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Question Paper Code : 21040

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

Third Semester

Civil Engineering

AG 2211/AG 33/CE 1201/10111 CE 303/080100009 — APPLIED GEOLOGY

(Common to Geoinformatics Engineering)

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the types of waves and currents.
2. What are the methods of wind erosion?
3. List the properties of mica.
4. Distinguish between Augite and Hornblende.
5. What is meant by slaty cleavage?
6. Mention the composition, properties and uses of Dolerite.
7. What is anticlinal fold?
8. Name the device used to measure dip and strike.
9. What is the effect of joints in rocks where a tunnel is to be constructed?
10. List some methods to prevent coastal erosion.

PART B — (5 × 16 = 80 marks)

11. (a) Write an essay on the geological work of river.

Or

- (b) Describe the geology of groundwater and its importance in civil engineering.

12. (a) Discuss about physical properties of minerals with suitable examples. (16)

Or

(b) Write the Physical properties of following minerals :

- (i) Quartz
- (ii) Garnet
- (iii) Hornblende
- (iv) Mica.

(4 × 4 = 16)

13. (a) Describe the petrological and engineering properties of the following rocks

- (i) Schist
- (ii) Marble
- (iii) Sandstone
- (iv) Gneiss.

Or

(b) Bring out the distinguishing characters and properties of Igneous, Sedimentary and Metamorphic rocks.

14. (a) Describe with a neat diagram the various classifications of faults. Add a note on civil engineering significance of faults.

Or

(b) Explain the seismic refraction survey for the determination of the depth to bed rock.

15. (a) What are the geological conditions necessary for design and construction of dams? Explain each condition using diagrams.

Or

(b) Explain in detail, the role of remote sensing in studying geological Conditions of a major civil engineering project site.