

Mines Vocational Training Rules, 1966

Chapter I

Preliminary

1. Short title, application and commencement -

- (1) These rules may be called the Mines Vocational Training 1966.
- (2) Except as otherwise expressly provided, these rules shall apply to every mine of whatever description to which the Mines Act, 1952 applies.
- (3) They shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint and different dates may be appointed for different provisions of these rules for different classes or groups of mines or for different classes of persons or for different areas.

2. Definition:- In these rules, unless there is anything repugnant in the subject or context-

- (a) "Act" means the Mines Act, 1952 (35 of 1952);
- (b) "Form" means a form appended to these rules;
- (c) "Manager" means any person who is responsible for management, supervision and direction of a mine and includes a mine superintendent who is appointed by the owner or the agent of a mine under section 17 of the Act;
- (d) "Metalliferous mine" means any mine other than a coal or an oil mine;
- (e) "Regional Inspector" means the Inspector of Mines in charge of,
 - (i) the region or local area or areas in which he is situated, or
 - (ii) the group or class of mines to which the mine belongs and over which he exercises powers under the Act;
- (f) "Schedule" means a Schedule appended to these rules.

CHAPTER II

PERSONS TO BE TRAINED

3. Application of Rules -(1) These rules shall apply to all persons employed in a mine, other than the persons specified herein, namely :

- (a) Persons employed or to be employed for the purpose of saving life or property or dealing with circumstances arising out of an accident :

Provided that the owner, agent or manager of the mine shall forthwith give notice of every such employment to the Chief Inspector.

- (b) Persons holding positions enumerated below being persons employed in a confidential capacity or in a position of supervision or a management ;
 - (i) manager, undermanager, under ground manager, assistant manager, ventilation officer and safety officer
 - (ii) mining, electrical and mechanical engineer;
 - (iii) overman, foreman, sirdar and mate;
 - (iv) mechanical and electrical foreman and electrical supervisor;

- (v) Surveyor and assistant surveyor;
 - (vi) medical officer, chemist, assayer, metallurgist and welfare or personnel officer; and
 - (vii) any other person who, in the opinion of the Chief Inspector, holds a position of supervision or management by whatever name called.
- (c) Shortfirer and blasters.
 - (d) Clerk, accountants and register keepers.
 - (e) Persons who have undergone a course of training which is part of study at an institution approved by the Central Government in this behalf.
 - (f) Apprentice mechanics or apprentice electricians, if they have undergone an approved course of training at a mine mechanisation center or other institution approved by the Chief Inspector in this behalf:

Provided that the exemption granted to the persons specified in clause (d),(e), and (g) shall be subject to the condition that the said person shall undergo a course of refresher training as specified in Rule 8.

(2) The Chief Inspector may, by order, for reasons to be recorded in writing and subject to such conditions as he may specify therein, exempt any person, class or category of persons from undergoing any training under these rules.

- 4. Disputes regarding training to be decided by the Chief Inspector-** If any question arises as to whether a particular person or class or category of persons is required by these rules to undergo training or not, the same shall be referred to the Chief Inspector for decision.
- 5. Standard of training -** The Chief Inspector may issue such instructions, not inconsistent with these rules, as he may deem fit, to ensure that the training imparted under these rules at the various training centers confirm to certain uniform standards and every such training shall be in accordance with such instructions.

CHAPTER III

General Vocational Training.

- 6. Scope and Standard -** (1) Every person proposed to be employed in mine on the surface or in opencast workings (other than a person who has held any such previous employment) shall, before he is employed, undergo a course of technical and gallery training as specified in the First Schedule :

Provided that in respect of such class or kind of work as the Chief Inspector may, from time to time, by notification specify, every person proposed to be employed thereto shall, before he is so employed, undergo a further course of practical training on actual operations for a period of not less than six working days.

(2) Every person proposed to be employed belowground in a mine, (other than a person who has held any such previous employment) shall, before he is so employed, undergo -

- (a) a course of theoretical and gallery training and gallery training as specified in the Second Schedule, and
- (b) a course of practical training on actual operations for a period of not less than twelve working days

Provided that every such person proposed to be employed in a mine wherein safety lamps are required to be used (hereinafter called gassy mine) shall, before he is so employed, undergo a further course of training about the danger of inflammable gas and methods of dealing with the same as specified in the Third Schedule.

- 7. Training of persons previously employed** - Before a person who has previously worked in mines only on the surface or in opencast working is employed belowground, or before a person who has previously worked belowground in non-gassy mines only is employed belowground in a gassy mine, he shall undergo such additional courses of training as specified in sub-rule 6.

CHAPTER IV

REFRESHER TRAINING

8. Scope and standard - Wherever a person returns to employment on the surface or in opencast working or to employment belowground in a mine, after an absence from work for a period exceeding one year he shall, within one month of his joining duty, undergo refresher training as detailed in the Fourth Schedule, which shall include a minimum of -

- (1) Three safety lecture and demonstration in the case of persons working on the surface or in opencast workings;
- (2) Six safety lectures and demonstrations in addition to the training specified in clause (1) in the case of persons working belowground in a non-gassy mine;
- (3) Six further lectures and demonstrations about the danger of inflammable gas and methods of dealing with the same, in addition to the training specified in clause (1) and (2) in the case of persons working belowground gassy mine.

9. Training of persons already employed - Every person in employment in a mine at the date of commencement of this rule shall undergo the refresher training as specified in Rule 8, and it shall be sufficient compliance with this rule if, before the expiry of every year from such commencement, at least one-fifth of the person so employed are given such training.

10. Training of persons employed belowground in gassy mines- Notwithstanding anything contained in these rules, every person employed belowground in a gassy mine shall within a period of one year from the commencement of this rule, undergo at least that part of the refresher training as is specified in the Fourth Schedule under the heading- " 3. Additional for gassy mine workers."

11. Arrangement for refresher training: - The refresher training shall be so arranged that the persons who have to undergo training can attend the same conveniently either before or after their normal working hours.

CHAPTER V

TRAINING OF SPECIAL CATEGORIES OF EMPLOYEES

12. Training of timber Mistry - Every person who:

- (i) is newly employed as timber mistry in a mine, or

(ii) has not worked as a timber mistry in a mine for a period of six months immediately preceding his employment or re-employment, undergo a course of training in timber as specified in the Fifth Schedule, in addition to the course of training specified under Chapter- III or Chapter IV as may be applicable to him.

13. Training of persons in handling of explosives - (1) Every person other than a qualified shotfirer or blaster who is likely to be employed on a job which involves handling of explosives shall, before he is so employed, in addition to the course of training specified, under Chapter III or Chapter IV as the case may be, undergo a course of training in the handling and use of explosives, as detailed in the Sixth Schedule. Every person who has undergone the said training shall undergo the training again before re-employment if he has not worked in handling explosives for a continuous period of six months or more before such re-employment. The training under this rule shall be arranged that the persons concerned can attend the same conveniently either before or after their normal working hours.

(2) Notwithstanding anything contained in sub rule (1), in the case of metalliferous mines having opencast working only, the course of training may be confined to not less than four lectures and demonstration covering only such items of the Sixth Schedule as refer to opencast working and general principals of shotfiring.

14. Training of person on shotfiring - (1) Every person eligible to appear at the Shotfirer's Certificate of Competency Examination and who intends to appear at the said examination within the succeeding three months, shall, before he appears for the examination and in addition to the training specified in Rule 13 undergo a course of training as detailed in the Seventh Schedule. The training under the rule shall be so arranged that the persons concerned can attend same conveniently either before or after their normal working hours.

(2) Notwithstanding anything contained in Rule 3, the training specified in the Seventh Schedule shall also be undergone within one month of employment, or re-employment, as the case may be, by-

(i) every shotfirer or blaster on employment in an another mine except in case where he has already undergone such training and

(ii) every person who though qualified to fire shots has not worked as a shotfirer for a continuous period of six months or more, on re-employment as a shotfirer :

(3) Notwithstanding anything contained in sub-rules (1) and (2) in the case of persons, working in metalliferous mines having opencast workings only, or holding blaster, restricted certificate, it shall be sufficient if the course of training is confined to not less than eight lecture and demonstrations and covering only such items of *Seventh Schedule* as refer to opencast workings and general principles of shotfiring.

15. Training of other categories of persons - The Chief Inspector may by general or special order, require that every person, other than those specified in clause (a) to (g) of sub-rule (1) of Rule 3, to be newly employed in a mine in such kind of class of work, as may be specified therein, shall undergo a specified course training.

16. Time limit in respect of the training of persons already employed on handling of explosives- Notwithstanding anything contained in these rules, every person employed on handling of explosives shall undergo the training specified in Rule 13 within a period of one year from the date of commencement of this rule.

17. Periodical training in gas testing- Every person holding a gas testing shall once in every year, person eligible to appear at the Gas-testing Certificate Examinations and who intends to appear at the examination within the succeeding three months, shall before he appears for the

examination, undergo a course of training as detailed in the 8th Schedule. The training under this rule shall be so arranged that the persons concerned can attend the same either before after their normal working hours.

CHAPTER VI

TRAINING CENTRES AND ARRANGEMENTS FOR TRAINING.

18. Training Centre: - The owner, agent or manager of every mine shall provide and maintain a training centre which shall be adequate for the purpose of imparting the training required to be undergone by the persons who are employed or to be employed in that mine:

Provided that the Chief Inspector may, by order, for reasons to be recorded in writing and subject to such conditions as he may specify therein, authorise that a common training centre may be provided and maintained in respect of two or more mines by the owners agents or managers thereof.

19. Arrangements for the training centre: - Every training centre shall have such staff, equipment and other facilities as may be approved by the Chief Inspector or as may be required by him, from time to time, by order in writing.

20. Training Officer: - (1) Every training centre shall be placed under the charge of a whole time or part time. Training Officer as may be specified by the Chief Inspector. The Chief Inspector may further specify the qualifications and experience required for such Training Officer.

(2) Notwithstanding anything contained in sub-rule (1), where the Training Officer is unable to perform his duties by reason of temporary absence, illness or other cause, the owner, agent or manager, as the case may be, may authorise in writing any other person to act in his place.

Provided that except in a case where the person so authorised possesses the qualifications and experience specified by the Chief Inspector under sub-rule (1), the authority to act as Training Officer shall cease to have effect on the expiry of 30 days from the date of the authorisation unless an order in writing has been obtained from the Chief Inspector or the Regional Inspector for the continuance of such person beyond the said period.

(4) A written notice of every appointment, discharge, dismissal, resignation or termination service of a Training Officer and of the date thereof shall be sent by the owner, agents or manager to the Chief Inspector and the Regional Inspector within seven days from the date of such appointment, authorisation, discharge, dismissal, resignation or termination of service as the case may be.

21. Duties of Training Officer: - (1) It shall be the duty of the Training Officer: -

- (i) to organise and supervise the training of every person undergoing training under him in pursuance of these rules :
- (ii) to maintain records of the training given to every person and to furnish weekly reports to the manager on the progress of the persons undergoing training ;
- (iii) to maintain records of the supervision in respect of the practical training on actual operations referred to in Rule 6 and
- (iv) to discharge such other duties as may be necessary for, to proper compliance of these rules.

(2) Every Training Officer shall keep a record of his work and shall, at the end of every year, forward to the Chief Inspector, through the owner, agent or manager of the mine concerned a summary of the report of his work during the year.

22.Trainers: - For the purpose of the practical training referred to rule 6, every person to be employed in a mine shall be placed under the direct supervision of an experienced workman of an appropriate category, employed on operations hereinafter referred to as trainer.

23. Qualification of trainers: - (1) No person shall function as a trainer unless he has attended not less than six lectures on safety in mines, as may be specified for the purpose and approved by the Chief inspector.

(2) Trainers shall be selected only amongst the persons, who in the opinion of the owner, agent or manager of the mine, are safety minded, skilled and experienced workmen who have an aptitude for given guidance and practical training to other persons.

24. Duties of trainers and persons undergoing training: - (1) The trainers shall be responsible for the safety of the persons undergoing training under him.

(2) The trainer shall, apart from discharging his normal duties, see that the persons put under his charge for training, pick up work, understand the dangers inherent in the job and develop habits, which would ensure safety in mines.

(3) The trainer shall see that the persons undergoing training, under him move within the mine along with him.

(4) Every trainer shall show to the persons undergoing training under him, the quickest and safest routes of exit from the sections where he is likely to work. Every person undergoing training shall, whilst under training, comply with the directions of the trainer under whom he is put in charge.

25. Training allowance: - Every trainer shall, in addition to his normal wages, be paid by the owner, agent or manager a training allowance of Rs.0.50 per trainee for every day a trainee has worked under his supervision. Not more than two trainees shall be placed under the charge of a trainer at a time.

CHAPTER VII

ALLOWANCE OF TRAINEES AND ISSUE OF CERTIFICATES.

26. Trainees : - Every person to be newly employed in mine, while undergoing training in accordance with these rules, shall for all purposes be considered only as a trainee.

27. Stipend to trainees - (1) Every person, while undergoing training under Chapter III and under Rule 12 & 15 shall be paid by the owner, agent or manager, daily allowance, for each day of attendance, of any amount equivalent to the wages (inclusive of allowances) which will be payable to him on employment after completion of training, subject to maximum of Rs. 1.50 per day.

Provided that the maximum aforesaid shall not apply in case of a person already working in a mine while undergoing training in accordance with rule 7.

Every person undergoing training under Chapter IV and Rule 13,14 and 17 shall be paid by the owner, agent or manager, an allowance per lecture attended by him.

28. Certificate of trainees - (1) Every person who undergoes a course of training prescribed in these rules shall, on completion of the training be interviewed by the Training Officer and if the said officer is satisfied as to the progress and performance of the trainee, he shall grant a certificate in Form A or Form B, as the case may be. The certificate so granted shall be countersigned by the owner, agent or manager. Where the Training Officer is not satisfied with the progress or performance of any trainee, he shall report the same to the manager, who may either discharge him or, if he thinks fit arrange to give him further training.

(2) The cost of the photograph to be fixed on the certificate in Form A or Form B shall be borne by the owner or agent.

(3) A person who has obtained a certificate on successful completion of the training shall be eligible for absorption, in any mine, to the category of the post for which he has been trained.

29. Duplicate Certificate: - If any person proves to the satisfaction of the Training Officer that he has lost the certificate granted to him under Rule 28, the Training Officer may, on payment of the cost of the photograph to be affixed on the certificate, grant to him a copy of the certificate. The word "DUPLICATE" shall be stamped across the copy.

30. Certificate to be delivered to the Management: - Every person employed in a mine shall -

(i) if he obtained the certificates prior to such employment, at the time of the employment, and

(ii) if he obtained the certificates during the course of employment, within such time as may be specified by the manager of the mine.

deliver the certificate issued to him under these rules, so the manager of the mine who shall keep the certificate in safe custody and issue a receipt for the same. On the termination of employment, certificate so deposited shall be returned to the employee.

CHAPTER VIII

MISCELLANEOUS

31. Inspection: - The Chief Inspector or any Inspector may enter, inspect and examine any training center or any part thereof and make such examination or inquiry as he thinks fit in order to ascertain whether the provisions of these rules and of any orders made thereunder are being complied with.

32. Power to relax: - Where in the opinion of the Chief Inspector, the conditions pertaining to a mine or part thereof are such as to render compliance with any provision contained in these rules unnecessary or impracticable, he may by order in writing and subject to such conditions as he may specify therein, exempt the mine or part thereof, as the case may be, from the said provisions.

FIRST SCHEDULE

{See Rule 6 (1) }

Course of Theoretical and Gallery training for surface and opencast workers.

1st Day (Surface)

Talk: Organisation, time keeping, the need for discipline and punctuality, other matters of general interest.

Training in First aid:

Visit: Attendance room, Pit head bath, Canteen, Rest shelter, Crèche.

2nd day (surface)

Talk: Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears. Workshop.

3rd Day (Surface)

Talk: Benching in quarries, Dressing of overhangs, Fencing, First aid and Hygiene.

Training in First aid.

Visit: Quarries, Medical Centers,

Practical work: Tub Manipulation, Coupling, tramming lowering, re-railing to tubs.

4th Day (surface)

Talk: Shotfiring and Safety regulations.

Training in First aid.

Visit: Practical demonstration of taking shelter etc.

Practical work: Building of sound-bag stopping.

5th Day

Talk: Legislation and duties of workpersons.

Training in First aid.

Visit: What's wrong.

Practical work: Laying of tracks.

6th Day

Talk: Mine official and their duties, oral test.

SECOND SCHEDULE

{See Rule 6 (2) (a)}

Course of Theoretical and Gallery training for workers below ground.

1st Day

Talk : Method of transport belowground, signaling, manhole and other safety appliances on haulage roads.

Training in First aid.

Visit: Underground pit bottom, travelling roadway, second outlet, haulage and tramming roadways, stations and fencing belowground.

Practical work: Tub manipulation, coupling, tramming, lowering re-railing of tubs and signaling, laying of pipes and track.

2nd Day

Talk: Face works, roof control, testing of roof support regulations, First aid and Hygiene.

Training in First aid.

Visit Underground working faces, underground latrines, first aid stations.

Practical work: Prop setting, chock building and withdrawal.

3rd Day

Talk: Ventilation, Lighting, Legislation and duties of work-persons.

Training in First aid.

Visit: Underground- Ventilation and Lighting devices, Fan house, air crossings, stopping, regulator doors. Etc.

Practical work: Erecting brattices, ventilation of blind ends, Practical demonstration of fire fighting device, detection of noxious gases.

4th Day

Talk: Shotfiring and safety regulations, Causes and prevention of the fire underground, care of lamps.

Training in First aid.

Visit: Underground practical demonstration of taking shelter etc.

Practical work: Building of sand bag stopping.

5th Day

Talk: Mine gases (Particularly carbon monoxide, carbon, dioxide and methane) and dangers therefrom. Testing for the same. General revision.

Training in First aid.

Practical work: Cleaning of galleries.

6th Day

Talk: Mine official and their duties, oral test.

Visit: Underground "what's wrong"

THIRD SCHEDULE

{See Rule 6 (2)(b)}

Course of special additional training for entrants to gassy mine,

1st Day

Talk: Dangers of inflammable gas, effects of inflammable gas in different percentages. Gas caps, Difference between combustion and explosion. After damp- its effects. Methods of testing for inflammable gas with Flame safety lamp.

Demonstration: Gas caps, Difference between combustion and explosion.

Visit: Visit to safety lamp cabin to see how lamps are maintained, cleaned etc. and to study construction of safety lamps.

2nd Day

Talk: Principle of construction of flame safety lamps and of flameproof electrical equipment. Assembly of flame safety lamps. Care of safety lamps during use. Dangers of opening or tampering with safety lamps. Demonstration: Effects of wire gauze on flame.

Practical work: Testing for gas.

Visit: Visit to workshop to see flame proof equipment.

3rd Day

Talk: Duties of workers in gassy mine and where inflammable gas exists. Dangers of smoking contrabands.

Visit: Visit (1) to lamps cabin to see arrangements for checking lamps before issue and after receipt and (2) to the mine entrances to see arrangement for checking safety lamps and for searching of contrabands.

Practical work: Cleaning and assembling safety lamps.

4th Day

Talk: Explosion and health hazards from dust. Methods of suppressing dust. Water sprays. Cleaning and stone dusting. Wet cutting. Wet drilling. Use of respirators. Occurrences of inflammable gas. Methods of removing gas. Necessity for good ventilation at the face. Ventilation devices.

Visit: underground visit to see dust suppression arrangements and measures. Surface and underground visit to see ventilation devices.

Practical work: Erection of brattices. Ventilation of blind ends.

5th Day

Talk: Dangers of Shotfiring in gassy mine. Precaution - Underground visit to Shotfiring.

6th Day

General revision: Oral test.

FOURTH SCHEDULE

{See Rule 8 and 10}

Course for Refresher Training.

(Each talk to be followed by discussion. Duration of each talk and discussion to be not less than two hours.)

1. Fur Surface/ Opencast Workings.

Talk 1: Mine Organisation, time keeping, need for discipline and punctuality and other matters of general interest.

Talk 2: Rules, standing orders in force at the mine. Safety in the vicinity of machinery.

Talk 3: Benching in quarries. Dressing of overhangs. Fencing, First Aid Hygiene.

2. Additional for underground workers.

Talk 4: Dangers from haulage, Manholes and other safety appliances. Signaling.

Talk 5: Testing of roof, Dressing of roof and overhangs. Supports, Chocks, bars and props.

Talk 6: Ventilation, Control devices. Danger from old workings. Causes and prevention of fires, Noxious gases.

Talk 7: Dangers or Shotfiring, Safety precautions.

Talk 8: Legislation, Duties of workmen, Fencing.

Talk 9: General revision and discussion.

Talk 10: Occurrence of inflammable gas. Danger from inflammable gas. Combustion and explosion. After damp. Its effects.

Talk 11: Principle of construction of flame safety lamps and of flameproof equipment. Gas caps. Methods of testing for gas.

Talk 12: Duties of workers where inflammable gas exists. Contrabands. Danger of tampering with safety lamps. Methods of removing gas. Necessity of good ventilation at the face.

Talk 13: Explosion and health hazard from dust. Methods of suppressing dust.

Talk 14: Dangerous of Shotfiring in gassy mines. Precautions.

Talk 15: General revision and discussion.

FIFTH SCHEDULE

{See Rule (12) }

Course of Training for Timber Mistry

(Training in First Aid to be given to every trainee who has not already undergone such training.)

1st Day

Talk: Type of rocks and their characteristics. Dangers from fall of ground. Need for artificial support. Use of protective equipment.

Talk and practical work: Handling and transport of timber including lowering in inclines and shafts. Correct methods of lifting and shifting. Stocking of timber.

2nd Day

Talk: Different materials for support, their strength and characteristics. Application. Fire danger from timber and cuttings.

Talk and practical work: Tools for timbering. Their selection care and maintenance. Sylvester prop withdrawal.

3rd Day

Talk: Type of support in galleries and drives. Support of faulted, disturbed and weak ground. Clearing of falls of roof and erecting supports. Roof support. Side support.

Talk and Practical work: Talking Measurements for putting supports. Selection of timber size. Preparing lids. Lagging and packing.

4th Day

Talk: System for support in depillaring area/stopes and longwall faces. Systematic Timbering Rules both in development and depillaring area.

Talk and practical work: Sawing of timber. Erection of shot props and cogs. Withdrawal of supports.

5th Day

Talk: Type of supports in shafts (including sinking shafts), raises and winzes, repair of such supports, Erection of barricades. Erection of brattices and temporary stopping. Erection of fences.

Talk and practical work: Erection of talk ;props and cogs. Lagging of sides.

6th Day

Talk: Maintenance of supports. Tightening. Testing of roofs and sides. Typical accident in timbering and to Timbermen.

Talk and practical work: Erection of timber on steep gradients and supporting irregular places. Miscellaneous jobs for Timbermen.

SIXTH SCHEDULE

(See Rule 13)

Course of Training in the handling and use of explosives.

1st Day

Talk: What is an explosive? General composition of explosives. Difference between low and high explosives. Low explosives and their firing. Safety and its burning speed.

2nd Day

Talk: High explosive, their detonation. Electric shotfiring.

3rd Day

Talk: Dangers from explosive. Charging and firing of shots clearing of fumes produced during shotfiring.

4th Day

Talk: Dangers from blasting in gassy mines. Cracks in shot holes. Permitted explosives.

5th Day

Talk: Dangerous nature explosives. Care in handling explosives. Taking shelter. Storage of explosives on surface and belowground. Issue of explosives Return of unused explosives.

6th Day

Talk: General revision and discussion.

SEVENTH SCHEDULE

{See Rule (14)}

Course of Training on short firing

1st Day

High and low explosive. Difference between them. Their constituents.

2nd Day

Shot-firing accessories. Safety fuse and its burning speed. Detonators.

3rd Day

Provision of regulations etc. relating to transport handling and use of explosives.

4th Day

Storage of explosives, both above and belowground. Issue of explosives, Return of unused explosives.

5th Day

Correct drilling and placing of shot holes, Charging and firing of shots. Blown out shots. Taking shelter.

6th Day

Danger from explosives in gassy mines, permitted explosives, precautions during shot firing in gassy mines. Dangers from cracks in shot holes.

7th Day

Dealing with misfire. Provisions of relating to duties of shot-fires.

8th Day

Examination of working places and roadway after shot firing. Clearing roadways of dust and fumes after shot firing.

9th Day

Firing of shots singly and in rounds. Use of delay action detonators. Testing of circuits.

10th Day

Blasting with Ammonium Nitrate- Fuel Oil Explosive. Precautions.

11th Day

Heavy blasting in opencast mines. Blasting with liquid Oxygen. Precautions.

12th Day

General revision and discussion. Writing of reports.

EIGHTH SCHEDULE

(See Rule 17)

Course of Training in Gas-Testing.

(Demonstration to be arranged with every talk and each talk to be followed by discussion. The duration of each talk and discussion to be not less than two hours.)

1st Talk:

Physical and chemical properties of inflammable gas Occurrence of inflammable gas. Gas outbursts. Danger from inflammable gas in different percentages. Difference between combustion and explosion.

2nd Talk

Other mine gases: their properties and effects. After damp, its composition and effects.

3rd Talk

What makes a safety lamp safe? Construction and assembly of safety lamps, both of flame and electric type. Care of safety lamps. Opening, cleaning, assembling and testing of safety lamps.

4th Talk

Methods of testing for inflammable gas with flame safety lamps. Gas caps. Accumulation and Percentage tests. Precautions where gas is present.

5th Talk

Provision of regulations relating to safety lamps, and to the presence of inflammable gas. Other means of testing for inflammable gas.

6th Talk

General revision and discussion.