

M.Sc.(Geology) Fourth Semester (Old Course)  
**MSC2484-II-Paper-IV (Optional) : Elements of Mining & Drilling Techniques**

P. Pages : 2

Time : Three Hours



**GUG/W/18/2385**

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 a detail account of types of mines and the various mine working.

**OR**

Write short notes on :

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

2. Write in detail on mine development.

**OR**

Write short notes on:

- a) Methods of shaft sinking.
- b) Underground mining methods for non-metallic minerals.
- c) Longwall advancing method of mining.
- d) Gophering.

3. Describe in detail the various surface mining methods.

**OR**

Write short notes on:

- a) Alluvial mining methods.
- b) Sea bed mining for manganese nodules.
- c) Safety measures in underground mines.
- d) Mine organization.

4. Give detail account of rotary, percussive and diamond drilling techniques.

**OR**

Write short notes on:

- a) Purpose and applications of drilling.
- b) Fishing and fishing tools.
- c) Drilling fluids.
- d) Cementing of holes.

5. Write short notes on :

- a) Haulage.
- b) Mine ventilation.
- c) Level.
- d) Mechanised mine.
- e) Coal bed methane.
- f) Rescue measures.
- g) Diamond bits.
- h) Directional drilling.

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