



- Notes :
1. Due credit will be given to neatness and adequate dimensions.
  2. Assume suitable data wherever necessary.
  3. Illustrate your answers wherever necessary with the help of neat sketches.
  4. Marks have been given against each question.

1. a) Enlist Role and Functions of DGMS. 5  
b) Explain statutory provisions wrt power of INSPECTOR. 5  
c) Define as applicable in mines. 6
  - i) Agent.
  - ii) Shift and Relay.
  - iii) Ordinarily employed persons.

**OR**

2. a) Define as applicable in mines. 6
  - i) Certifying surgeon.
  - ii) Serious bodily injury.
  - iii) Adult.  
b) Write the statutory provisions wrt Appointment (No-qualification and experience) and Duty of workmen inspector. 5  
c) Write the statutory provisions regarding minimum attendance of a person employed in a mines to qualify for leave with wages and at what rate leave with wages is calculated. 5
3. Write the provisions of "The coal mines Regulation" and DGMS circular regarding.  
a) General characteristics of mine plan. 7  
b) Appointment of manager wrt age and production from U/G coal mines and duty wrt visit to mines. 5  
c) Capping of rope of white metal is used. 4

**OR**

4. Write the provisions of the CMR and DGMS circular regarding.  
a) Max. rope speed in man winding shaft with depth of shaft. 6  
b) Provisions of man hole in haulage road. 6  
c) Use of welding apparatus in U/G mines. 4

5. Write the provisions of MMR and DGMS circular regarding.
- a) Water danger plan. 6
  - b) Factor of safety of winding rope wrt to depth of shaft. 6
  - c) Duty of manager wrt U/G orset. 4

**OR**

6. Write the provisions of MMR and DGMS circular regarding.
- a) Ladders. 8
  - b) Standard of lighting in U/G. 4
  - c) Standards of Ventilation. 4
7. a) Classify the accidents. 10
- a) Cause wise.
  - b) Place wise.
  - c) Experience wise.
  - d) Fatality wise.
- b) Explain various types of losses caused due accident. 6

**OR**

- 8 a) Prepare a report of an Investigation into an accident due to run away of tubs Assume your own conditions. 11
- b) "Accident does not happen by itself. It is caused." Explain with suitable example. 5
9. a) Write statutory provisions regarding supply and use of electrical energy in the mines. 5
- b) What is risk? How can't be reduced or eliminated. 8
- c) Define severity index. 3

**OR**

10. Explain.
- a) SAPICOM. 5
  - b) Precautions where gas exist. 8
  - c) FLP. 3

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