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**Question Paper Code : X65693**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Third Semester

Civil Engineering

080100009 – APPLIED GEOLOGY

(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

**(10×2=20 Marks)**

1. Describe briefly, 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 the common clay minerals.
5. What is the mineralogical composition and texture of Dolerite ?
6. Differentiate between the engineering properties of Shale and Quartzite.
7. What is a hinge point of a fold ?
8. What is an equipotential method in geophysical investigation ?
9. Define remote sensing.
10. List out the causes of landsliding.

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) i) Write a note on chemical and mineralogical classification of igneous rocks. (4)

ii) Summarize the structure of sedimentary rocks. (8)

iii) Write a note on the kinds of metamorphism. (4)

(OR)

b) Describe the structure and textures of igneous rocks. (16)

14. a) Explain the influence of folds and faults on the design and construction of Dams and Tunnels.

(OR)

b) Give a detailed account of Seismic surveys and interpretation of seismic data for subsurface investigation.

15. a) Write a short notes on following :

i) Coastal erosion and its protection. (4)

ii) Aerial photography. (4)

iii) Process of Remote Sensing. (8)

(OR)

b) Explain in detail about Geological condition necessary for construction of Tunnels, bridges and Road cuttings. (16)

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