

Reg. No. :

Question Paper Code : 27090

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Third Semester

Civil Engineering

CE 6301 — ENGINEERING GEOLOGY

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the thickness of Earth's crust.
 2. How are rocks classified according to the scale of weathering?
 3. Name the varieties of mica.
 4. List the uses of Calcite.
 5. Compare the strength of Schist and Quartzite.
 6. Why is attrition test carried out on rock samples?
 7. Differentiate between True Dip and Apparent Dip of rock formations.
 8. What is meant by Wenner Configuration?
 9. What is meant by the term "overlap" in remote sensing?
 10. List the causative factors of landslides.
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PART B — (5 × 16 = 80 marks)

11. (a) Describe the process of weathering of rocks and comment on the effect of weathering on the engineering properties of rocks.

Or

- (b) What is Plate Tectonism? Describe it in detail and explain its relation to earthquakes.

12. (a) List the physical properties of minerals and describe each property with examples from the mineral kingdom.

Or

- (b) Describe the composition, properties, varieties and uses of Gypsum, Quartz and Feldspar.

13. (a) List the various engineering properties of rocks. Describe the instrumentation required and the procedure for tests to determine these properties.

Or

- (b) Describe the mineralogical composition, texture, engineering properties and uses of Dolerite, Laterite, Sandstone and Limestone.

14. (a) Classify folds in rocks and describe each type in detail. Also, give an account of the role of folds in the design of dams and tunnels.

Or

- (b) Explain how Seismic and Electrical methods help in know about sub-surface features during civil engineering investigations.

15. (a) Discuss the geological processes that result in coastal erosion. Further, give a detailed account of the various coastal protection structures that are in practice.

Or

- (b) Using case studies, explain how groundwater investigation and exploration is carried out by civil engineers.