

Course Name : Underground Coal Mining
Course Code : MIEG 324
No. of page/s: 2

Max. Marks : 100
Duration : 3 Hrs

SECTION A
(ANSWER ALL QUESTIONS)

1. Write short notes or explain briefly the followings:
- a) Main and Tail rope haulage.
 - b) Theory of Multiple Causation.
 - c) Differences between Tower mounted and Ground mounted friction winder.
 - d) Armoured Flexible Conveyor. (5*4=20)

SECTION B
(ANSWER 2, 3, 4 and EITHER 5 OR 6)

2. a) State the suitable conditions for Hydraulic mining. (6+4)
b) What are the essential features of a good haulage track?
3. a) Discuss about ANY TWO safety promotional measures. (4+6)
b) Discuss the measures to be taken to minimize the air blast.
4. State the differences of Cage winding with Direct rope haulage winding. (10)
5. a) Explain with a sketch, the use/protection of Cage by King Detaching Safety Hook. (6+4)
b) State the main classifications of an Accident.

OR

6. a) Give the FOUR examples of Unsafe acts and Unsafe conditions. (4+6)
b) What are the problems of Koepe/Friction winding system?

SECTION C
(ANSWER 7 and 8 OR 7 and 9)

7. a) Discuss the CMRs on Man-winding in a shaft. (14+6)
b) What are the various components of a belt conveyor system?

8. a) State the possible sources of Accidents due to explosives in U/G mines.
b) State ANY SIX safety devices in windings and their uses.
c) Explain the parameters which influence the selection of the winding rope. (8+6+6)

OR

9. a) Discuss about the design aspects of a belt conveyor?
b) Compare the properties and the damages of Firedamp and Coal dust explosions.
c) State the CMRs for Examination of the Winding equipment. (8+6+6)