

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: CIVIL**

**SEMESTER: VI
SESSION : SP/2020**

SUBJECT : CE6007 GEO-TECHNICAL ENGINEERING

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

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- Q1 (a) Discuss objective of site investigation. [2]
(b) Discuss in detail types of exploration. [3]
- Q2 (a) Discuss in brief Dynamic cone Penetration test. [2]
(b) Discuss in brief Static cone Penetration test. [3]
- Q3 Discuss methods of determining vertical stress under a uniformly loaded area of any shape with the Newmark's chart. [5]
- Q4 (a) Discuss Boussinesq's formula for point loads. [2]
(b) Discuss Westergaard 's formula for point loads. [3]
- Q5 (a) Discuss General Shear failure. [2]
(b) Discuss Gross pressure intensity & Ultimate bearing capacity. [3]
- Q6 (a) Discuss Local shear failure. [2]
(b) Discuss Punching Shear failure. [3]

::: 03/03/2020 :::M