

9. Write a short note on the following : 15

- (a) Slope reinforcement by rock bolting and rock anchoring
- (b) Causes of failure of dams
- (c) Consequences of land sliding

Roll No. ....

**3206**

**B. Tech. 5th Semester (Civil Engg.)  
Examination – December, 2022**

**ENGINEERING GEOLOGY**

Paper : PCC-CE-311-G

*Time : Three hours ]*

*[ Maximum Marks : 75*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Question No. 1 is *compulsory*. Attempt *one* question from each Section. All questions carry equal marks. Assume missing data, if any, suitably.

1. Describe the following :

15

- (a) Scope of geology
- (b) Denudation of surface of the earth
- (c) Stress deformations of rocks
- (d) Bedding planes and outcrops
- (e) Metamorphism
- (f) Measurement of velocity of sound in rocks
- (g) Seismic zones in India

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P. T. O.

**SECTION – A**

2. (a) Define engineering geology with its subdivisions. Explain the importance of geological studies in various civil engineering projects. 7
- (b) Describe in brief the departments dealing with geology and their scope. 8
3. (a) What do you mean by weathering ? Explain the factors affecting weathering and product of weathering. 6
- (b) Describe the following terms : 9
- (i) River meandering
- (ii) Desert landform
- (iii) Alluvium

**SECTION – B**

4. (a) What is origin and composition of minerals ? Describe the physical properties of the minerals with brief description. 7
- (b) What are the rock forming minerals ? Explain megascopic identification of different minerals. 8
5. (a) What do you mean by petrology ? Explain in detail the mode of formation and mineralogical composition of sedimentary rocks. 7

3206-1550-(P-4)/(Q-9)/(22) ( 2 )

- (b) What is volcanic phenomenon ? Explain the types of volcanic eruptions and resulting features. 8

**SECTION – C**

6. (a) What are the engineering characteristics of rocks ? Describe the factors affecting the rock properties and its behaviour. 7
- (b) What are the different laboratory and field tests on rocks ? Describe briefly. 8
7. (a) Describe the different types of faults with neat diagram. Also explain the recognition criteria of faults. 7
- (b) Explain the following : 8
- (i) Dip and strike
- (ii) Types and nomenclature of folds

**SECTION – D**

8. (a) What are the objectives of a dam ? Describe geological considerations in the selection of a dam site. 7
- (b) Define magnitude and intensity of earthquake. Also explain different seismic waves in detail. 8

3206-1550-(P-4)/(Q-9)/(22) ( 3 )

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