

S.E. (Civil) (First Semester) EXAMINATION, 2010

ENGINEERING GEOLOGY

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Answers to the *two* Sections should be written in separate books.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data, if necessary.

(v) *All* questions are compulsory.

SECTION I

1. (a) Distinguish between plutonic and volcanic rocks and describe any *two* rocks from each category. [8]
- (b) Describe Hardness as a physical property of mineral. [3]
- (c) Explain the process of decomposition of rocks in detail. [5]

Or

- (a) How parallel structures in metamorphic rocks are developed ? Explain the process in detail. [8]
- (b) How variation in length of transportation leads to development of different sedimentary rocks ? Explain it. [8]

P.T.O.

2. Write notes on :

- (a) Climatic changes during Gondwana period. [5]
- (b) Youthful stage of a river. [5]
- (c) Field characters of Deccan Trap Basalt. [6]

Or

- (a) Give a comparative account of Peninsula and extra Peninsula divisions of India. [6]
- (b) Gondwana coal. [4]
- (c) Two features developed due to river erosion. [6]

3. (a) Explain the different features resulted due to action of compressional type of tectonic forces. [8]
- (b) Write a note on angular and non-conformity. [6]
- (c) Explain Sill and Phaccolith as igneous intrusions. [4]

Or

- (a) How are rocks faulted ? Describe various types and parts of a fault. [12]
- (b) Explain the terms conformable series and Inlier and Outlier. [6]

SECTION II

4. Write notes on :

- (I) (a) Fracture surfaces of drill cores. [6]
(b) Quality and Quantity of returning drill water. [5]
- (II) With the help of figure-1 (attached) answer :
(a) Identify the feature as shown by an arrow. [1]
(b) Number of series of beds and their sequence. [4]

Or

- (a) Remote sensing Techniques. [4]
(b) Explain the methods of surface and subsurface survey as a part of geological investigations at a project site. [12]

5. Write notes on :

- (a) Focus, Epicentre and Isoseismal lines. [6]
(b) Types of volcanic eruptions. [5]
(c) Vertical distribution of Groundwater. [5]

Or

- (a) Will you align a road along the slope of a hill where dip and slope are in the same direction ? Explain it. Also add a note on preventive measures against landslides. [12]
(b) Contact springs in Deccan trap area. [4]

- 6.** (a) Feasibility of tunnelling in tectonic areas. [9]
- (b) Relationship between type of dam and local geology. [5]
- (c) Treatment to be given to a fracture crossing dam alignment. [4]

Or

- (a) Dams on Limestones and Marbles. [6]
- (b) Will you align a tunnel in E \leftrightarrow W direction of dipping sedimentary beds exhibiting true dip towards North ? Give reasons. [5]
- (c) Geological features leading to leakage below a dam. [7]