

B 119

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

Second Semester

Civil Engineering

AG 151 — ENGINEERING GEOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the various internal layers of the earth?
2. What do you mean by "Tectonic earthquakes"?
3. What is 'Cleavage' of minerals?
4. Give the hardness of Quartz mineral.
5. What are Igneous rocks?
6. Define the term 'Stratification'.
7. How will you distinguish between 'Faults' and 'Joints'?
8. What is 'Remote Sensing'?
9. What are the uses of geological maps?
10. What are littoral currents?

PART B — (5 × 16 = 80 marks)

11. (i) What is weathering?
(ii) Describe the different weathering processes and its significance in construction activities. (3 + 13)

12. (a) Describe the classification, physical properties, occurrence and uses of Quartz group minerals.

Or

- (b) Write notes on the following :

- (i) Hardness of minerals (8)
(ii) Crystallographic systems. (8)

13. (a) (i) Describe the classifications of Igneous rocks based on colour and grain sizes. (8)
(ii) Discuss briefly the agents of metamorphism. (8)

Or

- (b) Describe the properties and uses of following rocks.

- (i) Granite
(ii) Sandstone
(iii) Marble
(iv) Gneiss. (4 × 4 = 16)

14. (a) Explain with neat sketches the various kinds of folds. Add a note on their importance in major constructions. (10 + 6)

Or

- (b) Describe the Seismic refraction survey for locating depth to bed rock.

15. (a) Give an account on the various geological conditions essential for tunnel construction.

Or

- (b) Write notes on the following :

- (i) Preventive measures for land slides. (8)
(ii) Visual interpretation elements for remote sensing data. (8)