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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(Geo Technical Engineering)/(Soil Mechanics & Foundation Engineering) (2013 & Onwards) (Sem.-1)

SUB SURFACE OF GEOPHYSICAL EXPLORATION

Subject Code : CESE-10

M.Code : 37202

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. a) What are the methods of identifying the type of clay minerals present in a swelling soil? (8)
b) Write in detail about Block resonance Test. Illustrate your Answer with a sketch.(12)
2. a) Enumerate various methods that you can employ to excavate or drill pits or bores in order to collect soil samples for laboratory testing. Discuss any two in detail. (10)
b) Explain with detail Sketch Rotary Drilling. (10)
3. Describe the various factors that govern the subsoil exploration, bringing out guiding principles for deciding the location of bore holes, in an engineering project. (20)
4. a) Draw a sketch of typical Porous Point Piezometer. For what purpose, it is used? (10)
b) Describe any one method of stabilizing bore holes in detail. (10)
5. a) A sample tube has an enter Diameter of 80mm and wall thickness of 2mm. Find the area ratio the tube can be used to obtain undisturbed samples. (8)
b) Write a short note on Preservation and shipment of soil samples. (12)
6. a) Name and discuss two types of pumping in test. Compare these methods with pumping out methods. (12)
b) Write in detail about Seismic Refraction Method. (8)

7. a) Write in brief about Static cone penetration Test. Illustrate your answer with the help of sketch. (10)
- b) Write short note on :
Wave Propagation Test (10)
8. Write in brief **Any Two** :
- a) Vane Shear test. (10)
- b) Tunnels and Drifts. (10)
- c) Sampling of Ground water. (10)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.