

Total No. of Pages : 2

Register Number :

**7890**

Name of the Candidate :

**DIPLOMA IN MINING ENGINEERING EXAMINATION DECEMBER 2013.**

**140 — MINE SAFETY AND MAINTENANCE**

Time : Three hours

Maximum : 100 marks

**Answer any FIVE questions.**

**(5 × 20 = 100)**

**All questions carry equal marks.**

1. Write short notes on any Four of the following : (4 × 5 = 20)
  - (a) White damp
  - (b) Black damp
  - (c) Fire damp
  - (d) MSA D-6 methanometer
  - (e) BMI methanometer.
  
2. What are the sources of heat in mines? Explain their physiological effects in detail. (20)
  
3. Explain any Four of the following : (4 × 5 = 20)
  - (a) Natural ventilation
  - (b) Regulator in distribution of Air current in mines
  - (c) Descensional ventilation
  - (d) Antitropical ventilation
  - (e) Ventilation of deep mines and air conditioning.
  
4. Define incubation period and explain the stages of spontaneous heating in mines. (20)
  
5. Discuss about any Five of the following : (5 × 4 = 20)
  - (a) Velometer
  - (b) Pressure surveying
  - (c) General lighting in mines
  - (d) Axial Flow Fan
  - (e) Classification of fires
  - (f) Maintenance of stone dust barriers.

6. Explain the causes, effects, prevention and control of inundation in mines. (20)
7. Describe any Five of the following ones : (5 × 4 = 20)
- (a) Prevention of coal dust explosions
  - (b) Fresh air base requirements
  - (c) Dry Chemical Powder (DCP) extinguisher
  - (d) Self-rescuer
  - (e) Nystagmus
  - (f) Pneumoconiosis.
8. (a) Discuss about the mineral concession rule, 1960. (10)
- (b) Brief about the General Provisions of Mines and Mineral Regulation and Development Act. (10)
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