

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

**CLASS: BE
BRANCH: CIVIL**

**SEMESTER: VII
SESSION : MO/2019**

SUBJECT : CE7011 SOIL 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 | Elaborate on (i) primary & (ii) secondary valence bonds. | [5] |
| Q2 | Compare flocculent & dispersed structure. | [5] |
| Q3 | (a) Enumerate the methods by which the ground water table may be lowered.
(b) Analyze the situations where it may become necessary to adopt drainage & dewatering. | [2]
[3] |
| Q4 | Illustrate & explain (i) ditches & sumps (ii) well point system | [2+3] |
| Q5 | Develop & construct the stress paths for drained triaxial test. | [5] |
| Q6 | Justify the (i) Mohr stress circles & (ii) modified failure envelope, obtained considering undrained test on saturated cohesive soils. | [5] |

:::: 23/09/2019M ::::