

**Government College of Engineering, Aurangabad**

(An Autonomous Institute of Government of Maharashtra)

**M.E. (Civil – Soil) P.T. Examination**

End Semester Examination 2016 Semester-I

**CE 526: ADVANCED SOIL ENGINEERING**

28 NOV 2016

*Time- Three Hours*

*Maximum Marks-60*

*“Verify the course code and check whether you have got the correct question paper.”*

*N.B:- 1) All questions are compulsory*

*2) Figures to the right indicate full marks*

*3) Assume any additional data, if necessary and state it clearly*

Q.1 Answer any two of the following, (12)

- Write a note on regional soil deposits of India
- What are the main index properties of fine grained soil? How are these determined in a laboratory?
- Give the step-by-step procedure for classification of a soil by Indian standard classification system.

Q. 2 Answer any two of the following, (12)

- What are different methods for determination of the coefficient of permeability in a laboratory? Discuss their limitations.
- Discuss different types of soil structure.
- Describe the method of calculating the stress at a point below the corner of a rectangular load. How is this method used for finding stresses at points other than that below the corner?

Q. 3 Answer any two of the following, (12)

- Explain i) Consolidated undrained shear test; ii) Quick shear test.
- Discuss compaction by explosives.
- Derive an expression for the vertical stress at a point due to point load, using Boussinesq's theory.

Q.4 Answer any two of the following, (12)

- Explain primary and secondary consolidation.
- Explain laboratory consolidation test.
- Explain i) Immediate settlement; ii) Settlement due to consolidation.

Q. 5 Answer any two of the following, (12)

- Explain the procedure of locating the most critical circle.
  - What are different types of earth pressure? Give examples.
  - What is the time factor? How is it related to the average degree of consolidation?
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