

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]

Dec.-22-0237

CE-605 (Engineering Geology and Rock Mechanics)

B.Tech. 6th (CBCS)

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt five questions in all selecting one question from each of the sections A, B, C & D of the question paper and all the sub-parts of the question in section E.

SECTION - A

1. Which are the three chief Geological Agents? Compare their work in respect of erosion, transportation and deposition. (10)

OR

2. Name and define important physical properties of minerals and also compare and contrast Quartz with in respect of these properties. (10)

SECTION - B

3. What are faults? How are they classified? Discuss the effects of faulting on various civil engineering projects. (10)

OR

4. What are general geological characteristics of the area that must be known before a tunnel project is decided in that area? (10)

SECTION - C

5. Describe the engineering purposes of rock mass classification. (10)

2

CE-605

OR

6. Explain in detail empirical methods of tunnel design. (10)

SECTION - D

7. Explain Simple methods of determining in situ stresses. (10)

OR

8. Write short notes on the following:

- (i) Rock reinforcement and rock bolting.
(ii) Shear test and pressure tunnel test. (2×5=10)

SECTION - E

9. Answer the following:

- (i) What do you mean by rock quality designation (R.Q.D.)?
(ii) Discuss stress strain curve of typical rock masses.
(iii) Define streak.
(iv) Define intrusive and extrusive rocks.
(v) How faults are recognized in the field?
(vi) What are joints?
(vii) What is metamorphism?
(viii) What is volcanic activity?
(ix) Define Geology.
(x) What are diastrophic earth movements? (10×2=20)