

Total No. of Pages: 1

5572

Register Number:

Name of the Candidate:

B.Sc. DEGREE EXAMINATION December 2014

(CONSTRUCTION MANAGEMENT)

(FOURTH SEMESTER)

410: SOIL SCIENCE

Time: Three hours

Maximum: 75 marks

Answer ONE FULL question from each UNIT

(5 × 15 = 75)

UNIT-I

1. Describe briefly the origin of soils and bring out the factors which control their formation.
(OR)
2. Give reasons for determining the grain-size distribution of a soil mass. Why is the study generally confined to coarse-grained soils?

UNIT-II

3. Explain the field and laboratory method of determination of co-efficient of permeability.
(OR)
4. What constitutes a flow net? State any four methods of obtaining flow net in any given case?

UNIT-III

5. Discuss the essential differences between Boussinesq's and Westergaard's theories. For which condition do both these theories yield approximately the same value of vertical stress?
(OR)
6. A circular area of 7.5m in dia. on the ground surface carries a uniformly distributed load 3kN/m². Find the intensity of vertical pressure below the centre of the loaded area at a depth of 6m below the ground surface. Use Boussinesq analysis.

UNIT-IV

7. List out the various factors affecting compaction. Explain in detail.
(OR)
8. How do you estimate the field "e-p curve" of an over-consolidated clay?

UNIT-V

9. Define critical void ratio. Explain the shear behaviour of a soil whose void ratio is less than the critical void ratio.
(OR)
10. Discuss atleast three factors which govern the shear strength of cohesionless soils.
