

Total number of printed pages – 7 B. Tech
CPMN 6404

Eighth Semester Examination – 2008

MINE LEGISLATION AND GENERAL SAFETY

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory
and any **five** from the rest.

The figures in the right-hand margin
indicate marks.



1. (a) Fill in the blanks : 1×10
- (i) All the persons employed in a mine are required to undergo periodical medical examination every _____ years.

- (ii) The mines rules provides for the appointment of a welfare officer where _____ number of persons are employed.
- (iii) At mines rescue stations, the rescue brigade comprises of _____ number of rescue trained persons.
- (iv) No locomotive shall be used where the gradient exceeds _____ .
- (v) Persons will not be allowed to enter a place within _____ time after the occurrence of a misfire electrical shot firing.
- (vi) The internal parts of a winding engine shall be examined at every _____ interval.
- (vii) In a coal mine if the presence of inflammable gas exceeds _____

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Contd.

in the general body of air, the supply of electricity shall be immediately disconnected.

(vii) No work shall be made or extended to within _____ metre of any railway/public work.

(ix) All surface structures and supports within a horizontal distance of _____ from all entrances to a mine shall be of fire proof material.

(x) Every person, who joins his duty after an absence of 1 year or more, shall undergo _____ training within 1 month of his resuming duties.

(b) Answer in brief : 2×5

(i) Differentiate between royalty and dead rent.

(ii) What are the specified limits of working hours in opencast mines ?

(iii) What is the composition of a committee constituted under the Mines Act ?

(iv) What is the time period and maximum area for which a mining lease is granted ?

(v) What is the role of automatic contrivance in a shaft ?

2. (a) What is court of inquiry ? How does it differ from a committee ? 3

(b) What is a workmen's Inspector ? What is the minimum qualification for their appointment and what are their functions? 5

(c) How will the leave with wages be calculated in case of a person who works a

- part of the time belowground and rest of the time either on the surface or in opencast workings ? 2
3. (a) State the manner in which the notice of accidents are required to be given under the mining regulations in our country. 4
- (b) What should be the height and width of benches in a mechanized opencast mine using shovel-dumpers and draglines ? 4
- (c) Outline the duties of competent persons appointed in mines. 2
4. (a) What are the safety features that should be maintained in haulage roadways? 4
- (b) Outline the provisions of Indian Electricity Rules as applicable to mines for the following cases : 3×2
- (i) Voltage limits
- (ii) Switch gears and terminals.

5. (a) Give a list of plans and section that are required to be maintained for a metal mine. 3
- (b) Outline the provisions regarding safe use of winding ropes in mines. 4
- (c) What precautions are required to be maintained in connection with ventilation control devices such as stoppings, door and air-crossings ? 3
6. (a) Who is given preferential right while granting a mining lease and why ? 4
- (b) What is an industrial dispute ? Discuss in brief about the machineries for settlement of a dispute in a mining industry. 6
7. (a) Where should a rescue station be located ? What are its functions ? 3
- (b) What are pit head baths ? Where are they required to be provided ? 3

(c) Define accident. What are the objectives of accident analysis ? 4

8. An accident occurred in a depillaring district of an underground coalmine by 'air-blast' and one crew of a driller and a helper who were taking rest in the gallery were killed on the spot. Outline the investigations and write a report of enquiry into the accident using the standard format. 10
