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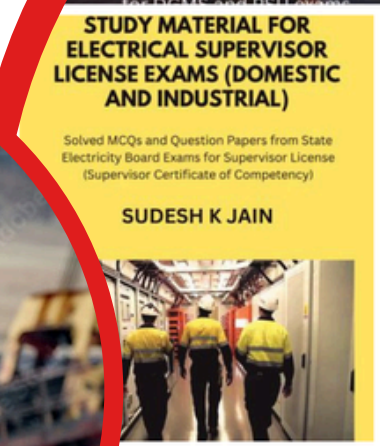

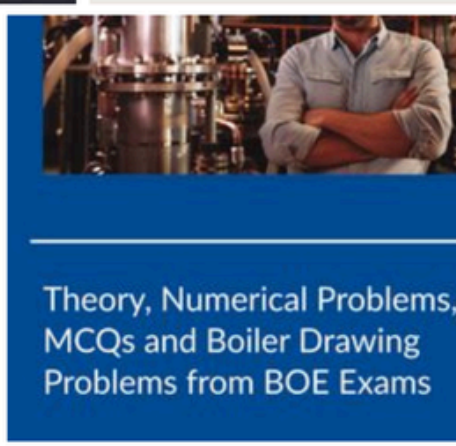



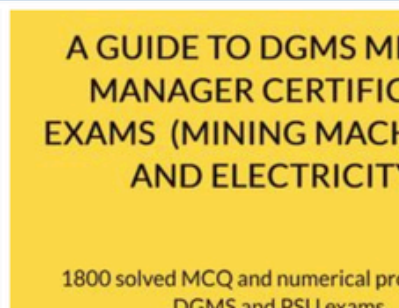

Mines Vocational Training Rules, 1966

Chapter I

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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 watch the Mines Act, 1952 applies.
(3) They shall come into force on such date as the Central Government may, be 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 name 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 one 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 ling 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 atleast 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 shortfirer 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 (I), 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 shortfirer 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 that 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 banding of explosives- Notwithstanding anything contained in these rules, every person employed on handling of explosives shall undergo the training specified in Rule13 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 undergo 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 concern3d 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 attend 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, he 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 thanks fir arrange to give him further training.

(2) The cost of the photograph to be fixed on the certificate in Form A of Form B shall born 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 same or part thereof are such as to render compliance with any provision contained in these rules un-necessary or impracticable, he may be 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 Gallary training for surface and opencast workers.

Ist 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: Lying 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.

Ist 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,

Ist 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.)

Ist Day

Talk: Type or 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.

Ist Day

Talk: What is an explosive? General composition of explosives. Difference between low and high explosives. Low explosives an 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

Ist Day

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

2ndDay

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.)

Ist 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 in 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.

FORM- A

{See Rule 28 (1)}

Certificate of Training for employment in a mine on surface and in opencast working/belowground in non-gassy mine.

I, hereby certify that Shri/Shrimati …S/o/D/o/W/o… Village … Thana (police Station)… P.O. …District…State… has between **… duly undergone the training required under Chapter III of the Mines Vocational Training Rules, 1966, for employment in a mine on surface and in opencast workings*/ and belowground in non-gassy/and gassy mines.

Space for affixing the
Photograph of the
Person trained.

Signed…

Date

Training Officer…

Mine/Training Centre

(Specify below whether non-gassy mine)

Signature of left hand thumb impression
of the person trained …

Counter signature of
Date… The Agent or Manager…

*Delete whichever is not applicable.

** Insert dates between which the training was undergone.

FORM- B

{See Rule 28 (1)}

*Certificate of refresher Training */Training of special categories of workmen.*

I, hereby certify that Shri/Shrimati …S/o/D/o/W/o…Village…Thana(Police Station)… P.O…District…State…has between …duly undergone the refresher **/ special training required under Chapter IV*/ Chapter V of the Mines Vocational Training, 1966, for …***

Space for affixing the
Photograph of the person
Trained

Date…

Signed…
Training Officer
…Mine/Training Center.

(Specify below whether non-gassy or Gassy mine)
Signature of left hand thumb
impression of the person trained…

Date

Counter Signature of
the Agent or Manager …

No,24/1/65-ML/

*Delete whichever is not applicable.

** Insert dates between which the training was undergone.
*** Specify here the refresher special training undergone.

SCHEDULE XII
FORM I

1.0 Name of Center
2.0 State & District in which it is situated.

Code No. of the center
Notice of program of training during quarter ending …199

3.0 Name of mines catered
4.0 Approximate no of students in each batch

No.of week	Actual date from-- to	Batch						
		Session	Category of worker	Type of course	schedule	Batch no.		
1. 2. 3. 4. 12.								

Note:
1.For Session Use M for morning, E for evening
2. category of workers-
3. Type of Course- Use B for basic, S for special, R for refresher

Signature of Training officer/ Inspector

Name in Block letters
Date…

SCHEDULE - XII

FORM- 2

Notice of Training program for … Batch.

Category of workers:

Type of course:

Schedule:

Batch No.

From: To: Hours of Session

Serial No.	Name of Mine	Name and surname of trainee	Designation

Signature of the Training Officer,
Dated…

SCHEDULE - XII

FORM- 3

Category of Workers. Name of Center …

Type of Course … Location …

Batch Number … Program Training Week during Ending …

Particulars of session (Special hours)	Schedule & Talk Number.	Schedule & Talk Number	Schedule & Talk Number	Schedule &Talk Number	Schedule & Talk Number	Remarks.
First day of the week.						
Second day.						
Third Day						
Fourth Day						
Fifth Day						
Sixth Day						

Signature of Training Officer…

Name in Block Letters…

Date…

SCHEDULE - XII

FORM- 4

Name of the Center…

Code No. of the Center.

Address …

Index No…

Owner…

INDEX FOLDER

1.Name of the Trainee (in block letters	General Particulars	7. Photograph of the Trainee
2. Father's name:		Pass Port Size
3. Permanent Address:		
4.Date of birth :		
5. Educational standard :		8. Identification marks
6. Language known to.(Mention: speak, Read, Write, Follow etc		9. signature or Thumb Impression of the trainee.

SCHEDULE - XII

FORM- 5

1.Category of Workers:

2.Course: Register of Trainees attended V.T.Centre during…

3.Batch No. … …….. Training Center

4.Duration of course … to……..

Serial No.	Name of Mine	Name & Surname of trainee	Designation	Index Number	Talk No… Session.. Date…	Total attendance	Passed or Failed.

Total No. Present.

SCHEDULE - XII

FORM - 6

Performance Chart for Trainees.

1. Name of the Center — Code No. of Center
2. State and District in which it is situated — Serial No. of Report..
3. Name of Mines catered:
4. Date of commencement of course: — Year:
5. Date of completion of course :
6. Type of course:
7. Batch No.

Serial No.	Name & surname of trainee	Name of the Mine	Index Number	Certificate Number	Date of issue of certificate.

Signature of Training Officer,

Name in Block letters:

Date…

SCHEDULE XII

FORM - 7

1. Name of Center… Code No. of Center.
2. State/District in which it is situated
3. Names of Mines catered … Progress Chart of the Training Center for Quarter Ending,,,,,

Sl.No	Category of worker	Type of course	Batch No.	Schedule	Date		Number of Trainees.			Remarks.
					Commencement of course	Completion of course	Enrolled in the batch	Completed the Course	Successful in test	

Batches where training is still in Progress are also to be shown. These may be repeated in the next Quarter.

Signature of Training Officer

Name in block letters.

Date.

SCHEDULE -XII

Form - 8

Notice of Opening/closing/Re-opening/Change of Name of Training Center (See Rule 18)

To
The Chief Inspector of Mines, Dhanbad.
The Regional Inspector of Mines, No……. Region…
P.O… Dist….
Date.

Sir,

I have to furnish the following particulars of … (specify Opening/Closing/Re-opening/Change of name etc.) of … Training Center.

I.Particulars of the Training Center

(a) Name of the Center:
(b) Location:
(c) Post Office:
(d) District:
(e) State:
(f) Group/ unit
(g) Name of Mines catered :
(h) Name and address of the Owner, Agent of the mine in which the center is situated.
Owner
Agent:

II. Date of Opening/Closing/Re-opening/Change of Name of Training Center.

III. In case of change of Name of Training Center:

(a) Old Name :

(b) New Name :

IV. In case of closure:

(a) Period of closing.
(b) Reason of closure:

Date …… .Signature……..

Place…….. Name in Block Letter …….

*These relate to the Particulars of the mine Where the center is situated.

Designation: Owner/Agent/Manager Power of Attorney holder.

SCHEDULE XII
FORM- 9

To
The Chief Inspector of Mines, Dhanbad.
The Regional Inspector of Mines, No…Region...
P.O… Dist…

Sir,

I have to furnish the following particulars of …
(Specify appointment/termination) of Training Officer/Inspector in respect of the following Center.

1. Particulars of the Training Center.

(a) Name of Center:
(b) Group/ Unit
(c) Post Office
(d) District
(e) State:
(f) Name of mines catered to :
(g) Name and address of the owner and Agent of the mine in which the center is situated.

II. Appointment of Training Officer Instructor.

A. (a) Name of person appointed;
(b) Designation: Date of joining…
(c) Qualifications:

(i) Academic……..
(ii) Name of Certificate and No.
(iii) Experience:

(d) Full-time/part time
(e) Signature of person appointed….

B. Termination of appointment of Officials.

(a) Name….
(b) Designation…
(c) Date of termination …

*Strike out item not applicable

Signature
Name in Block letters
Designation: Owner/Agent/manager
Power of Attorney holder (These related to the mine where the center is situated.)

**Particulars to be furnished separately for each Training Officer/ Inspector.

SCHEDULE -- XII
FORM - A

Number…

This is to certify that Sri/Srimati …

S/O, D/O,W/O… of Village… Thana… Post Office…

District… State… Employed in … mines…

Having successfully undergone the training under Schedule Number… For above ground/opencast working/Metalliferous Mines/belowground in coal mine having seams of …… degree of gassiness/belowground in Matalliferous mine notified by the Chief Inspector of Mines is awarded this CERTIFICATE. Class of worker…

Type of Course Basic/ Refresher Special

SIGNATURE OF TRAINING OFFICER

(Name in Block letters with date)

Training Center...

Date of Commencement Of Course

Registration No.of the Training center.

Index Card Number …

Space for Affixing photograph

Countersigned by …….

Agent/ Manager…

… Mine

*Delete whichever is not applicable
.**State degree of gassiness of the mine.
*** State nature of job.

Note: See overleaf for entries of the backside of the certificate.

(Back space of Certificate)

Particulars of previous training in chronological order.

Serial No.	Name & Registration Number of the Center	Class of worker	Type of course	Date of commencement	Certificate number.	Initial of Training Officer.

N.B.- According to the result of Tripartite meeting by the representatives of Owners, Labours and the Government held in 1071, the Schedule XII are being implemented the Vocational training centers in the mines although it is not enacted.

SCHEDULE - XII

SYLLABUS FOR JOB- TRAINING.

Duration Revised as per D.G's Cir.No.(Legis) 4 of 1975.

Note: The management may make additions and modifications to the recommended syllabus to suit the particular conditions of the mine, with prior intimation to the Chief Inspector.

The management shall, however propose for approval of the Chief Inspector, suitable syllabus in respect of class or kind of workers for which no syllabus has been recommended in Schedule xii. The duration of Basic/Refresher job training in respect of such class or kind of workers shall not be less than 18 days and 9 days respectively.

Sl.no.	Class of workers or Trades of Workers	Recommended Syllabus of Courses	No. of Days for basic training	No. of days of Refresher training
1	2	3	4	5
1.	Track layers	Track, its purpose and components thereof, their use, size and use of rails, Fish plates, sleepers, nails, blots and nuts, tie rods, beading of rails, carrying of materials and their storage. Track laying and proper ballasting and drainage. Laying of switches left hand and right hand turn outs, bypasses, curves, crossing (various types), fixing of rollers/pulleys and their maintenance. Grade of track, super elevation of curves, check rails, bending of rails in case of electric loco track, anchoring of track on steep gradients. Installation of Runaway switches, drop warricks, step blocks, jazz rails re-railers and other safety contrivances, signaling code, use of manholes. Dangers from runaway tubs, haulage, derailments. Dangers associated with track lying near waterlogged old workings and fire/explosion area, proper use of safety lamps, workmanship norms. Clearance between tracks and roadway sides governing the statutory requirement.	24	12
2.	Ventilation (Bratticing Gang)	Purpose of ventilation, introduction to mode of occurrence of different gases and their physiological effects. Intakes, return,	18	9

		changes therein. Tools, Ventilation materials and appliances, air lock, doors, aircrossings, regulators, stopping. Erection and withdrawal of brattice and ventilation tubing airtighten as thereof, maintenance of brattices, erection of brattice at junctions. Ventilation of cavities. Testing of roof/sides before erecting brattices/ ventilation tubes. Ventilation arrangements in special circumstances, workmanship norms.		
3.	Attendants of fan (including auxiliary & booster fans.)	Construction of fan, its accessories, operation, voltage reading on switch board meters and watergauge. Danger board meters and waterguage. Danger from sparks, electrostatic charges, overheating of motors etc. no smoking in fan house/fan drift. Earthing of fan casing bedplates of motors. Lubrication, maintenance of starters. Fire fighting equipment, its use and storage. First aid In case of electric shock. Standing orders/Instructions in the event of stoppage of fan. Fencing. Dangers from lose outer clothing. Recirculation of air, dangers therein. Reversal of fan. Precaution against bad roof sides. Mine gases action in the event of detection of gas.	18	9
4	Persons employed on installation repair and maintenance of machines.	Duties, Tools, Preparation of site, Organisaion Requisition of materials Common troubles and remedies preventive maintenance schedules, Effect of moistures dust head of motors. Earthing General conditions in a mine. Signaling code, laying of signaling system, fire extinguishing materials equipment and their use. First aid in case of electric shock. Dangers from gas. Applicable regulations. Duties under emergency organisation.	24	12
5.	General Mazdoor	Persons employed in Bailing, transport of materials, line packing and cleaning etc. Drainage, Handling transport and storage of materials, house keeping cleaning of roadways and loading of collected waste etc. art of ballasting haulage track, signaling code, general precautions and applicable regulations.	18	9
6	Tyndals	Persons employed of lifting/transport/shifting of heavy materials and equipment duties. Lifting and handing tackles, art of lifting and handling materials with stress on personal safety, transport and manipulation of materials and machinery. Protective equipment, safety belt, boots, leg guard and helmet Signaling code, workmanship norms. Installations and shifting of pipes, cables, rope, buntons and other shaft equipment, switch gear, haulage coal- cutting machines,	25	18

		conveyor, motors pumps etc. Manipulation of wire rope during installation/ replacement.		
7.	Coal cutting/drilling machine crew.	Details of machines and its operation, proper use and care of machine and cables, picks, bits, sharpening,, shaping, picks laying, oiling/greasing of various parts. Precautions against falls/gas/coal dust, wet cutting, drilling method, drilling pattern, common troubles and remedies. Dangers from cutting/ drilling in stone band, warning to persons, fleeting of coal cutting machine on gradient, keeping machinery reasonably free from dust. Applicable regulations.	36	18
8	Attendants of Haulage/Conveyors.	Details of machinery and its accessories, operating thereof, operation of voltage readings on switch-board meters if any, dangers from sparks, overheating of machinery. Lubrication, maintenance of starters, tools, brakes. Fire fighting equipment, its use and storage, first aid in case of electric shock. Earthing of bed plates of engine and motor, precautions in haulage room, fencing, dangers of lose outer clothing, emergency/personal light, signaling code including emergency etc, Code, hauling capacity, type of clutch condition of rope, indicators for travel of rope, speed at gradient and curves. Conveyor- type, use, spillage sequence control, dangers from stationary rollers, machinery to be kept reasonably free from Oil/grease and coal dust, Regulations.	24	12
9	Cleaning/wetting /stone dust-barriers/ watering-gangs, stone-dusting.	Coal dust, how produced, hazards such as fire, explosions and Pheumoconsis, purpose of cleaning and wetting/stone during. Tools, properties of various stone dust, wetting agents, Methods of wetting blasted Coal/roof/floor/sides of wetting supports etc. Quantity of stone dust required per unit length of roadways, frequency of dusting/art of stone dusting. Introduction to stone dust barriers, how to load shelves, quantity per shelf. Zones and sub-zones, collection samples along roadway, transport and storage of stone dust. Workmanship norms.	24	12
10.	Stowing Gang	Purpose of stowing materials stowing/packing, methods, tools and accessories their use, transport and storage, types of pipe & their suitability for different locations, joints and packing, pipe layout, lying of pipelines. Sand and water ratio, pipe jams and how to	24	12

		deal with them pipe cutting during stowing operations, erections and salvaging of barricades, stowing signals, stowing efficiency, pipe wear, safe wall thickness, how to test, method of changing/turning pipes.. Working of mixing chamber locations of leakage and jams rate of stowing, workmanship norms.		
11.	Pick Miners.	Tools- How to maintain them, art of cutting coal, method/ arrangement for coal cutting at height, stability thereof, Cutting of roof/floor/side coal cutting for footpaths manholes/drainage/ stopping etc. Method of carrying coal to the loading points without leaving behind the personal light, bit size lumps not to be handled or loaded, proper way to load tubs so as to give the required amount of coal per tub, handing and manipulation of tubs, dangers from overhangs, effects of band lighting and dust.. Dangers from electric cables, testing of roof & sides.	24	12
12.	Trammers.	Construction of tubs/coupling/attachments between a rope or locomotive and a tub or set or train of tubs etc./clips for endless, haulage, use thereof. Haulage contrivances and there operation, signals, signal code, short circuiting troubles there-in, use of manholes. Uncontrolled movement of tubes and precautions, use of sprags and drag. Warning to persons likely to be endangered, coupling/ uncoupling on gradients, handling of tubs from and to cages, tipping of tubs, negotiating curves, curves, causes of derailments, rerailing of derailed tubs, marking on defective tubs, precautions while pushing/pulling the tubes, safety contrivances such as stop block runaway switch. Switches, jazz rails, re-railers, turnouts etc.	24	12
13.	Loaders.	How to use a shovel, shoveling of material in case of high heaps, big lumps not be carried or loaded into tubs, proper filling of baskets and tubs, dangers associated with entering disused/fenced workings, entering the site of blasting without the express instructions of shotfirer/ officials, not heeding to warning of impending collapse/airblast/bump, Not to dislodge supports while loading, robbing of pillars, overhangs effects of bad lighting & coal dust. Different ways of over gang baskets, workmanship norms.	24	12

14.	Crane Operators (including mobile crane operators)	Description of Diesel and Petrol Engine and their starting. Type of ropes and relative strength. Correct Selection of Slings and securing heavy parts for lifting. Effect of group slope while lifting. Heavy parts and choosing correct angle of Crane Boom. Types of shackles and V Bolts and their use. Starting of Electric Motors and mechanism of transmission of Power. Speeds while travelling with leads up. Operation of different levels and lowering of materials. Proper signals and their correct interpretation. Inspection of crane, slings, shackles before starting work. Use of warning bells and application of safety device, emergency brakes. Bye laws in force.	24	12
15.	Drill Operators.	General Knowledge about Drilling Machines Diesel Engines, Electric Motors and compressors. Lubrication system of Diesel Engine and drill safety devices fitted on compressors, and their maintenance in safe working order, Location of faults in engine, compressors, Greasing different parts of machines, inspection of machine and power cables before starting work. Checking of water and oil temperature, minor repairs and adjustments and use of correct tools, Leveling of Drill Machines & operation of different layers. Correct sequence of operation of different levers. Transmissions of compressed air from compressor to Drill head. Location of faults in running machines. Hydraulic system and its principle. setting up of drill machines on steep slopes. Selection of proper rotation speed and effect excessive speeds on bit life. Grinding machines and Grinding Wheels, Correct grinding of Bits. Different types of wear on bits and general precaution to bits life. Danger from working defective machines. Correct selection and use of tools. Dangers from loose house joints and defective Houses.	36	12

		Need of discipline and punctuality. Company's rules. Standing orders Bye-laws in force at the mine organisation and General safety.		
16.	Loco Drivers.	General Knowledge about Engine and electric motor. Transmission of power. Different Gears and relative speeds. Lubrication and cooling system of Diesel Engines. Different Types of Brakes and Basic principles. Sequence of starting. Locomotive Inspection of Locomotives before starting works. Minor repairs and adjustments to Brakes and it's checking. Use of correct tools Location of faults in Running Loco. Types of crossing and switch. Types of signals. Loco speeds in shunting operations and type of wagon couplings. Railway siding rules. Use of warning Bells and safety devices provided in Locomotion for safe operations. Types of fire extinguishers and their use. Danger due to overspeeding. Loose shunting General safety Marshalling Yard. Discipline and punctuality. Company's rules. Standing order. Bye-laws in force in Mine. Mine organisation and General Safety. Use of protective equipment. Duties of locodriver. Precaution in shunting operation. Loose shunting.	36	18

17.	Dozer, Loader operators.	Pay General knowledge of working parts in Dozers. Payloaders. Different types of Generals a Tranmission of power. Lubrication system. Battery and Dynamo connections. Location of fault in running equipment. Inspection of machine before starting works. Travelling speeds, steering mechanism Checking oil levels and water temperatures Road signs and working in congested places like stock piles, below dangerous overhangs,	36	24

		side clearance and over head clearances. Filling and Dozing of tracks, Dozing on down slopes. Toeing of Heavy trailers. Use of correct sling and links. Tightening of loose Nuts and Bolts and use of correct tools. Parking of Dozers. Risks involved in working on defective machine and safety precautions in Dozing near Banks, Bench edges, Bye - laws in force.		
18.	Dumper Operators.	General knowledge about Diesel and petrol engines and their working parts. Different types of gears and transmission of power. Hydraulic system in Dumpers. Need of proper Lubrication and its checks. Correct Air pressure in tyres and its effect on life of tyres. Different levers provided in Dumpers. Correct sequence of starting and stopping engine. Lifting jacks. Engine cooling system, Detection of faults in running (Dumper) Engine. Brakes and its principle. Correct application of Brakes and use of other safety devices provided. Driving Rules. Road signs and signals. Defective driving precautions at Tipping points and correct placing of Dumpers at shovels. General inspection of Dumpers before starting work and precise reporting of any defect found during operation Parking of Dumpers. Emergency Brakes. Danger in driving defective Dumpers, dangers in overspeeding. Use of Re-tarders of down slopes. Bye laws in force.	36	24
19.	Shovel Operators.	General knowledge about various working parts in a Shovel like Diesel Engines, Motors Generators. Transformers. Principles of friction. Different types of Ropes, clutch, and Brakes. Different operating levers, steering mechanism in shovels and steering shovels on slopes. Crawling speeds and precaution during crawling on slopes, Minor adjustment to Brake and Clutch. Bands and use of correct tools. Greasing and oiling of different parts. Periodical checking of lubricating oil, Water temperature in Diesel operated shovels. Correct sequence of operation and dangers involved in running defective machine and Safety Precautions. Protective devices as Electrical units, their working and re-setting the same, Importance of earthing electrical motors, Generators, Transformers and other apparatus. Minimum working voltage and maximum working currents.	36	24

		Danger from defective electric cables and careless handling of electric cables, Correct method of operation and its effect on efficiency. Safety precautions and use of safety devices provided in shovel. Danger from Explosives digging in vicinity of Misfired shots. Bylaws in force.		
20.	Persons employed in management of materials (Stores)	Proper stocking of materials, storage of inflammable materials like. Acids, Belt, Solution, Grease, Oil Handling of Heavy parts, types of slings, ropes and their correct application and code of signals. Storage of Electric motors Batteries. Types and other articles which may deteriorate due to improper storing in humid Atmosphere. Need of good house keeping. Dangers from naked light. Types of Fire Extinguishers and their proper use. Danger from inadequate lighting, storage of materials in piles, using of Gas Cylinder (for welding.)	24	12
21.	Welders & Gas Cutters.	Basic principle of Gas and Arc welding. Various forms of welding. Ways and means of avoiding slag inclusion. Stresses induced due to welding. Regulating the medium of welding according to the needs. Detecting and avoiding defects arising out of improper welding on steel, Aluminum, Brass and cast Iron. Selections of correct welding equipment, pressure welding rods. Drazing of non-ferrous materials like copper, Brass, tubes, Inherent dangers in job and safety precaution. Use of corr5ct tools. Safety precautions while welding in confined places like crusher bottoms and fuel tanks. Welding in shafts and working belowground, precaution, use of protective equipment.	36	24
22.	Fitter Helpers.	Different types of spanners and their use. Types of jacks (Mechanical and Hydraulic) Greasing and oiling of machine parts Cleaning of welding surfaces. Identification of various Lubrication and other oils Handling of wire ropes, slings, and correct applications. Risks involved in use of wrong tools. Wrong Lubrication and working on running engines, flywheels and Belts and precautions.	36	18
23.	Fitters. Electricians etc.	Management may propose Syllabus as period requirements allotted.	70	36
24.	Members of a Team/Composite group of workers.	Where any worker performs the job related to more than one class/king of workers, he shall undergo the job training for the specified number of days for each of such class/kind of worker.	See Syllabus	

ANNEXURE - 'G'

On the Job Training For Apprentices

Outside Apprenticeship Act.

General:

1.*Scheme*:

Apprentices are appointed in the Company outside Trade Apprenticeship Act, 1951 mostly for acquisition of surface land for Mining purpose and due to voluntary retirement and other schemes. Such Apprentice is now generally taken for a period of one year under certain terms and conditions. They have to be given exhaustive "On The Job" Training in various identified trades in order to utilise them against natural wastage of manpower in the company. In this connection, reference is invited to the letter No.ECL/HQ/CPO/C-6B/80/154 dated 23rd/26th February 1980 from the Chief Personnel officer, Sanctoria.

1. Areas Identified For Training :

AREA	SUB- AREA
(A) Conventional/Longwal/Mining	(h) As Mining Sirdar Asst. in Longwall faces. (ii) As ventilation Asst. (iii) As machinist/Fitter Helper. (iv) As Electrician Helper. (v) As stowing Mazdoor/Asst. (vi) As support Man. (vii) As conveyor Fitter Helper. (viii) As Multi-skilled face worker. (ix) As Dusting and sampling Organisation Mazdoor. (x) A Civil Engineering Underground Organisation Mazdoor.
(b) Scraper Mining	(i) As Mining Sirdar Asst. In scraper faces. (ii) As Multi-skilled face worker. (iii) As Conveyor/Haulage Fitter helper. (iv) As solid Blasting Mazdoor.
(c) Opencast Mining	(j) As Auto-Fitter Helper. (ii) As Auto-Electrician Helper. (iii) As Lubricating Asst. (iv) As Dumper/Dozer/Shovel Operator/Drill Operator Helper. (v) As workshop Fitter-helper. (vi) As Mining Sirdar Asst. in opencast Benches.
(d) Mine Surveying	(i) As survey Mazdoor. (ii) As Chainman. (iii) As Tracer. (iv) As Draughtsmen.

(e) Office Management.	(i) As General clerk. (ii) As P.F.Clerk. (iii) As Bill clerk. (iv) As pay clerk. (v) As Stenographer/Typist. (vi) As Judicial/Law Asst.
(f) Boiler maintenance	(i) As Boiler Attendant. (ii) As Boiler Fitter Helper.
(g) Vertical Transport maintenance	(i) As Winding Engine Fitter Helper (ii) As Winding Engine Operator Asst. (iii) As suspension Gear Fitter Helper. (iv) As Shaft fitting Fitter Helper. (v) As Welder Helper.
(h) Horizontal Transport Maintenance	(i) As Haulage Fitter Helper. (ii) As Rope technician Asst. (iii) As Haulage safety devices Fitter Helper. (iv) As Conveyor Fitter/Operator Asst. (v) As TrackLayer.
(i) Mining Machinery Maintenance	(i) As Fitter helper. (ii) As Electrician Helper. (iii) As Welder Helper.
(j) Blasting	(i) As explosive Carrier. (ii) As Clay Cartridge Mazdoor. (iii) As Magazine Asst. Mazdoor. (iv) As Driller. (v) As water spray/Stone dusting Mazdoor. (vi) As Shotfiring asst.
(k) Health and Sanitation.	(i) As Dresser Asst. (ii) As Compounder Asst. (iii) As staff Nurse Asst. (iv) As Health /Sanitation Asst. (v) As vaccinator Asst. (vi) As X-ray, ECG, Health Laboratory Equipment Asst. (vii) As Clinical Laboratory Asst. (viii) As Sweeping Asst.
(l) Laboratory.	(i) As Analyst/Chemist Asst. (ii) As Laboratory Asst. (iii) As Laboratory Clerk.
(m) Tele-communication.	(i) As Telephone Operator Asst. (ii) As Telephone Mechanic Asst. (iii) As lineman.
(n) Motor Vehicles.	(j) As Motor Mechanic/Driver-Helper or Khalasi.
(o) Coal/Sand Loading, Dumping.	(i) As U.G Loader. (ii) As Sand Gatherer/Dumper/Loader. (iii) As Pit Munshi Asst.

The above identified Areas and Sub-Areas may be covered by the appointed apprentices in the following trades qualification wise, age-wise gender wise.

Trades	Qualifications	Age Group	Male/Female
(1) Mining	B.Sc.H.S.(Sc.)	18-30 years	Male.
(2) Surveying	H.S.(Sc.)Land Sursveyor, Civil Draughtsman.	18- 30 years	Male
(3) Commercial	S.F.(Hu),H,S.(Ha)B.A. B.Com, LLB, Typist.	18- 35 years	Male and Female.
(4) Mechanical	H.S.(Sc),S.F.(Sc) L.M.E.and aboveClass VIII.	-do-	- do -
(5) Electrical	S.F.(Sc),H.S.(Sc) L.E.E.and above ClassVIII.	-do-	-do-
(6) HEMM	H.S.(sc) B..Sc.L.M.E., L.E.E.and above Class VIII.	-do-	-do-
(7) Para-Medical	H.S.,B.Sc.(Bio), SF and above ClassVIII	-do-	Male and Female.
(8) Telecommunication	S.F.,H.S.(Sc)and below class VIII	-do-	-do-
(9)Laboratory	H.S.(Sc),B.Sc. B.Sc(Bio).	-do-	-do-
(10) Automobile	S.F.and above Class VIII.	-do-	Male.
(11) Loading	Below Class VIII and Illiterates.	-do-	-do-

3.Recruitment & Allotment of Trades:

An Expert Committee consisting of:

(i) Representative of G.M, All Areas.
(ii) (ii) Representative of Personnel Dept. of Hqrs.
(iii) (iii) Representative of the Department al Head of Hqrs.
(iv) (iv) Representative of GM (Training).

Which may be subjected to be changed suitably if deemed necessary will be formed by the Area Training Officer and this committee so formed at the Area level of the Company will assess the candidature of the recruited apprentices by the personnel Dept. This Committee will allot particular trade to the Apprentice (s) Specifying Area and Sub-Areas of deployment as identified in relation to the need of the company. Appointment letter preferably of the proforma as in Schedule 'A' is to be issued to the candidates. On joining, the candidate shall submit a joining report to the Manager/Agent Colliery/Project along with three copies of bio-date forms as Schedule 'B'. On receiving bio-data forms at the Area level, these require to be distributed to G.M.(Training), Hqrs. Personnel Manager of the Area, Colliery Manager for record.

4.Master Register:

One Master Register shall be maintained detailing all the requisite of the bio-data from at the Colliery level, area Level and Hqrs.(Training) level, During official inspection, officers of the Hqrs. Training may demand the same.

5.Duration:

The duration of the training period as Apprentices will normally be for one year, which may be extended to further six months. After the expiry of the Apprenticeship period, the apprentice will continue their training for 2 to 3 years till they are competent enough had develop sufficient skill up responsible assignments.

6.Training Hours:

Apprentices will be exposed to (a) 5- days 'On the Job Training' at the colliery/ project under the guidance of Training Guide/ Asst. Manager/Engineer (b)1-day class room theoretical training at Regional Training Institutes, Poniati/Burradhemo or at V.T.. Centers of Mining Training Institute, Poniati. It will take little bit time to cater theoretical training at these Institutes which under consideration of the Training Wing of E.C.L.

2. Training period Break Down :

(a) Total Training Days available	312
(b) Initial General Vocational Training under V.T.Rule 6 as per Schedule C.	30
(c) Class Room Induction Training days at V.T. Centers as per Schedule D.	5
(d) Class Room Training for First Aid to the standard of St.John Ambulance Association as per Schedule E at the V.T.Center.	5
(e) Class Room Training for Gas Testing vide V.T.Rule 17 and as per Schedule F at the V.T.Center.	6
(f) Class Room Theoretical Training one day/week as per block Syllabus Schedule G (to be provided at the Inst.)	40
(g) 'On the job Training' Days as per Syllabus Schedule H.	226.

The total training period does not include days for leave/sick/ holidays.

Female Apprentices recruited under this scheme may be given only training under V.T.Rule 6 (I). Induction training, First Aid training at the V.T.Centres and 'On The Job Training'.

8. Maintenance of Diary :

The apprentices should maintain a diary as per schedule HH of their practical training. Maintenance of a Diary for everyday of their work is necessary to enable the apprentices to know the program of their work to get proper guidance from their supervisors/Engineers/managers/ Training Guides in their respective discipline/trades allotted to them. The Diary is to be filled in duplicate one for the Office Manager/ Training guides, one for the office of the Area Training Officer.

In addition, the Apprentices should maintain Diary of the daily work in detail in a book kept in their possession, which may require to be produced before the Officer of the Training Department during inspection.

9. Trade Test or Suitability Test :

Trade Test shall be conducted one month before the completion of training.The above test in the from of aptitude test/viva voice will be conducted by the Area Training Officer with the guidance of same Committee as in para 3.

Basis of Assessment:

(1) Report form the Manager	25
(2) Report form V.T. Manager.	25 qualified marks-40.
(3) Viva-voice/Aptitude Test	50

The final report of the assessment shall be forwarded by the Area Training Officer to the personnel Department for necessary action.

10. *Scope and Standard of General Vocational Training at V.T.Centre.*

V.T.Rule- 6.

Every person proposed to be employed in a mine on the surface or in open cast workings other than a person who has held any such previous employment shall before he is so employed under-go a course of theoretical and gallery training as specified in the First Schedule provided that in respect of such class or kind of work as the DGMS 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 12 working days.

(2) Every person proposed to be employed below ground 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 as specified in the second Schedule and

(b) A course of Practical training on actual operations for a period of not less than 12 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 dangers of inflammable gas and method of dealing with the same as specified in the Third Schedule.

11. *Induction Training* :

A schedule in Schedule J is appended which is to be followed for 5 days Induction Training at the V.T.Centres. Faculty Members for conducting the above course shall be paid honorarium by the V.T.Manager from the V.T.Budget. On completion of the program, a report shall be made to the General Manager (Training).

12. *Absorption as Employee* :

As and when an apprentice under this scheme is absorbed as an employee, a report in writing by the Personnel Dept. At the Area level is to be made to the G.M. (Training) & P.M. Man-power cell Hqrs. For their record starting the capacity and place of posting.

13. Training in First-Aid.

On completion of First-Aid training as per schedule E, V.T. Manager shall arrange in collaboration with Colliery Medical Officer for their examination in First-Aid with Department of DGMS, Sitarampur or with St.John Ambulance Association, Before the apprentices complete their training, they are definitely required to pass the above examination. Faculty cost for conducting the above training shall be borne from the training budget of the colliery.

14. Training in Gas Testing:

On completion of the Class Room Training on Gas Testing as per Schedule F, the Apprentices required to possess the Gas Testing Certificate shall appear at the Gas Testing Examination under Mines Act, 1952 which will be organised by the VT Manager at his V.T.Centre, Even if it required to conduct tutorial classes for the purpose, VT Manager shall arrange the same.
Faculty cost for conducting the above training shall be borne from the training budget of the colliery.

15. Class Room Theoretical Training :

Class Room Training on theoretical subject as per Block Schedule G shall be conducted at MiningTraining School, Poniati, Regional Training Institute, Ponati / Burradhemo. On request from the Principal of the above Institute, The Area. Training Officer shall sponsor candidates for the above training 1-day/week 40-class days having two sessions/day in a year will be arranged by the above Institute. Candidates having Automobile trade will be sent to Local Automobile Training School for theoretical training by the Area Training Officer. Finance for such training will be borne by the Area from their training budget. Candidates of telecommunication trade shall seek the theoretical training conducted by the telecommunication dept. At Hqrs. for which Area Training Officer shall make necessary arrangement. For the time being no theoretical training for the candidates having para-medical, Laboratory, Loading trades can be arranged. They shall week only 'On the Job Training.

16. On the Job Training.'

Training Guide/ Asst. Manager/Engineer shall guide the trainees to secure effective training as per Block Syllabus Schedule II.

SCHEDULE - 'A'

EASTERN COALFIELDS LIMITED.

(A subsidiary of Coal India Limited)

OFFICE OF THE GENERAL MANAGER/PROJECT OFFICER------ AREA/PROJECT

P.O. ---------- Dist.---------- Pin----------

Sub: Scheme for engagement as Apprentice under Land Loser's Scheme vide Circular No----- Dated----------

To
Sri
S/O

Village----------P.O.----------

Dist.----------State ----------

Dear Sir,

In pursuance of the above scheme of the Company, the undersigned is pleased to offer you an appointment as ---------- Apprentice in this Organisation on the following terms and

conditions specially in the development. Area/Sub-Area ---------- Colliery/Workshop from ----------.

1. That you will work as a ---------- apprentice for a period of one year.

2. That you will be paid a consolidated stipend of Rs.130/- (Rupees one hundred and thirty only) per month.

3. That after satisfactory completion of your apprenticeship period you will have to appear before the Selection Committee for a trade test for consideration of your absorption as ----------.

4. That if during the above period of apprenticeship, your performance, behavior and attitude are not found satisfactory, your appointment will be terminated without any notice and without assigning any reason whatsoever.

5. That you will to make your own arrangement on accommodation for which you will not be entitled for any house rent.

6. That you are not entitled to any benefits engaged by the employees of Eastern Coalfields Limited.

7. That you are subject to transfer for posting in any of the colliery/workshop of the company.

8. That this appointment will be subject to your being found medically fit by our medical officer,----------

9. That you will surrender your Employment Exchange Registration card to the undersigned for return to the Employment Exchange Officer.

10, That in case of any dispute arisen about the ownership of the land, your appointment as Apprentice will immediately be suspended till firm settlement of the dispute.

.

11.That during the above apprenticeship period, you will not be entitled to join any other. In Company/Out Company training program unless deems it necessary by the training department.

12.that any leave/sick granted to you will be at the discretion of the management.

10. 13. That you are required to report to the Agent/ Manager,----------Colliery/Workshop at 8.00 A.M. on ---------- for 'On the Job' training under the Training Guide/ Asst.Manager/ Engineer strictly adhering to the block syllabus Schedule ---------- of the training plan. Therefore, you are required to report he Manager. ---------- Vocational Training Center for Initial/General Vocational training under Mines Rules and Induction Training.

If the above terms and conditions acceptable to you, you are to give in writing stating the date of joining and fill (in the attached bio-data form in triplicate.

Signature of the General Manager/ Project Officer.

JOINING REPORT

To
The General Manager,
----------Area.

(THROUGH PROPER CHANNEL0

Dear Sir,

Under reference to your appointment offer No.---------- dated ---------- I hereby solemnly declare that I shall abide by the terms and conditions stated therein. I am joining on the forenoon/afternoon of dated… At … Colliery as … Apprentice. Three copies of filled in Bio-date from a duty verified by the Manager … Colliery/Project are being sent to you for reference to my service file.

Date … Signature of the Apprentice.

c.c.

1. Personnel Manager---------- Area/Project.

2. Agent/ Manager ----------Colliery/ Project.

3. Area Safety-cum- Training Officer---------- Area.

4.Finance Manager ----------Area/Project.

5.Manpower Cell, ECL.Hqrs, Sanctoria.

6.General Manager (Training), M.T.I. Ratibati.

7.Service File.

8.Office file.

9.Regional Employment Exchange-with a request to note that Sri ----------regd.No. ---------- Has been recruited as ----------from ----------.

SCHEDULE 'B- I'

BIO - DATA FORM

1. Name (In Block letters)
2. Father's Name
3. Name and address of the owner of the land Purchased by the Company.
4. Trade Area of Deployment
5. Qualification
6. Place of Posting
7. Date of Joining
8. Date of Completion of training.
9. Whether SC/ST
10. If absorbed, capacity and place of posting.
11. Staff No./Unique Man No.(If any)
12. Scheme under which recruitment is made
13. Employment Exchange Regd.No.
14. Specimen Signature.

SCHEDULE - C- I

First Schedule under V.T.Rule 6(1)

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

Ist 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: Rules. Standing orders etc. in force at the mine, safety in the vicinity of surface machinery.

Training in first aid:

Visit: Tramways and sidings, Haulage rooms, winding room, 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, lockering, re-railing of tubs.

4th Day (Surface):

Talk: Shotfiring and Safety regulations.

Training in first aid.

Visit: Practical demonstration of taking shelter etc.

Practical work: Building of sand bags stopping.

5th Day: Talk: Legislation and duties of work persons.

Training in first aid.

Visit: "What 's wrong?

Practical work: Laying of tracks.

6th Day:

Talk: Mine Official and their duties, Oral test.

SCHEDULE - C -II

Under 2nd Schedule of V.T.Rule (2) aa :

Course of Theoretical and Gallery training for workers belowground.

Ist Day:

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

Training in first aid

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

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

2nd Day:

Talk: Face work, roof control, testing of roof, support, regulations, first aids any Hygiene.

Training in first aid:

Visit: Underground working face, 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 crossing, 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 preventing of 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, carbondioxide and methane) and dangers therefrom testing for the same or, 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"?

SCHEDULE - C - III

Third Schedule under V.T. Rule (2) b:

Course of special additional training for entrants to gassy mines.

Ist Day:

Talk: Dangers of inflammable gas: Effects of inflammable gas in different percentages. Gas caps, Difference between combustion and explosion. After damp-its effect Method 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. Assemblies of flame safety lamps. Care of safety lamps during use. Dangers of opening or tampering with safety lamp.

Demonstration: Effects of wire gauge 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 lamp 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 spraying. 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 bratices. Ventilation of blind ends.

5th Day:

Talk: Dangers of shotfiring in gassy mines. Precaution. Underground visit to see shotfiring.

6th Day:

General revision. Oral test.

SCHEDULE - 'D'

CLASS ROOM INDUCTION TRAINING

Venue: Vocational Training Center

Days: (five)

I	Ist session	2nd session	3rd session	4th session
Ist day	Organisaion in ECL the Area level.	Roll & functions of different departments/	Safety in Mining.	Safety in Mining.
2nd day	Disciplinary procedure.	Disciplinary procedure.	Productivity	Film show in material handling.
3rd day	Self development	Communication.	Class study in communication.	Film show in F.Aid.
4thday	Cost consciousness.	Morale with motivation.	Duties of individual.	Duties of individual/
5th Day	Vital provisions of CMR,M/ACT.	Vital provisions of M. Rules etc.	Film show in F. Aid.	Film show in F.Aid.

Note: Each session shall be of 90 (ninety) Minutes duration.

SCHEDULE - 'E'

FIRST AID

Venue Vocational Training Centers.

	Ist session	2nd session	3rd session	4th session.
Ist day.	Structure & Function of body.	Burns & Scales	Practice.	Practice.
2nd day.	Blood circulation, wounds & Haemorrage.	Bandages, splints etc.	Practice.	Practice.
3rd day.	Fractures, shock & unconsciousness.	Transport of injured persons.	Practice.	Practice.
4th day.	Respiration Mine	Artificial	Practice.	Practice.

	gas poisoning.	Respiration & Mine Diseases.		
5th day.	Examination.			

Note: each session is of 90 (Ninety) minutes' duration

SCHEDULE -'F'

Eighth Schedule under V.T.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.)

Ist day talk:

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

2nd day talk :

Other mine gases. Their properties and effects. After damp its composition and effects.

3rd day 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 day.

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

5th day.

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

6th day talk:

General revision and discussion.

SCHEDULE - 'H-I'

BLOCK SYLLABOUS FOR "ON THE JOB TRAINING '

TRADE: MINING.

Sl.No.	Code	Composition	Days.
1.	MIN/a General Mining	(a) Study of plans, geology of the Areas no. of Coal Seams. (b) Aquatinting with surface features. (c) Accompanying Overman/M.Sirdar on their routine inspection and aquatinting with the mine workings.	20 days.
2.	MIN/b Mine Surveying.	(a) Preparation and tracing of different Mines plans. (b) (b) Practical surveying & leveling with surveying instrument & office calculation. (c) (c) Coal depot measurement, overburden measurement and gallery marking.	20 days.
3.	MIN/c Explosive & shotfiring.	(a) Study of explosive used in the mines magazine, keeping Reserve station, Blasting efficiency, precautions against pilferage & wastage. (b) Asst. to shotfirer, studying blasting operation, Misfired shots. (c) Study of shotfiring tools exploders. (d) Blasting in stone drifts inking shafts, opencast blasting, blasting off the solid. (e) (e) Pattern of shot holes, drilling & blasting.	20 days.
4.	MIN/d Timbering & Bratticing.	(a) With timber crew- setting of props, logs and bars, systematic timbering rules, withdrawal of supports. (b) (b) Timbering and special methods of supporting weak grounds, wide junctions, Incline months. (c) (c) Bratticing at the face, its transport underground.	20 days.
5.	MIN.e Bord & pillar Development.	(d) (a) Study of plans, panel system of development workings, driving of galleries, under cutting by C.C.Machine.	20 days.
6.	MIN/f Depillaring.	(a) A study of the plan of the depillaring area, size of the panel and its barrier, building of isolation stopping, arrangements of tracks, Sequence of pillar extraction and line of face. (b) Splitting of pillars, methods of extraction, stocking and slicing methods.	30 days.

		(c) Stowing in all details, surveying prevention of robbing, drainage.	
7.	MIN/g Longwall Mining.	Layout of longwall district cycle of operation, blasting pattern, Gate road-ways, system of supports, breakage of roof.	20 days,
8.	MIN/h scraper, Mining.	Layout of scraper mining operation, scraper haulage multi-skilled workers cycle of operation,	10 days.
9.	MIN/i Opencast Mining.	(a) Layout of meachanaised O.C.P., O.C. Machaneries. Organisation, Coal overburden ratio.	20 days.
10.	MIN/j Ventilation & Mine Gass.	(a) Ventilation surveying, Aircrossing, stone dust barriers, stone dusting Mine air sampling, Mine dust sampling quantity of air V.E.Q. degree of gassiness detection, determination & removal of inflammable and noxious gases, Fire fighting organisation, emergency organisation standing orders.	36 days.
11.	MIN/k Underground Transport & power.	The horizontal and vertical transport system from the coalface to the siding. Distribution of powers, water percolation, and pumping system of the mine.	10days.
12.	MIN/l workshop.	Heat treatment of diff. mining equipment, smithy shop, repair jobs of pumps, motors etc.	10 days.
			226 days.

SCHEDULE - ' H-H'

BLOCK SYLLABUS FOR 'ON THE JOB TRAINING'

TRADE: SURVEYING.

Sl.No.	Code	Composition
1.	Surv/a General	Measurement of coal/overburden. Office calculation. Preparation plans & sections, tracing, use of plannimeter, use-of different scales etc. Enlargement, Reduction & copying of plans. Study of buildings, fan drift, surface structure sinking shaft haulage and winding engine installation, water reservoir and sand bunker construction and stowing plant layout.
2.	Surv/b Chain surveying,	Use of diff. kinds of chains & tapes requisites of chain surveying. Reconnaissance, selection of stations, carrying out chain triangulation, offsetting, booking, plotting from the field book, limits of error..
3.	Surv/c Dial Surveying.	Use of diff. types of dial, how to read vernier scale, centering, leveling construction of vernier Dial, carrying out Dial survey on the surface as well as underground loose needle/ fixed needle surveying. Different methods

		of fixed needle surveying. Study of advantage, and disadvantages. Borehole & shaft surveying. Extension of center and grade lines. Booking and plotting Test, care, maintenance and adjustments of dial. Limits or error.
4.	Surv/d Theodolite surveying.	Use of different kinds of theodolites. Care and maintenance. Test and adjustment, diff. Methods of surveying with theodolite and their advantages and disadvantages, calculation and use of rectangular co-ordinates and computation. Limit of error.
5.	Surv/e Triangulation Surveying.	Purpose, principles involved, methods of measuring angles study of diff. meridian, declination, dip of the needle.
6.	Surv/f True North determination.	True north line of the colliery. Study of different star, determination of the true north line etc.
7.	Surv/g Lvelling & countouring.	Study of diff. Leveling Instruments & metric staff. Their care & maintenance, test and adjustment. Carrying out surface and underground leveling work. Spot determination of gradient. Calculations of cutting,filling roof ripping. Diff. Methods of contouring, preparation of contour map, subsidence survey, H.F.L. survey, water danger plan etc, Limits of error.
8.	Surv/h Plane Table Surveying.	Study of plane table surveying. Different methods involved. Carrying out plane TABLE SURVEYING. Study of cadestral maps. Geological maps etc.
9.	Surv/hh Correlation	Different methods of correlation survey. Its accuracy, determination U/G Benchmark. Trijunction pillar.
10.	Surv/j Miscellaneous.	Tachometric survey, Curve laying pit top and pit bottom layout. Drainage system of the colliery, construction of buildings, dams and civil engineering works.

SCHEDULE - 'H-III'

TRADE : COMMERCIAL

Sl.No.	Code	Subject	Days.
1.	G.Com/a	Recording and Filling, Exercise on Maintenance of records, filing system of our organisation.	25 days.
2.	G.Com/b	Mail handling & correspondence, Exercise on main handling and correspondence maintaining Registers- Diary and despatch registers- Filling and correspondence.	25 days.
3.	G.Com/c	Drafting notices: Practice on drafting notices of various types and reports.	20 days,
4.	G.Com/d	PBX & TELEX: Working knowledge of PBX & TELEX.	10 days
5.	G.Com/e	Communication & Records: Exercise on Telegraphic communications, phonogram, code telegram, savinggram, cypher telegram etc. Maintaining Registers for record of such communications.	20 days.
6.	F.Com/f	Rule & Regulations: Exercises of dealing with different cases with application of rules and regulations Mines Act, Mines rules, Compensation Act, Conservation Act, Industrial dispute Act, Wage board recommendation, service rules.	20 days,
7.	G.Com/ff	Type writing: Practice of Type writing to attain a minimum efficiency of 30 w.p.m.	0 days,
8.	S.Com/a	Sales & Desptch: Participation in the job of sale/purchase and despatch of coal, timber, plant & machinery.	56 days.
9	S.Com/b	Store keeping & Purchase: Acquaintance with the types of store to handle, design and usage of store receipt forms, dummy transactions, Issue & return of materials, store registers, forms, code and records. Magazine keeping. Issue & return of explosives.	56 days.
10.	S.Com/c.	Book-keeping & Accountancy: Entries of imprest and petty cash book, Bank Transactions, Trial balance closing stock, outstanding expenses, paid expenses, depreciation, interest on capital revenues & capital expenditure, distributions of profits, salary sheet, bonus sheet, single entry system, tax calculation, voucher writing promissory notes, bill of exchange, import & export procedure.	56 days.
11.	S.Com/d	Provident Fund. Filling up forms, submission of returns, conduction, maintenance and submission of contribution of cards.	56 days.
12.	S.Com/e.	Time keeping: Maintenance of different registers under Mines Act, pit mouths	

		attendance, piece rate/daily rate wages system. Office calculations.	

Note: 1- 7 will be covered by all as general and Sl.No.8- 12 each will be covered by individual to suit their attitude.

SCHEDULE - 'H- IV'

TRADE MECHANICAL

Sl.No.	Code	Subject	Days.
1.	Mech./a	*Mannual Metal works skills.* Safety precaution, marking, chipping, filing, sawing, center punching, drilling, revetting, pipe threading & fitting.	20 days.
2.	Mech/b.	*Machine working skills:* Plain & step turning thread cutting, taper turning, boring grinding of lathe tools, surface grinding.	20 days.
3.	Mech/c.	*Hot working skills.* Head treatment of tools and component parts, normalising, annealing, case hardening simple gas and electric welding.	20 days.
4	Mech/d	*Development of basic skills.* Fitting of male & female parts, Removing/Replacing of broken stands, Replacement/Repairing of belts, checking/repairing of damaged bearings, Replacement of packing glands and seals, Preventive maintenance work, breakdown maintenance work.	30 days.
5.	Mech/e	*Winding Installation equipment:* Identification of components used in conjunction with winding installations, clear under-standing of their functions and essence of mechanical maintenance they need. Dismantling and refitting of safety attachments. Lubrication of winding and guide ropes and their measurements. Steam joints, change of packing, mounting, fitting and accessories of boilers. Dismantling, and fitting of injectors.	30 days.
6.	Mech./f	*Pumps & their fittings:* Diff. types of pumps used in mines, installation, alignment, metal, bearing setting, proper way of gland packing, changing, locating primary troubles, overhauling of pumps.	26 days.
7.	Mech/g.	*Haulage system :* Different types of haulage system, maintenance and routine checking of	20 days.

		haulage ropes. Safety appliances and breaking of rope haulage, installation, alignment and extension of conveyors of all types.	
8.	Mech,/h	*Coal cutting machine:* Overhauling and maintenance of Coal Cutting Machine.	20 days.
9.	Mech,/hh	*Special operators:* Track laying, pipe laying shaft fitting, rope splicing. Rope capping, winding rope hanging, guide rope changing and lubrication.	20 days.
10.	Mech./j	*Repairing and Replacement:* Repair of gear box, fluid couplings, driving sprocket tailend roller chains, pans & conveyors, coal drill, Dowty props, Hydraulic pulleys, compressor, ventilation fan, Gear box for ropeway transmission, Belt conveyor structures, End tipplers etc.	20 days.
			226 days

TRADE: ELECTRICAL /AUTO ELECTRICAL

Sl.No.	Code	Subject	Days.
1.	Ele./aa	*Basic Hand Tools:* Use of hand tools, chipping Filing, Drilling, Threading, Riveting, positioning, fitting of bolts, nuts & screws.	20 days.
2.	Ele./b.	*Making of joints:* Making of joints using single & multi strand cables, soldering, House wiring.	20 days.
3.	Ele./c	*Use of electrical Appliances:* Use of switches, plugs, sockets, cut-out fuses, regulators, test lamps, primary & Secondary batteries, armatures, voltmeter, meggar, condenser, wire gauge.	30 days.
4.	Ele./d.	*Running, care and maintenance:* Generators, A.C.motors & starters, switch gear, circuit breakers, transformer switches fuse boxes electrical appliances.	20 days.
5.	Ele./e	*Installation of illumination units:* Installation of lighting circuits for illumination, connection of motors, generators, field regulators, switch boards.	20 days.
6.	Ele./f.	*Winding of Transformers:* Winding and rewinding of transformers.	20 days.
7.	Ele./ff	*Overhead line erection:* Overhead line erection and different electrical connections to electrical apparatus.	20 days.
8.	Ele./g.	Laying underground cables & flexible cables, cable jointing, vulacansing of trailing cable/	20 days.
9.	Ele./h.	Installation & maintenance of underground	26 days.

		lighting & signaling equipment.	
10.	Ele./hh	*Repair of Electrical Apparatus:* Repair of switchgear, Gate-end-box, Drill panel, simple exploder. Mining telephones, electrical units of Coal Cutting Machine, Coal drill, Coal loader, pump set, ventilating fan and winding equipment and mining machinery.	30 days.

SCHEDULE = 'H- VI'

TRADE: HEAVY EARTH MOVING MACHINERY :

CODE	SUBJECT	DAYS.
HEMM 1	*Fitting ,Drilling, Tapping and Reaming:* Use of hand tools, Calipers, precision measuring instruments chipping, drilling blind holes, tapping use of cutting lubrications, stocks & dikes, Hand & Machine reaming, Removal & broken studs.	20 days.
HEMM 2	*Turning, Sheet Metal Work and Welding:* Binding, rolling, soft soldering, nipples and cables, pipe bending simple welding of metal.	20 days.
HEMM 3	*Power unit of Tractor, cooling system Fuel system steering and breaking system;* Handling a tractor equipment, engine removal, engine dismantling, fit valve guides, checking & fitting of bearings, pistons & rings, engine timing, cooling system overhauling the water pump, fuel system, overhaul of friction clutch gear box, gear shift mechanism, steering mechanism overhaul adjust & test breaking system.	20 days.
HEMM 4	*Tractor Hydraulics, under carriage:* Fault finding remove and refit wheels, tires & tubes Minor repair tires, tube, and track adjustments.	20 days.
HEMM 5	*Suspension, Electrical and Starter system:* Remove and refit recoil spring, overhaul suspension system, minor repairs to starter motors, generators and regulators start and stop procedure, battery maintenance.	30 days.

SCHEDULE - H - VI'

CODE	Subject	Days.
HEMM 6	*Lubrication system, Tractor Implements, Trouble:* Shooting Lubrication system and reconditioning of oil fitters and pumps, lubrications of implements and their application adjustment and maintenance, power take off system driving & Tractor.	26 days.

HEMM 7	*Earth Moving Machinery and Cooling system:* Operation of Earth Moving machinery, fitting brake lining, removal and refit valve guides, valve seat inserts, and ball races, oxy acetylene cutting and Arc welding, fit, adjust and checks of Fans, Fan belts, thermostat.	20 days.
HEMM 8	*Fuel system petrol and Engine:* Simple fuel tank repairs, overhaul of carburetors, mechanical /Electrical fuel pump, check and renew filters. Air cleaner maintenance, overhaul of Transfer pump, fuel injection equipment, calibration and phasing, installation of fuel lines and pump.	20 days.
HEMM 9	*Electrical and ignition systems of Diesel and petrol Engine*: Running repairs, checking lighting and warning circuits, checking glow plugs, overhaul of super chargers, turbo charger, fitting ignition coil, distribute Maintenance Test, Clean and adjust of sparking plugs, Magneto testing and timing.	20 days.
HEMM 10.	*Transmission and Drive system:* Fitting and Maintenance of Universal joints, power shift mechanism in transmission Maintenance, adjustment, inspection and repair of final driver.	20 days.
		226 days.

DIARY SHEET

(To be filled in duplicate)

1. Name of the Apprentice:
2. Trade:
3. Place of Posting:
4. Date of Joining:

Date: Jobs undertaken: Remarks of Supervisory/Training Guide:

1.
2.
3.

Signature of the Apprentice.

Signature of Manager/
Training Guide,