



**Code: 9D12102**

M.Tech I Semester Supplementary Examinations August 2016

**THEORETICAL SOIL MECHANICS**

(Geotechnical Engineering)

(For students admitted in 2012, 2013, 2014 & 2015 only)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions  
All questions carry equal marks

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- 1 Briefly explain the plastic equilibrium in a semi-infinite mass with a plane surface in soil.
- 2 Explain about lower bound solutions of the bearing capacity problems in soils.
- 3 What are the important rheological equations in soil mechanics and write the equations of rheological elements.
- 4 Write short notes on stress condition failures for soils.
- 5 Explain about stress in soil mass due to surface loads using Boussinesq equation.
- 6 Describe in soils strain relationships in soils and explain the octahedral strains.
- 7 Explain about stresses and strains in the Half-space due to a concentrated vertical load in soils.
- 8 Explaining about Rankine's states of plastic equilibrium in soils.

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