D 11931

(Pages : 2)

SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, NOVEMBER 2016

CE 09 706 L14—SOIL EXPLORATION, TESTING AND EVALUATION

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.
Each question carries 2 marks.

1. If the liquid limit of a soil is zero, find its consistency index.

2. What is meant by superficial and seepage velocity ?

3. What are the limitations of direct shear test ?

4. What is the importance of vane shear test ?

5. What are shallow foundations and what are their functions ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.
Each question carries 5 marks.

1. Describe the split spoon sampler. What are its uses ?

2. What are bending tests in rocks ?

3. Give notes on bore logs.

4. Explain dynamic cone penetration test.

5. Explain *e*-log curve.

6. What is soil investigation report ?

(4 × 5 = 20 marks)

Part C

Answer four full questions.
Each question carries 10 marks.

1. (a) What are the methods of soil investigations ? Explain.

Or

(b) How to take rock samples, handle and preserve ?

Turn over

2. (a) (i) What is the limitation of direct shear test ?

      (ii) Derive the relationship between the principal stresses at failure using Mohr-Coloumb failure criterion.

Or

(b) Explain the working of the following accessories if a triarial test apparatus :

     (i) Pore pressure measuring device.

     (ii) Mercury control system.

3. (a) Discuss standard penetration test. What are the various corrections ? What is the importance of the test in geotechnical engineering ?

Or

(b) Describe the method of obtaining the bearing capacity by split spoon sampler. What are their limitations and applications ?

4. (a) Explain in detail shear and pressure tests on rocks.

Or

(b) Explain insitu test for deformity and test for shear tests.

(4 × 10 = 40 marks)