



c16-c-504

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BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2018

DCE—FIFTH SEMESTER EXAMINATION

GEOTECHNICAL ENGINEERING

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the types of soil.
2. List the methods of soil exploration.
3. Define liquid limit and plastic limit.
4. Write the limitations of direct shear test.
5. List the objectives of compaction.
6. State any three factors influencing bearing capacity of soils.
7. State IS code equation for finding safe bearing capacity of soils.
8. What are the factors affecting compaction?

- * 9. Draw the compaction curve and mark OMC and MDD on it.
10. State any three causes of settlement of foundation.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Write the procedure for sieve analysis to determine grain size distribution of soils.
12. A 1000 c.c. core cutter weighing 946.8 gm was used to find out the in-situ weight of an embankment. The weight of core cutter filled with soil was noted to be 2770.60 gm. Laboratory tests on the sample indicated a water content of 10.45% and specific gravity of solids of 2.67. Determine the bulk density, dry density, void ratio and degree of saturation.
13. Write down the laboratory procedure for determination of specific gravity of soils by using pycnometer method.
14. Explain Indian standard soil classification system.
15. (a) List different types of soil exploration and explain any one method.
(b) Explain field implications of consolidation of soils.
16. Explain field plate load test with a neat sketch.
17. (a) Explain permeability of soils.
(b) Define the concept of settlement.
18. Define the term CBR and its importance in the design of pavements.
