

**AE-836**

M.Sc. (Final)

Term End Examination, 2016-17

# GEOLOGY

## Paper - II

Geophysical Exploration, Engineering  
Geology and Mining Geology

*Time : Three Hours] [Maximum Marks : 100*  
*[Minimum Pass Marks : 36*

**Note** : Answer **all** questions. All questions carry equal marks.

## Unit-I

1. Write short notes on any **two** of the following :
  - (a) Resistivity method
  - (b) Aeromagnetic surveys and its applications
  - (c) Gravity anomaly maps and their interpretations

***OR***

( 2 )

Define 'Geomagnetic field of earth'. Discuss magnetic properties of rocks. Describe working principle of Magnetometer.

### **Unit-II**

2. Write short notes on the following :
- (a) Well Logging techniques
  - (b) Principles and application of Electrical Well Logging

**OR**

Describe Seismic method. Discuss seismic velocity and interpretation of seismic data.

### **Unit-III**

3. Write short notes on any **two** of the following :
- (a) Physical characters of building stones and metals
  - (b) Dam foundation, rock problems and safety measures
  - (c) Role of Engineering Geology in civil construction

**OR**

Discuss the Engineering properties of rocks with special reference to tunneling. Describe various types of support.

( 3 )

**Unit-IV**

4. Write short notes on any **two** of the following :
- (a) Earthquakes and seismic zones of India
  - (b) Geological causes for mishaps and failure of Engineering structure
  - (c) Influence of geological conditions on foundation and design of buildings

**OR**

What is Landslide ? Discuss the causes of Hill-slope instability. How can you prevent it ?

**Unit-V**

5. Write notes on the following :
- (a) Diamond drilling method and its application in mining
  - (b) Ocean bottom mining and mining hazards

**OR**

What are essential conditions for the mining of underground mineral deposits ? Describe the Room and Pillar method and discuss the advantages and disadvantages.

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