Roll No. ....
Printed Pages : 3

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BT–5 / D-19
GEO TECHNOLOGY-I
Paper–CE-307N

Time allowed : 3 hours]   [Maximum marks : 75

Note:- *Attempt any five questions. Attempt at least one question from each unit.*

Unit- I

1. (a) Differentiate between disturbed and undisturbed samples. What are the factors that effect the sample disturbance?   9

   (b) What is Reconnaissance? What type of information is obtained in reconnaissance? What is its use?   6

2. Write short notes on any three: 15

   (i) Wash boring

   (ii) Pressure meter

   (iii) Electro Osmosis Method of drainage

   (iv) Multi well point system

Unit-II

3. (a) Define-   6

   (i) Net Safe Bearing Capacity

   (ii) Grass Safe Bearing Capacity

   (iii) Ultimate Bearing Capacity

   (b) Discuss the assumptions made by Tarzaghi's and derive the Tarzaghi's Bearing Capacity Theory.   9

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[Turn over

(2)

4. How would you find the depth of foundation?

   (a) Also give Rankine formula for minimum depth.   7

   (b) Discuss various type of loads considered in design of foundations.   8

Unit- III

5. A precast concrete pile (35cm × 35cm) is driven by a single acting stream Hammer Estimate the allowable load using.   15

   (a) Engineering News Record Formula (F.S. = 6)

   (b) Hilly Formula (F.S. = 4)

   (c) Danish Formula (F.S. = 4)

   Data given - Take weight of pile = 73.5kN, Assume any required data.

   (i) Max. rated energy = 3500 kN–Cm

   (ii) Weight of hammer = 35 KN

   (iii) Length of pile = 15m

   (iv) Efficiency of hammer = 0.8

   (v) Coefficient of resistitution = 0.5

   (vi) Wt. of pile cap = 3 kN

   (vii) No. of blows for last 25.4 mm = 6

   (viii) Modulus of elasticity of concrete = $2 \times 10^7 kN/m^2$.

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6. (a) Discuss the methods of pile driving in detail.   8

   (b) Discuss the procedure of construction of Bored Piles.   7

Unit-IV

7. Write short notes on: 15

   (i) Open Caisson

   (ii) Pneumatic Caisson

   (iii) Floating Caisson

8. Describe the component of well with diagram. Also explain the sinking operation of well.   15

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