

22109

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following :** **10**
- Enlist any four companies producing metals in India.
 - Illustrate various “Entries” in u/g mines.
 - Define “Prospecting”.
 - Define “Stripping Ratio”
 - Define “Prime Cartridge”
 - Define “Explosives”
 - List for institute providing “Mining Education”.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Describe the Role of either “DGMS” or “IBM” in Indian mining industry.
 - b) Describe board and pillar method of U/G coal mining.
 - c) Describe “Main level” and “Sublevel” with diagram in metal mines.
 - d) Describe conditions favouring for adoption of surface mining.
 - e) Distinguish between Rotary Drilling and Percussive Drilling.
 - f) Describe various types of roof supports in U/G coal mines.
- 3. Attempt any THREE of the following :** **12**
- a) Describe the Role and Function of “CIMFR”.
 - b) Compare “Board and Pillar” Vs “Longwall Mining” method.
 - c) Describe different terminology used for stope preparation.
 - d) Compare “Surface Mining” Vs “Underground Mining”
 - e) Elaborate the surface mining bench terms with a neat sketch.
- 4. Attempt any TWO of the following :** **12**
- a) Elaborate the procedure of shot firing in coal mines.
 - b) Describe -
 - i) Solid blasting
 - ii) Powder factor
 - iii) Definition factor
 - c) Describe various properties of explosives.

- 5. Attempt any TWO of the following :** **12**
- a) Compare High explosive and Low explosives.
 - b) Describe various gases present in U/G coal mines.
 - c) Explain the advantages and disadvantages of surface mining method.
- 6. Attempt any TWO of the following :** **12**
- a) Describe Crosscuts and Drives of various types in U/G metal mines.
 - b) Describe with sketches different mode of entries in opencast and underground mining.
 - c) Summarize the uses of following industrial minerals/ore
 - i) Coal
 - ii) Copper ore
 - iii) Limestone
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