



AF-3592

M.Sc. (Final)
Term End Examination, 2017-18

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 notes on the following :
 - (a) Principles of gravimeter
 - (b) Magnetic properties of rocks

OR

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(Turn Over)

(2)

Write short answer of the following :

- (a) Introduction to aeromagnetic survey
- (b) Resistivity methods; profiling and sounding

Unit-II

2. Write notes on the following :

- (a) Well logging techniques; specially electrical well logging
- (b) Fundamental principles of wave propagation

OR

Write a note on the application of electrical methods in groundwater prospecting.

Unit-III

3. Write a note on geological consideration for evaluation of dams and reservoirs.

OR

Write notes on the following :

- (a) Methods of tunneling
- (b) Geotechnical evaluation of tunnel alignment

(3)

Unit-IV

4. Write notes on the following :

- (a) Hill slope stability
- (b) Seismic zones of India

Write short answers of the following :

- (a) Geologic conditions for designing buildings
- (b) A seismic design of buildings

Unit-V

5. Write notes on the following :

- (a) Application of rock mechanics in mine planning
- (b) Define the following mining terms :
 - (i) Cross-cutting
 - (ii) Winzing

OR

Write notes on the following :

- (a) Mine hazards; fire and rock bursts
- (b) Exploration of surface deposits