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Uni. Roll No. ....

Program: B.Tech. (Batch 2018 onward)

Semester: 5<sup>th</sup>

Name of Subject: Engineering Geology

Subject Code: PCCE – 109

Paper ID: 16386

EVENING

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

12 JAN 2023

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

**Part – A**

**[Marks: 02 each]**

- Q1 (a) Give any four examples of rock forming minerals.  
(b) Define the terms: petrology, physical geology, mineralogy and seismology.  
(c) What are the main causes of discontinuities and defects in rock mass?  
(d) Differentiate between magnitude and intensity of an earthquake.  
(e) The reverse fault is usually caused by the horizontal thrust. Comment.  
(f) List any two direct and indirect tests for determining internal stresses in a Rock.

**Part – B**

**[Marks: 04 each]**

- Q2 How do 'faults' differ from 'folds'? Give an account of different types of folds found in the nature.
- Q3 What is meant by 'rock quality designation'? How rock classification is done on the basis of rock quality designation?
- Q4 Explain any four physical properties which help in describing and identifying different minerals.
- Q5 Give the classification of metamorphic rocks. Name any four rock type of this group.
- Q6 Describe any method for determination of shear strength of rock sample in the laboratory.
- Q7 Distinguish with the help of neat sketches the formation of outliers from those of inliers.

**Part – C**

**[Marks: 12 each]**

- Q8 Define weathering. What are its types? Explain the phenomenon of weathering with respect to the following:
- (i) weathering agents,
  - (ii) factors which influence weathering,
  - (iii) resulting features of weathering,
  - (iv) Engineering importance of weathering

**OR**

A three storey building is to be constructed for residential purpose along the slope of a hilly area. Discuss briefly, the geological considerations you will take into account keeping in view the land slide and land subsidence.

- Q9** Give a comprehensive report of different methods of improving the properties of Rock masses so as to safeguard the rock slope against the landslide.

**OR**

A reservoir is to be created for supplying drinking water to an industrial area by situating a dam across a river running nearby. Discuss briefly, the geological considerations you will take into account in fixing up the site for the dam and the reservoir.

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**EVENING**

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