day capacity kilns shall carry out manual accretion Cutting by a team of suitable trained personnel well equipped with personal protective equipment's and to be allowed to work after the kiln comes to room temperature.
(ii) Mechanized process

300 tonnes Per Day capacity kilns shall carry out manual accretion Cutting by a team of suitable trained personnel well equipped with personal protective equipment's and to be allowed to work after the kiln comes to room temperature.
Further, the following facilities shall also be made available:
(a) Provision of suitable stair ladder, platform and personal protective equipment be made available for height works.
(b) Provision of pull cord be made available in the belt conveyor system with guarding of the tail end.
(c) Safety tips to be imparted to all the workers before their engagement in accretion cutting work in the rotary kiln, dust settling chamber and after burn chamber.
(d) Records of imparting safety tips be maintained in a register which shall be kept readily available for inspection by the Inspector.
6. Medical Facilities and Records of Examinations and Tests

(1) The occupier of every factory to which this Schedule applies shall
(a) conduct health check up by a qualified medical practitioner for medical surveillance of workers employed therein.
(b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a).
(2) The record of such examinations carried out by the medical practitioner ccnAr2te register which shall be kept readily available for inspection by the Inspector.
7. Medical Examination by Certifying Surgeon: Every worker employed in the processes shall be examined by a certifying surgeon within 15 days of his first employment. No worker shall be allowed to work unless certified fit for such employment by the certifying surgeon.
8. Periodical Health Checkup: Periodical health checkup of every worker shall be conducted at an interval not exceeding twelve months and records of such examination be maintained in a separate register. The register shall be made available for verification on demand by the Inspector.

9. Maintenance of Register for Accretion Cutting

The occupier of every factory to which this Schedule applies shall maintain a register for accretion cutting indicating kiln number, date(s) of such cutting, kiln temperature and the precautionary measures taken prior to commencement of accretion cutting and duly signed by the shop-floor supervisor and head of concerned section. Such cords shall be kept ready for verification on demand by the Inspector.

112[SCHEDULE-XXVIII

OPERATIONS IN FOUNDRIES AND FURNACES

1. Application

Provisions of this schedule shall apply to all parts of factories where any of the following operations or processes are carried on
(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 shell moulding, or by centrifugal casting and any process incidental to such production;
(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 shell moldings, die-casting (including pressure die casting), centrifugal casting or continuous casting and any process incidental to such production; and
(c) the melting and casting of non-ferrous metal for the production of ingots, billets, stabs or other similar products, and the stripping thereof.
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 (i) the removal of metal from a casting when performed incidentally btalelyein re in dressed or with the machining or assembling of castings after they have fettled, or (ii) any operation which is knock-out operation within the meaning of this schedule; (d)
(d) "foundry" means those parts of a factory in which the production of iron or steel or nonferrous 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 lading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds.; and
(g) "qualified supervisor": - Means a person possessing a Bachelor's Degree in Science or Diploma or Degree in Engineering with Certificate on ferrous/non-ferrous technology from any recognized institute.
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 calculated as silica to the extent more than 5 per cent 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
(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; and

(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, Installation and Operation:
(a) The precinct in which induction furnace is installed shall be of adequate strength and shall be segregated from the other parts of the factory in such a way so that minimum number of workers are exposed to the risk of any fire or explosion at any time;
(b) Furnace shed shall be well ventilated;
(c) All the fittings and attachment of induction furnace shall be of good construction, sound material and adequate strength;
(d) Adequate arrangements shall be made to avoid tilting of the ladles while transportation;
(e) Ladle shall not be filled with molten metal more than 3/4th of its volume to avoid spillage of molten metal while being carried by the crane;
(f) The refractory material of the induction furnace shall be strong at high temperature, resistant to thermal shock, chemically inert, low thermal conductivity and coefficient of expansion and of adequate uniform thickness
(g) The lining of the induction furnace shall be checked by qualified supervisor every week for any wear and tear and damage and records maintained thereof: and
(h) Adequate precautions shall be taken during repair of induction furnace.
6. 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.
7. Means of Escape in case of imminent Danger

There shall be at least two ways of escape with adequate width at opposite ends of the furnace platforms Onsite emergency plan shall be submitted for acceptance by Chief Inspector.
8. Display of notice

Notice Regarding non-use of water, etc. near induction furnace shall be displayed.
9. Charging of scrap in Induction Furnace
(a) No scrap material with close cavities shall be charged in the Induction furnace. Scrap to be charged shall be dry and shall not contain oil or any other liquid or moisture.

(b) No scrap material shall be fed into induction Furnace unless it is thoroughly checked in the presence of qualified supervisor.
(c) No closed container scrap shall be fed into the furnace unless it is cut into pieces. Such container shall be rendered safe by suitable means.
(d) No wet scrap material shall be charged into the induction furnace.
(e) Scrap received in the form of pressed bundle should be opened sorted and only then fed into furnace.

10. 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 wall 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 twelve 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 in 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 sand: and the parts which are of sand shall keep in good order.
11. 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) 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 space on a different level from the floor, being a space provided with a safe means of access from the floor for any person while engaged in the operation.
12. Gangways and pouring aisles
(1) In every workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this schedule and, so far as reasonably practicable, in every other workroom to which this paragraph applies, sufficient and clearly defined main gangway shall be provided and properly maintained, which

(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;
(b) shall be kept, so far as reasonably practicable, free from obstruction;
(c) if not used for carrying molten metal, shall be at least 920 millimeters in width; and
(d) if used for carrying molten metal shall be
(i) where truck ladles are used exclusively, at least 600 millimeters wider than the overall width of the ladle;
(ii) where hand shanks are carried by not more than two men, at least 920 millimeters in width;
(iii) where hand shanks are carried by more than two men, at least 1.2 metres in width; and
(iv) where used for simultaneous travel in both directions by men carrying hand shanks, at least 1.8 metres in width.

(2) In workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this Schedule, sufficient and clearly defined pouring aisles shall be provided and properly maintained which
(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;
(b) shall be kept so far as reasonably practicable free from obstruction;
(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 millimeters wide, but where any moulds alongside the aisle are more than 510 millimeters above the floor of the aisle, the aisle shall be not less than 600 millimeters 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 millimeters wide;
(e) if molten metal is carried in crane, trolley or truck ladles, shall be of a width adequate for the safe performance of 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 making of this schedule.
13. 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 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.
14. 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) Moulds 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 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 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 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.

15. 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 approved by the Chief Inspector of Factories at least once in every year. Such examination and test shall be entered in a register which shall be made available for inspection by an inspector. Any defect found on any such examination and carrying out the examination and test shall be intimated by the competent person forthwith to the occupier or manager of the factory for compliance under intimation to the Inspector.
16. Protective equipment
(1) The occupier shall provide and maintain personal 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, iron much castings or other articles likely to cause damage to the hands by cut or abrasion; and
(b) Approved respirators for workers carrying out any operations creating a high dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.
(2) No respirator provided for the purposes of clause 1(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) 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 moulds containing molten metal; or
(d) are engaged in knocking-out owl actions 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.

(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).
(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.
(6) Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraphs (1) and (4) and shall \without delay report to the occupier, manager, or other appropriate person any defect in or less of, the same.
(7) Workers working in the furnace / casting pit area shall be provided with cotton clothes, safety shoes, leg guards, apron, face shield, hand gloves and safety helmet.
(8) Workers employed for segregation of scrap shall be provided with safety shoes and hand gloves.
(9) Fire retardant and heat retardant clothing shall be provided to all the workers working on platform of induction furnace.
17. Training and Supervision
(a) All operations under this schedule shall be carried out under the supervision of qualified supervisors at all times.
(b) Workers carrying out operations and maintenance activities in foundries and furnaces shall be adequately trained.
18. Washing and Bathing facilities
(1) Washing and bathing facilities shall be provided and maintained in clean state and good repair for the use of all workers employed in the foundry
(a) a wash place under cover with either
(i) a trough with impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimeters for every I 0 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 centimeters; or
(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
(b) not less than one half of the total number of washing places provided under clause (a) shall be in form of bath rooms.
(c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.

(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.
19. Disposal of dross and skimming

Dross and skimming removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.
20. 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.
21. 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.
22. Medical facilities and records of examinations and tests
(1) The occupier of every factory to which this schedule applies, shall
(a) conduct health check-up by a qualified medical practitioner for medical surveillance of the workers employed therein; and
(b) provide to the medical practitioner all necessary facilities for the purpose referred to in clause (a).
(2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate register, which shall be kept readily available for inspection by the Inspector.
23. Medical examination by Certifying Surgeon
(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 a Certifying Surgeon.
(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).
(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 25. The record of examination and re-examinations carried out sh611 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 of the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 31.
(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 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 to work in the said process shall be prowled with alternate placement facilities unless he is fully incapacitated in

the opinion of the Certifying Surgeon. in which case the person affected shill be suitably rehabilitated,
(6) No person who has been found unfit to work as said in Sub -paragraph (5) shall be reemployed 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) Workers working in the furnace I casting pit area shall be medically examined by qualified medical officer once in a year.
24. Exemptions

If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances of 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 issue a certificate in writing for the Purpose, which he may in his discretion revoke, at any time such factory from all or any of such provisions subject to the conditions any as we may specify therein

97. 113[Notification of accidents and dangerous occurrences

(1) When any accident 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, or any dangerous occurrence specified in the Schedule below takes place in a factory, the Manager of the factory shall forthwith report by telephone, special messenger or telegram to the Inspector and Chief Inspector followed by a Notice in Form No. 18 in case of an accident 114[in case of an accident causing death or bodily injury to any person or in case of dangerous occurrence which has not resulted in bodily injury to any person.] within twelve hours of the accident or the dangerous occurrence.
(2) Reports as mentioned in Sub-rule (1) shall also be sent to
(a) the District Magistrate or the Sub Divisional Officer;

(b) the Officer-in-charge of the nearest Police-station; and
(c) the relatives of the injured or deceased person.
(3) When any accident or dangerous occurrence specified in the Schedule referred to in Sub-rule (1) takes place in a factory and it causes such bodily injury to any person and prevents the person injured from working for a period of forty-eight hours or more immediately following the accident or the dangerous occurrence, as the case may be, the Manager of the factory shall send a notice thereof to the Inspector in Form No. 18 within twenty-four hours after the expiry of forty-eight hours from the time of the accident or the dangerous occurrence:

Provided that if in the case of an accident, death occurs to any person injured by such accident after the reports and notice referred to in the foregoing sub-rules 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 (3) does not occur immediately following the accident, but later, or occurs in more than one spell, the report referred to shall be sent to the Inspector in the

prescribed Form 18 within twenty-four hours immediately following the hour when the actual total period of disability from working resulting from accident becomes forty-eight hours.
The following classes of occurrences constitute dangerous occurrences, whether or not they are attended by personal injury or disablement:
(a) bursting of a plant used for containing or supplying steam under pressure greater than atmospheric pressure;
(b) collapse or failure of a crane, derrick, winch, hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane;
(c) explosion, fire, bursting out, leakage or escape of any molten metal, or hot liquor or gas causing damage to any room or place in which persons are employed, or fire in rooms of cotton pressing factories when a cotton opener is in use;
(d) explosion of a receiver or container used for the storage at a pressure greater than atmospheric pressure of any gas or gases (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.]

98. Notice of poisoning or disease

A notice in Form No. 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 bisulphide or benzene poisoning; or poisoning by nitrous fumes, or by halogens or halogen derivatives of the hydrocarbons of the aliphatic series, or of chrome ulceration, anthrax, silicosis, toxic anemia, toxic jaundice, primary opitheliomatous cancer of the skin, or pathological manifestations due to radium or other radio-active substances or X-rays.

CHAPTER – X

99. Procedure in appeal

(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 State Government or to such authority as the State Government may appoint In this behalf and shall be in the form of a memorandum setting forth concisely the grounds of objection to the order and bearing Court-fees stamp in accordance with Article 11 of Schedule II to the Court-fees Act, 1870, and shall be accompanied by a copy of the order appealed against.
(2) Appointment of assessors

On receipt of the memorandum of appeal, the appellate authority shall if it thinks fit or if the appellant has requested that the appeal should be heard with the aid of assessors, call upon the body declared under sub-rule (3) to be 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 in the hearing of the appeal.

(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
1. ... ...
2. ... ...
3. ... ...
4. ... ...

The body empowered to appoint the assessor shall
(a) if the appellant is a member of one of such bodies, be that body;
(b) if he is a member of two such bodies, be the body which the appellant desires should appoint such assessor; and

(c) if the appellant is not a member of any of the aforesaid bodies or if he does not state in the memorandum which of such bodies or if he desires should appoint the assessor, be the body which the appellate authority considers as the best fitted to represent the industry concerned.
(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 travelling expenses. The fees and travelling 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 travelling expenses of the assessor shall be paid in whole/in part by the appellate authority.

100. 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.

101. 115[Returns

The Manager of every factory shall furnish the following returns to the Inspector and the Chief Inspector of Factories and or to any other officer appointed by the State Government in this behalf
(1) Annual return

On or before the 31st January of each year in 116[Combined Annual Returns] 117[The manager shall furnish information in the relevant portions of the Combined Annual Returns], in duplicate.
(2) 118[xxx]

102. 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.

103. Information required by the Inspector

The occupier, owner or Manager of a factory shall furnish any information that an Inspector may require for the purpose of satisfying himself whether any provision of the Act has been

comprised 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 forthwith if the information is available in the factory, or, if made in writing, shall be complied with within seven days of the receipt thereof.

104. [119] **[Combined Muster-roll-cum-Register of Wages**

The Manager of every factory shall maintain a [Combined Muster-roll-cum-Register of Wages] of all the workers employed in the factory in [120][Form No. 29] showing (a) the

name of each worker, (b) the nature of his work, and (c) the daily attendance of the worker: 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, separate muster-roll required under this rule need not be maintained.

104 - A.

All registers and records required to be maintained at the factories under the Factories Act, 1948, shall be maintained in English or in Oriya, in addition to any other language in which such registers and records are maintained.

105. 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.....

(f) Number of days of absence from work of injured person.....

106. Maintenance of inspection book

The Manager of every factory shall maintain a bound inspection book and shall produce it when so required by the Inspector or Certifying Surgeon.

107.

The occupier or Manager of every factory shall report to the Inspector any intended closure of the factory or any section or department thereof immediately after it is decided to do so intimating the reasons for the closure, the number of workers in the register on the date of the report, the number of workers likely to be affected by the closure and the probable period of the closure. An intimation should also be sent to the Inspector, as soon as the factory or the section or the department of the factory, as the case may be actually closed down and starts working again.

1 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
2 Inserted vide Orissa Gazette Ext. No. 1/01M.2004-SRO 718-2003-LE/23.12.2003.
3 Inserted vide Orissa Gazette Ext No. 1548 dt.16 10 2009,SRO No. 427/2009 dt. 16.10.2009
4 Substituted vide 0.G Ext No 1165/21.07.2005. S.R.0 No.312/2005/20 07.2005.
5 Inserted vide 0.G Ext. No 1165/21.07.2005 S.R.0 No. 312/2005/20.07.2005.
6 Inserted vide Orissa Gazette Ext. No 1548 dt. 16.10.2009, SRO No. 427/2009 dt. 16.10.2009.
7 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987, SRO No. 501/87/22.07.1987.
8 Inserted vide O.C.E. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
9 Inserted vide O.G.E. No. 357, dt. 26.03.1998.

10 Substituted vide Orissa Gazette Ext. No. 949 dt. 23.06.2010-SRO 240-2010 dt. 23.06.2010
11 Substituted vide Orissa Gazette Ext. No. 949 dt. 23.06.2010-SRO 240-2010 dt. 23.06.2010
12 Inserted vide O.G.E.No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006
13 Substituted vide O.G.E.No. 357. dt, 26.03.1998.
14 Deleted vide Orissa Gazette Ext.No. 1089/29.07.1987-SRO No. 501/97/22.07 1987.
15 Substituted vide O.G.E.No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
16 Substituted by Odisha Factories (Amendment) Rules, 2016.
17 Substituted vide Orissa Gazette Ext. No. 1/01.01.2004-SRO 718-2003-LE/23.12.2003.
18 Substituted vide Orissa Gazette Ext. No. 1/01.01.2004-SRO 718-2003-LE/23.12.2003.
19 Substituted vide Orissa Gazette Part III/02.01.1976-SRO No. 1022/75/18.12.1975.
20 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
21 Substituted vide Orissa Gazette Part III of 1972-SRO No. 696/1972.
22 Inserted vide Orissa Gazette Ext. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
23 Inserted vide Orissa Gazette Part-111/1971-SRO No. 394/71/10.07.1971.
24 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1997.
25 Omitted vide Orissa Gazette Ext. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
26 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
27 Inserted vide Orissa Gazette Part lll/03.09.1976-SRO No. 840/76/12.08.1976.
28 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/97/22.07.1997.
29 Substituted vide Orissa Gazette Part 111/16.12.1977-SRO No. 834/77/28.11.1977.
30 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
31 Deleted ibid.
32 Deleted vide Orissa Gazette Part 111-A/18.11.1977.
33 Substituted ibid.
34 Substituted vide Orissa Gazette Ext No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
35 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
36 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
37 Substituted vide Orissa Gazette Part 111/02. 1 2. 1967.
38 Re-numbered vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
39 Inserted ibid.

40 Substituted ibid.
41 Inserted vide Orissa Gazette Part III-A/1976-SRO No. 917 / 76 / 27.08.1976.
42 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
43 Deleted Ibid.
44 Inserted vide Orissa Gazette Part III of 1966-Notfn. No. I-F.28/63-LE.H., Dt. 07.01.1966.
45 Omitted vide Orissa Gazette Part III/27.09.1974-SRO No. 693/74/13.09.1974.
46 Substituted ibid.
47 Substituted vide Orissa Gazette Ext. No. 1/01.01.2004-SRO 718-2003-LE/23.12.2003
48 Omitted vide Orissa Gazette Part III/27.09.1974-SRO No. 693/74/13.09.1974
49 Inserted vide Orissa Gazette Part III/25.11.1977-SRO No. 763/77/07.11.1977.
50 Inserted vide Orissa Gazette Part III/25.11.1977-SRO No. 763/77/07.11.1977.
51 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
52 Inserted vide O.G.E. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
53 Substituted vide Orissa Gazette Ext. No. 769/14.06.1990-SRO No. 282/90/11.06.1990.
54 Inserted vide Orissa Gazette Ext. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006
55 Inserted vide Orissa Gazette Ext. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006
56 Rule 63 come Into force with effect from the 1st April, 1953 vide Notfn. No. 2132-Lab./ 11.04.1953.
57 Substituted vide Orissa Gazette Part III/03.05.1974-SRO No. 292/74/19.04.1974.
58 Substituted vide Orissa Gazette Part III/03.05.1974-SRO No. 292/74/19.04.1974.
59 Substituted vide Orissa Gazette Part III/03.05.1974-SRO No. 292/74/19.04.1974.
60 Re-numbered and inserted vide Orissa Gazette Part III/10.08.1973/SRO No. 719 of 1973.
61 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
62 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No.501/87/22.07.1997.
63 Inserted vide Orissa Gazette Part III/20.01.1978-SRO No. 25/78/07.01.1978
64 Substituted vide Orissa Gazette Ext. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
65 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.
66 Omitted
67 Omitted
68 Omitted
69 Omitted
70 Substituted vide O.G.E. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
71 Substituted vide O.G.E. No. 1415, dt. 24.09.2006-SRO 532/2006/26.09.2006.
72 Came into force w.e.f 01.03.1954-No. 575. Lab. 14.02.1954
73 Substituted vide Orissa Gazette Ext No. 1089/29.07.1987-SRO No. 501/87/22.07.1987.

74 Inserted vide Orissa Gazette part III of 1970.
75 Substituted vide Orissa Gazette Part III-A/49.6.1978-Notif No. 7780/29.05.1978
76 Inserted vide Orissa Gazette Part III No.4 of 1983-SRO No. 41/83/06.01.1983
77 Substituted vide Orissa Gazette Ext No. 1089/29.07.1987 -SRO No.501/87/22.07.1987
78 Substituted vide Orissa Gazette Ext No. 1089/29.07.1987 -SRO No.501/87/22.07.1987
79 Inserted ibid

80 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
81 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
82 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
83 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
84 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
85 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
86 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
87 Substituted vide Orissa Gazette Part III-No. 4/1983-SRO No.41/83/06.01.1983
88 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
89 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
90 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
91 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
92 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
93 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
94 Substituted vide Orissa Gazette Part III/05.07.1968.
95 Substituted vide Orissa Gazette Part III/05.07.1968.
96 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
97 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
98 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
99 Substituted vide Orissa Gazette Part III/17.09.1976- SRO-No.891/76/27/08/1976.
100 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
101 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
102 Substituted vide Orissa Gazette Part III of 1970-SRO No. 88/70/09.02.1970.
103 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
104 Inserted vide Orissa Gazette Part III-No. 4/1983-SRO No.41/83/06.01.1983
105 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
106 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
107 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
108 Deleted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
109 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
110 Inserted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
111 Inserted vide Orissa Gazette Ext. No, 1548 dt. 16.10.2009, SRO No. 427/2009 dt. 16.10.2009.
112 Inserted vide Orissa Gazette Ext. No, 1548 dt. 16.10.2009, SRO No. 427/2009 dt. 16.10.2009.
113 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
114 Substituted vide Orissa Gazette Ext. No. 1415 dt: 24.09.2006-SRO-No. 532/2006/26.09.2006.
115 Substituted vide Orissa Gazette Ext. No. 1089/29.07.1987-SRO-No. 501/87/22.07.1987.
116 Substituted vide Orissa Gazette Ext. No. 1415 dt: 24.09.2006-SRO-No. 532/2006/26.09.2006.
117 Substituted vide Orissa Gazette Ext. No. 1415 dt: 24.09.2006-SRO-No. 532/2006/26.09.2006.
118 Omitted vide Orissa Gazette Ext. No. 1415 dt: 24.09.2006-SRO-No. 532/2006/26.09.2006.
119 Substituted vide Orissa Gazette Ext. No. 1415 dt: 24.09.2006-SRO-No. 532/2006/26.09.2006.

120 Substituted vide Orissa Gazette Part III-No. 4/1983-SRO No.41/83/06.01.1983