T 8012

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

Third Semester

Civil Engineering

AG 1201 — APPLIED GEOLOGY

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Explain the term Plate Tectonics and its significance.

2. List and describe two coastal protection structures.

3. Write notes on Moh's Scale of Hardness.

4. Explain the properties and uses of calcite.

5. How igneous rocks are classified according to their occurrences?

6. Bring out the essential differences between the engineering properties of granite and slate.

7. Explain how geological maps are useful to a civil engineer?

8. Write short notes on effect of joints on the engineering properties of rocks.

9. What are the various types of aerial photographs?

10. Explain how the study of bed rocks is essential before the construction of tunnels.

PART B — (5 × 16 = 80 marks)

11. (a) Write an essay on "Weathering of Rocks and its importance in Engineering Constructions".

Or

(b) Give a detailed account of the Earthquake belt in India.

12. (a) Write an essay about the physical properties of minerals.

Or

(b) Write notes on :

(i) Feldspar group minerals

(ii) Classifications of coal, and its occurrence in India.

13. (a) Write about the mineralogical composition, structure and texture, engineering properties and uses of dolerite, basalt, sandstone and limestone.

Or

(b) Explain the classifications and uses of sedimentary rocks with examples.

14. (a) (i) Define the term folding in rocks and explain the engineering significance of folds. (8)

(ii) Define the term faulting in rocks and explain the engineering significance of faults. (8)

Or

(b) Explain in details the electrical methods of geophysical survey for civil engineering investigations.

15. (a) (i) Write an essay on the geological characteristics that have be known for a location of a Dam. (8)

(ii) Write notes on Landslides and give an account of the measures adopted to prevent the slides. (8)

Or

(b) Give an account of the elements of aerial photo and satellite image interpretation for civil engineering applications.

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