Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2011 Onwards) (Sem.–3)

ROCK MECHANICS & ENGINEERING

Subject Code : BTCE-302

Paper ID : [A1114]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a. With a neat sketch, Show a plane having 30° S.

b. Define focus.

c. Draw a sketch of gravity dam.

d. Differentiate between granite and basalt.

e. Define permeability.

f. What is bore hole test used for?

g. In what way Grouting will improve rocks properties?

h. Explain Denudation.

i. Define RQD.

j. Write down sequence of stages from SHALE and SCHIST.

SECTION-B

2. Explain the Geological works of Glaciers.

3. Differentiate between Gravity and Embankment Dams.

4. How do topographical features control civil engineering projects such as highways, tunnels and reservoirs?

5. Explain different properties of various earthquake waves.

6. Write a short note on triaxial compressive strength.

SECTION-C

7. Explain in detail how *in situ* deformity of rocks is measured using Plate Bearing Test.

8. What are static and dynamic methods of evaluation of elastic constants of rocks?

9. How do you recognize faults in field? Discuss engineering consideration of faults.