SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | |

Total number of pages:[2]
Total number of questions:06

B.Tech. || CE || 3rd Sem

Rock Mechanics & Engineering Geology

Subject Code: BTCE-311A

Paper ID:

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **All questions are compulsory**
- **Assume any missing data**

PART A (2×10)

Q. 1. Short-Answer Questions:

(a) What is a Mineral?
(b) Differentiate between strike and dip.
(c) Define the term Rock Quality Designation (RQD).
(d) Explain the term intensity and magnitude of Earthquake.
(e) What is the necessity of in – situ tests?
(f) How rock bolting is useful in the construction works.
(g) Name the tests which can be carried out for investigation of strength of rock mass.
(h) Name the various properties of rocks.
(i) Why the Flat Jack test is carried out for rocks.
(j) Name some geological works done by oceans.

PART B (8×5)

Q. 2 What do you understand by Earthquake? Explain the various types of seismic waves in detail. CO1

OR

Explain the importance of seismic activity considerations in a terrain. CO1

Q. 3. What is a Fold? Label various parts of a Fold. Explain the various classifications of folds in brief. CO2

OR

How would you classify the different types of Rocks? Explain any one in detail. CO2

Q. 4. What do you understand by Permeability? Explain the tests which are carried out to find the permeability of rock. CO3

OR

12

Describe with the help of a neat sketch the procedure to determine Tensile Strength of a rock mass.

CO3

Q. 5. What are the in-situ tests for testing the Deformability of a rock mass? Explain any one of them in detail.

CO4

OR

Differentiate between Grouting and Rock Bolting. Explain the different types of grouting in detail.

CO4

Q. 6. How would you compare Weathering and Erosion? Explain the different types of Weathering in detail.

CO2

OR

Classify Joints based on geometry. Discuss engineering considerations of joints.

CO2