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10CV36

Third Semester B.E. Degree Examination, June/July 2016
Applied Engineering Geology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART - A

- 1 a. Discuss in brief, the different branches of geology which are related to civil engineering. (10 Marks)
b. Write the chemical composition, crystal system and uses of any two of the following minerals - Agate, Orthoclase feldspar, Talc, Calcite. (05 Marks)
c. Discuss in brief, the different discontinuities traced within the earth's interior. (05 Marks)
- 2 a. Write the forms of igneous bodies with neat sketches. (10 Marks)
b. Write the role of metamorphic agents in metamorphism. (06 Marks)
c. Write a brief note on Exogenous and Endogenous geological agents. (04 Marks)
- 3 a. Write a brief note on soil profile. Discuss the factors which contribute for the formation of soil. (08 Marks)
b. Discuss Meanders and Oxbow lake, with neat sketches. (06 Marks)
c. What is Unconformity? What is its significance in civil engineering? (06 Marks)
- 4 a. What is an Earthquake? Discuss the preventive measures to be taken during construction of building in seismic zones? (08 Marks)
b. Discuss the different seismic zones of India. (06 Marks)
c. Explain the causes and effects of an Earthquake. (06 Marks)

PART - B

- 5 a. What are the qualities that are required for the selection of rocks as construction materials? (08 Marks)
b. Define Fault. How are they formed and their effects in civil engineering? (08 Marks)
c. Write a brief note on Joints in rocks and their significance in a reservoir site. (04 Marks)
- 6 Critically examine the following with suitable reason :
 - a. Sedimentary rock dipping downstream are ideal for dam sites.
 - b. Reservoir along the course of effluent streams are better than those on the valleys of influent rivers. Justify.
 - c. Stability of a tunnel alignment along a seismic zone.
 - d. Silting up of reservoir is a good sign for the safety of the dam. (20 Marks)
- 7 a. Write a brief note on water dousing or superstitious method of finding water. (04 Marks)
b. What is an Aquifer? Write a note on confined and unconfined aquifer, with a neat sketch. (08 Marks)
c. What is Rain water harvesting? Discuss the various types of artificial recharge. (08 Marks)
- 8 a. What is Remote Sensing? Discuss its applications in civil engineering. (08 Marks)
b. Write a note on impact of mining on environment. (06 Marks)
c. What is GIS? Write its use in civil engineering. (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.