

# CBCS Scheme

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15CV/CT35

Third Semester B.E. Degree Examination, Dec.2017/Jan.2018

## Engineering Geology

Time: 3 hrs.

Max. Marks: 80

**Note:** Answer any FIVE full questions, choosing one full question from each module.

### Module-1

- 1 a. What is Engineering Geology? Discuss its role in Civil Engineering Projects. (08 Marks)  
b. With a neat sketch, explain the structure and composition of the earth. (08 Marks)

OR

- 2 a. Explain briefly i) Rock forming mineral ii) Economic mineral. (04 Marks)  
b. Name the physical properties which are helpful to identify the minerals. Explain Luster and Fracture of a mineral, with suitable examples. (06 Marks)  
c. Write the chemical composition, cleavages and uses of the following minerals :  
i) Calcite ii) Quartz iii) Gypsum. (06 Marks)

### Module-2

- 3 a. What are Igneous Rocks? Explain the classification of Igneous Rocks with suitable examples. Mention the Engineering considerations of Igneous Rocks. (08 Marks)  
b. What is Rock Quality Designation (RQD)? How is RQD used for the rock mass classification? (08 Marks)

OR

- 4 a. With a neat sketch, explain the developments of folds, joints, faults and unconformities in Rocks. (08 Marks)  
b. Mention the engineering considerations of folds, joints, faults and unconformities. (08 Marks)

### Module-3

- 5 a. Discuss briefly the Geomorphological aspects in the selection of site for Dam construction. (08 Marks)  
b. What are Tunnels? Explain the important Geological factors taken into account while Tunneling. (08 Marks)

OR

- 6 a. Explain briefly : i) Weathering of Rocks ii) Tectonic cause of Earth quake. (08 Marks)  
b. What are the causes of Landslides? How can Landslides be prevented. (08 Marks)

### Module-4

- 7 a. Briefly explain Hydrological cycle. (04 Marks)  
b. Define Aquifers. Explain with neat sketches, various types of aquifers. (08 Marks)  
c. Explain in brief zone of aeration and zone of saturation. (04 Marks)

OR

- 8 a. Explain in detail Ground water exploration by Electrical Resistivity method. (10 Marks)  
b. Give an account of Artificial Recharge of ground water by various methods. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

**Module-5**

- 9 a. Discuss the application of Remote sensing and GIS Technique in Civil Engineering Projects. (12 Marks)  
b. Write a note on Impact of Mining on Environment. (04 Marks)

OR

- 10 Write a note on :  
a. Natural Disaster and Mitigation.  
b. Landsat Imagery.  
c. Impact of Reservoirs on Environment.  
d. Uses of Topographic maps. (16 Marks)

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