

S.E. (Civil) EXAMINATION, 2008

ENGINEERING GEOLOGY

(2003 COURSE)

Time : Three Hours

Maximum Marks : 100

- N.B. :—** (i) Answers to the two sections should be written in separate answer-books.
- (ii) Neat diagrams must be drawn wherever necessary.
- (iii) All questions are compulsory.

SECTION I

1. (a) Give in tabular form Hatch's scheme of classification of Igneous rocks. Describe one plutonic, one hypabyssal and one volcanic rock. [12]
- (b) Describe modes of weathering. [4]

Or

Write notes on :

- (a) Arenaceous rocks. [6]
- (b) The mineralogical, textural and structural changes during formation of slate, schist and gneiss. [8]
- (c) Mafic minerals. [2]
2. (a) Give an account of Deccan Traps with reference to : [9]
- (i) Field characters of flows of compact basalt.
- (ii) Field characters of flows of Amygdaloidal basalt.
- (iii) Volcanic breccias.

- (b) Describe central type of activity and pyroclastic material. [7]

Or

- (a) Write detailed note on Discordant igneous intrusions. [6]
(b) Describe any *two* features resulting from river rejuvenation.
Draw neat sketches. [6]
(c) Describe welding and cementation of sediments. [4]

3. Write notes on :

- (a) Mountains of circumdenudation. [3]
(b) Types of folds. [7]
(c) Describe with the help of neat sketches geomorphology of recent coast. [3]
(d) What is horst and graben. Explain with neat sketches. [5]

Or

- (a) Describe features resulting from river erosion and deposition. [6]
(b) Explain with sketches normal fault and reverse fault. [6]
(c) Describe Laterites and Bauxites. [6]

SECTION II

4. Write notes on :

- (a) Contact spring in Deccan Trap. [3]
(b) Types of groundwater. [3]
(c) Cone of depression. [3]
(d) Porosity and permeability of rock. [3]
(e) Depth zones of groundwater. [4]

Or

- (a) Preventive measures against landslide. [6]
- (b) Discuss the influence of mineral composition, texture and structure of rocks in the suitability of building stone. [10]

5. (a) Discuss in detail, the importance of preliminary geological exploration at the engineering site. [12]
- (b) Write note on observations and precautions during drilling. [4]

Or

- (a) Quality and quantity of returning drill water. [7]
- (b) Treatment given to a jointed rocks, dykes and faults occurring at dam site. [9]

6. (a) Write in detail tunnelling conditions in Deccan trap region. [12]
- (b) Write short notes on volcanic breccia as a dam foundation. [6]

Or

- (a) Remote sensing and GIS is an important tool for Civil engineering Project from engineering geology point of view. Discuss. [8]
- (b) Can load of a dam and perviousness of rocks in the reservoir will originate an earthquake ? [5]
- (c) Tunnelling along strike direction of sedimentary beds. [5]