

Total No. of Questions : 4]

SEAT No. :

P5175

[Total No. of Pages : 1

[6188]-127

B.E. (Civil) (Insem)

FOUNDATION ENGINEERING

(2019 Pattern) (Semester -VII) (401001)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, and Q.3 or Q.4.
- 2) Neat diagrams must be drawn whenever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary and mention it clearly.

- Q1)** a) Write a note on purpose and planning of subsurface exploration. [5]
b) Discuss SPT and what are the various corrections? What is the importance of the test? [5]
c) Explain percussion drilling with its advantages and disadvantages. [5]

OR

- Q2)** a) Explain with sketches electrical Resistivity method. [5]
b) What is R.Q.D., How rating of rock quality is decided based on R.Q.D. [5]
c) A sampling tube of 100 mm diameter and 2 mm thick. It is fitted with cutting edge. The inside diameter of cutting edge is flushed with sampling tube. The cutting edge is 3 mm thick. Compute inside clearance, outside clearance, and area ratio. Comment on sample collected by tube. [5]

- Q3)** a) Write a note on plate load test. Also explain limitations of plate load test. [5]
b) Write a note on effect of water table on bearing capacity. [5]
c) Discuss with neat sketches the modes of shear failure in soil. [5]

OR

- Q4)** a) Enlist the assumptions in Terzaghi's bearing capacity theory. State Terzaghi's bearing capacity equation with meaning of each term. [5]
b) Describe Meyerhof's bearing capacity theory. [5]
c) A 30 cm square bearing plate settles by 8 mm in the plate load test on cohesionless soil, when the intensity of loading is 180 kN/m². Estimate the settlement of shallow foundation of 1.6 m square under the same intensity of loading. [5]

☆ ☆ ☆