

6623

## BOARD DIPLOMA EXAMINATIONS

OCT/NOV-2019

DCE - FIFTH SEMESTER

GEO TECHNICAL ENGINEERING

Time: 3 hours

Max. Marks: 80

PART – A

3 X 10 = 30

- Instructions:**
1. Answer **all** questions.
  2. Each question carries **Three** Marks.
  3. Answer should be brief and straight to the point and should not exceed Five simple sentences.

1. List any six types of soils.
2. Distinguish between undisturbed and disturbed soil samples.
3. Define Void ratio and porosity.
4. How do you determine the average permeability of a soil deposit consisting of number of layers?
5. Write the IS code equation for calculation of bearing capacity of soils.
6. Briefly explain the importance of factor of safety in foundation design.
7. Sketch the vertical pressure distribution in clayey soil under a rigid footing.
8. Mention the types of consolidation of soil.
9. List any six factors affecting compaction of soils.
10. Define the C.B.R.

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**PART – B**

**5 X 10 = 50**

**Instructions:** 1. Answer any **Five** questions  
2. Each question carries **TEN** Marks.  
3. Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.

11. Differentiate between Dry sieve analysis and Wet sieve analysis of soils. Why the Wet sieve analysis is required.
12. a) Briefly explain standard penetration test.  
b) What are the merits and demerits of direct shear test?
13. Explain oven drying method of finding moisture content of soil.
14. Explain the test for determining plastic limit of soils.
15. Explain IS classification of soils.
16. Discuss the factors affecting the bearing capacity of soil.
17. a) Mention the causes of settlements of foundations.  
b) Explain Terzaghi model analogy of compression springs showing the process of consolidation.
- \* 18. Explain proctors compaction test.

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