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M.TECH

AR-19

M.TECH 1ST SEMESTER EXAMINATIONS NOV/DEC 2019

CTM, MPECT1053

Geotechnical Investigation For Constructional Projects

Time: 3 Hours

Max Marks : 70

The figures in the right hand margin indicate marks.

PART-A

(10 X 2=20 MARKS)

1. Answer the following questions.

- a. Give two purposes of site investigation.
b. Write short notes on Reconnaissance.
c. Explain about Dilatancy correction..
d. What do you mean by undisturbed sample?
e. What is Inside Clearance?
f. List out various types of samplers.
g. What is meant by compaction?
h. Define the term Optimum Moisture Content.
i. What are vertical drains?
j. What do you mean jet grouting?

PART-B

(5 X 10=50 MARKS)

Answer any five questions from the following.

- 2. (a) What is main information obtained in Reconnaissance?
(b) Write short notes on depth of exploration.
3. (a) Describe briefly about Seismic method.
(b) State the limitations of Electrical resistivity method.
4. (a) Explain about Shelby tubes and thin- walled samplers
(b) The dimensions of a soil sampler are given below.

Table with 3 columns: Parameter, Cutting edge, Sampling edge. Rows: Inside Diameter (mm) with values 80 and 86; Outside diameter (mm) with values 100 and 90.

Determine the Inside clearance, outside clearance, Area ratio

- 5. (a) Describe in detail about Vane Shear test.
(b) Write in detail about Pressure meter test.
6. (a) What are the factors affecting compaction?
(b) Describe briefly about Modified Proctor test.
7. (a) Describe in detail about Lime stabilization.
(b) Write short notes on Bituminous stabilization.
8. (a) What is dewatering? Explain about single-stage well points dewatering method
(b) G Illustrate in detail about Vibroflotation method with neat diagram