



c09-c-606 B

**3726**

**BOARD DIPLOMA EXAMINATION, (C-09)  
OCT/NOV—2017  
DCE—SIXTH 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 any three types of soils found in India.
2. List any three boring methods used in soil exploration.
3. Define (a) liquid limit and (b) plastic limit.
4. Write a short note on permeability of soils.
5. Define the term 'Factor of safety'.
6. List the three modes of failure of soils.
7. Define settlement of soils.
8. Define the principle of consolidation.
9. List any three factors affecting compaction.
10. List any three objectives of compaction.

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**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.** Explain in detail the method of sieve analysis of coarse-grained soils.
- 12.** (a) Explain with a neat sketch the seismic refraction method of subsurface exploration.  
(b) Write in about three lines the factors that affect the compressibility of soils.
- 13.** Derive a relationship between void ratio, specific gravity, moisture content and degree of saturation.
- 14.** Explain in detail, the method of determining the soil moisture content by oven drying method.
- 15.** Explain the IS classification of soils.
- 16.** Explain in detail the method of determining the ultimate bearing capacity of soils by plate load test.
- 17.** (a) List any three remedial measures that may be taken to avoid settlements in soils.  
(b) Explain consolidation in soils.
- 18.** Explain the method of field measurement of compaction by core cutter method.

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