Question Paper Code : P 1020

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Third Semester

Civil Engineering

AG 1201 — APPLIED GEOLOGY

(Regulation 2004)

Time : Three hours   Maximum : 100 marks

Use neat sketches wherever necessary.

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is perched water table?

2. How are "River terraces" formed?

3. Write down the Mho's scale of hardness of minerals.

4. Enlist the physical properties of Garnet mineral.

5. How is compressive strength of rock determined?

6. Distinguish between Granite and Gneiss.

7. Define strike and dip of the rock.

8. Write down the configuration of Wenner method.

9. What is bridging capacity in tunnel construction?

10. Differentiate aerial photograph from satellite imagery.

11. (a) Discuss in detail the physical and chemical weathering process of rocks and add a note on its merits and demerits in civil engineering projects.

Or

(b) How is groundwater formed? Describe the different types of aquifers and porosity. Give a note on groundwater exploration methods.

12. (a) What are the principal components of identification of minerals? Give examples.

Or

(b) How is Coal formed? Describe the different types of coal and its properties.

13. (a) What is rock strength? Discuss the Engineering properties of rocks.

Or

(b) How are rocks classified? Give the main characteristics and classification of Igneous, sedimentary and metamorphic rocks with examples.

14. (a) Classify and describe joint structures with a neat sketches. Add a note on their role in Dam and Tunnel constructions.

Or

(b) Describe the seismic method of geophysical survey and its applications.

15. (a) What are landslides? Give a detailed account of the types, causes, geological investigations and remedial measures for landslides

Or

(b) Explain the geological considerations necessary for the construction of Tunnel in hard and soft rock terrains.