B.E. Civil Engineering Third Semester (Old Pattern)

CL301 - Engineering Geology

P. Pages : 1 **GUG/W/18/1469**

Time : Three Hours * 1 1 5 8 * Max. Marks : 80

Notes : 1. All questions carry equal marks.
2. Assume suitable data wherever necessary.
3. Diagrams and Chemical equation should be given wherever necessary.
4. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What do you understand by plate tectonics? Describe various salient features of plate tectonics and plate Margins. **8**

b) What are earthquakes? Describe various characteristics of seismic waves. **8**

OR

2. What is a mineral? Discuss various physical properties of minerals with suitable examples. **16**

3. What is a fault? Describe various types of faults and their importance in civil engineering projects. **16**

OR

4. a) A shale bed at a dam site is dipping at 1 in 5.5 along N10º W and 1in 4.5 along N 80ºE. Find the amount and direction of its true dip. state strike. Give procedure scale 1 unit =1cm. **8**

b) A limestone bed is exposed in a slope 20º west and dips at 20º east. The width of its outcrop is 200m. Find its true and vertical thickness. Write procedure scale 1cm = 40m. **8**

5. What is Rock cycle? Discuss how sedimentary rocks are formed in nature. Write their importance in civil engineering works. **16**

OR

6. Differentiate between the following. **16**

a) Porphyritic and poikilitic texture.
b) Sill and dyke.
c) Schistose and Granulose Structures
d) Granite and Gneiss Rocks.

7. What are various geophysical methods? Describe the electrical resistivity method in detail. **16**

OR

8. Discuss the various geological problems met during the construction of tunnels. **16**

9. What is hydrologic cycle? Describe the hydrologic cycle with a neat sketch. Add a note of zones of groundwater. **16**

OR

10. a) What are unconfined and confined aquifers? Add a note on artesian well and flowing well. **8**

b) What are springs? Describe various types of springs. **8**

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