

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Third Semester

Civil Engineering

AG 1201 — APPLIED GEOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the difference between an aquifer and an aquiclude?
2. Write a note on Mercalli scale.
3. List the important properties and uses of Calcite.
4. Name at least four clay minerals and their important engineering properties.
5. List the tests to be carried out to determine the properties of building stones.
6. What is black granite? List its uses.
7. What is meant by joints in rocks? What is their engineering significance?
8. With the help of a diagram, explain Dip and Strike of rocks.
9. In the context of remote sensing, what is meant by the terms parallax and overlap?
10. List the various coastal protection structures.

PART B — (5 × 16 = 80 marks)

11. (i) Explain in detail the various coastal processes and landforms.
(ii) Write a short of geology and geotechnical engineering in coastal defence. (8 + 8)
12. (a) With examples from the mineral kingdom, give a detailed description of the physical properties of the various minerals.

Or

- (b) Give a detailed account of the types, properties, behaviour, and engineering significance of clay minerals.

13. (a) Describe in detail the laboratory tests that are to be carried out to determine the strength properties of rocks.

Or

- (b) List the various rocks that are used as building materials. Also give an account of the various physical properties of rocks as building materials.
14. (a) What is meant by folds and faults? Discuss about their role in the design and construction of large engineering structures.

Or

- (b) Explain in detail, the electrical resistivity method of sub-surface investigation for civil engineering investigation.
15. (a) What are photo-interpretation elements? List them and explain their role in locating suitable sites for civil engineering projects using aerial photographs.

Or

- (b) Discuss about the types of landslides and the causative factors. Add a note on the measures to prevent landslides.
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