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**Question Paper Code : 51040**

**B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016**

**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**

**Use neat sketches wherever necessary.**

**Answer ALL questions.**

**PART – A (10 × 2 = 20 Marks)**

1. Brief on the layers of the interior of the earth.
2. What is meant by a seismic zone ?
3. Bring out the difference between streak and colour of a mineral.
4. Name few common clay minerals.
5. Define Hypabyssal rocks.
6. Write the types of metamorphism.
7. Define strike and dip of a sedimentary formation.
8. List a few applications of Geophysical surveys.
9. Define "Flowage".
10. What is remote sensing ?

**PART – B (5 × 16 = 80 Marks)**

11. (a) Give a detailed account of groundwater occurrence in rocks. Add a note on the porosity and permeability of rocks.

**OR**

- (b) Describe in detail how earthquakes are caused. Add a note on the earthquake prone belts of India.

12. (a) Using examples list and describe the important physical properties of minerals.

**OR**

- (b) Write in detail about the origin and occurrence of petroleum and natural gas in India.

13. (a) Describe the mode of formation, classification and structures of sedimentary rocks.

**OR**

- (b) Describe the petrological and engineering properties of following rocks :

- (i) Granite
- (ii) Limestone
- (iii) Gneiss
- (iv) Conglomerate

14. (a) Explain in detail about the types of faults and joints with neat sketch.

**OR**

- (b) Discuss about the seismic and electric method of Geological Investigation.

15. (a) Define the term tunnel. Explain the geology of tunnelling with sketches to show how tunnels can be located in highly disturbed area.

**OR**

- (b) Write an essay on landslide, its causes and prevention.