

NTK/KW/15–7298

**Third Semester B. E. (Civil Engg.) (C.B.S.)
Examination**

ENGINEERING GEOLOGY

Time : Three Hours]

[Max. Marks : 80

- N. B. : (1) All questions carry equal marks.
(2) Answer Six questions. Q.1 or Q.2; Q.3 or Q.4; Q.5 or Q.6; Q.7 or Q.8; Q.9 or Q.10; Q.11 or Q.12.
(3) Assume suitable Data wherever necessary.
(4) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) What is plate Tectonics ? Describe various types of plate margins. 7
(b) Discuss the principles of stratigraphic correlation. Add a note on physiographic divisions of India. 7

OR

2. Describe the geological work of wind with respect to erosion, transportation and deposition along with their features. Add a note on methods of control of sand migration in desert area. 14
3. What are rock forming minerals ? Describe various physical properties of minerals. 13

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Contd.

OR

4. What is Rock cycle? Describe the formation of sedimentary rocks. Add a note on structures of sedimentary rocks.

13

5. (a) A clay bed is dipping at a dam site at the rate of 1 in 4 along N 15° W. Find its apparent dip along N 50°W. State strike. Scale 1 unit = 1 cm.

7

- (b) A limestone bed is dipping at 30° in a slope of 10° west with its outcrop 200 m wide. Find the true and vertical thickness of limestone. Scale 1 cm = 40 m.

7

OR

6. What is a fault ? Describe different types of faults with suitable sketches. Add a note on importance of fault structures in civil engineering works.

14

7. What are earthquakes ? Explain different types of seismic waves with the help of sketches. Add a note on seismic zones of India.

13

OR

8. (a) Describe various tectonic causes of an earthquake.

6

- (b) Differentiate between intensity and magnitude of an earthquake and give the modified Mercalli Intensity Scale.

7

9. Differentiate between the following :—
- (a) Unconfined and confined aquifers.
 - (b) Porosity and permeability.
 - (c) Artesian well and flowing well. 13

OR

10. What do you understand by geophysical investigation ?
Describe the most useful geophysical methods for site selection for a civil engineering project. 13
11. Describe various engineering properties of rocks. 13

OR

12. Describe the geological factors that influence the shape and design of a tunnel. 13