

8E8095

Roll No. 14ECTCE016Total No of Pages: **3**

**8E8095**  
**B. Tech. VIII Sem. (Main / Back) Exam., April – May 2018**  
**Civil Engineering**  
**8CE4.2A Advance Foundation Engineering**

**Time: 3 Hours****Maximum Marks: 80**  
**Min. Passing Marks: 26***Instructions to Candidates:*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

*Units of quantities used/calculated must be stated clearly.*

1. NIL2. NIL**UNIT-I**

- Q.1 (a) Discuss the effect of water table on ultimate bearing capacity of footing. [6]  
(b) Differentiate between Meyerhof's bearing capacity theory and Terzaghi's Theory. [6]  
(c) What is the effect of inclined loading on bearing capacity? [4]

**OR**

- Q.1 (a) Differentiate between general shear failure and local shear failure. [4]  
(b) Explain Hansen's Bearing Capacity Theory. [4]  
(c) What are the assumptions made in derivation of Terzaghi's bearing capacity theory? [4]  
(d) What is the effect of shape on ultimate bearing capacity of footing? [4]

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**UNIT-II**

Q.2 Discuss the settlement from static cone penetration test in detail.

[16]

**OR**

Q.2 (a) Write down the test setup for plate Load Test with a neat sketch.

[6]

(b) Discuss how the bearing capacity is calculated from Standard Penetration N – Values.

[6]

(c) What are the limitations of Plate Load Test?

[4]

**UNIT-III**

Q.3 (a) Explain different types of piles with their structural characteristics.

[8]

(b) Discuss the conditions that require Pile foundations.

[8]

**OR**

Q.3 (a) Write down the procedure for pile load test.

[6]

(b) Discuss the behaviour of laterally loaded piles.

[6]

(c) Explain Negative Skin Friction.

[4]

**UNIT-IV**

Q.4 (a) What are the general considerations for foundations on collapsible soils?

[6]

(b) Explain the behaviour of collapsible soils. How they can be identified?

[6]

(c) What are the sanitary land fills?

[4]

**OR**

Q.4 (a) What are the general characteristics of expansive soil?

[8]

(b) Explain Under, – reamed piles with a neat sketch.

[8]

UNIT-V

- Q.5 (a) Write down the procedure to design a combined footing. [6]
- (b) How will you determine bearing capacity of Raft? [6]
- (c) What are the common types of Raft foundation? [4]

OR

- Q.5 (a) Explain the construction of Well foundation. [8]
- (b) Analyse the design of well cap and well steining. [8]
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