

**MSc2485 / MSC2484-II - Paper-IV (Optional) :  
Elements of Mining and Drilling Techniques**

P. Pages : 2

Time : Three Hours



**GUG/S/18/5756**

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw neat sketches wherever necessary.

1. Give an account of subsidence and supporting of Mine Openings.

**OR**

Write short notes on :

- a) Explosives used in mining.
- b) Blast holes and their patterns.
- c) Mine drainage.
- d) Ventilation and illumination.

2. Give a detailed account of underground mining methods for metallic minerals.

**OR**

Write short notes on :

- a) Longwall method of coal mine.
- b) Underground non metallic mining method.
- c) Room and pillar method of coal mining.
- d) Vertical shaft.

3. Give an account of alluvial mining methods.

**OR**

Write short notes on :

- a) Sea bed mining for manganese nodules.
- b) Coal bed methane.
- c) Chemical leaching method.
- d) Safety measures in open cast mines.

4. Give a detailed account of various common drilling techniques.

**OR**

Write short notes on :

- a) Directional drilling.
- b) Fishing and fishing tools.
- c) Problems encountered in drilling.
- d) Coring methods.

5. Write short notes on :

- a) Haulage and hoisting.
- b) Blasting practices.
- c) Incline shaft.
- d) Adit
- e) Safety measures in underground mines.
- f) Solution method of mine.
- g) Cementing of holes.
- h) Drilling bits.

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