

Roll No

MVCT/MBCT/MVCP - 103

M.E./M.Tech., I Semester

Examination, June 2016

Advanced Geotechnical Engineering

Time : Three Hours

Maximum Marks : 70

- Note :** i) Answer any five questions.
ii) All questions carry equal marks.

1. What are the various geophysical methods of subsoil exploration? Explain seismic method in detail with its limitations. 14
2. a) Explain Newmark's influence chart and its use in detail. 7
b) Derive the equation given by the Boussinesque for vertical stress due to concentrated load. 7
3. What is well foundation? Describe various components of well foundation. Explain the causes and methods of rectification of tilts and shift. 14
4. a) Explain various types of machine foundations drawing their neat sketches. 7
b) What are the IS code provisions for construction of Reciprocating Machine. 7

5. a) Define the following : 7
i) Degree of freedom
ii) Damped Vibration
iii) Undamped vibration
b) What is expansive soil? How it is recognized in the field? 7
6. Draws a neat sketch of Under Reamed pile. Discuss suitability and construction of Under Reamed piles. 14
7. a) Describe the point load test for strength determination of rock. 7
b) Discuss various important engineering properties of rocks. 7
8. Write short note on any four of the following : 14
a) Contact pressure
b) Types of soil samples
c) Cofferdams
d) Interlock stresses
e) Mass spring analogy
f) CNS layer
g) Scope of Rock Mechanics
