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

3BECE002 - Engineering Geology

P. Pages : 1 **GUG/W/18/11477**

Time : Three Hours * 3 5 6 2 * 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. What are earthquakes? Discuss the origin of earthquake and characteristics of the seismic waves. **16**

OR

2. What is mineral? Describe the various physical properties that help in their identification. **16**

3. What is Fault? Discuss the classification of fault. Add a note on significance of fault in civil engineering projects. **16**

OR

4. a) A Sandstone bed in Tunnel site is found to be dipping of 1 in 6 along S 65ºW and 1 in 8 along S15ºE. Find the amount and direction of its true dip. Give procedure scale 1 Unit = 1 cm. **8**

b) In a level ground a limestone formation is dipping at 30º East with its outcrop 120m wide Find its true thickness and vertical thickness. Scale 1 cm = 40 m. Give procedure. **8**

5. What are igneous rocks? Discuss the tabular classification of igneous rocks with examples. **16**

OR

6. What are sedimentary rocks? Describe the classification of sedimentary rocks with suitable examples. **16**

7. What is prospecting and exploration? Explain the seismic method of geophysical prospecting in detail. **16**

OR

8. Discuss in brief the account of geological knowledge as applied in the construction of tunnels. **16**

9. What is ground water? Discuss various zones of ground water below the surface. **16**

OR

10. Differentiate between following. **16**

a) Aquifer and Aquiclude. b) Unconfined and confined aquifer.
c) Artesian well and Non Artesian well. d) Confect spring and fault spring.

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