Total No. of Questions - [08]

Total No. of Printed Pages 02-

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DECEMBER 2019/ENDSEM

T. Y. B. TECH. (CIVIL) (SEMESTER - I)

FOUNDATION ENGINEERING COURSE NAME:

COURSE CODE: CVUA 31174

(PATTERN 2017)

Time: [2 Hours]

[Max. Marks: 50]

(*) Instructions to candidates:

- Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8 1)
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- Use suitable data where ever required 4)
- Q.1) a) Describe the standard penetration test with sketch and explain [6] its application in foundation engineering.

b) Describe various types of soil samplers. What is Area ratio? [6] State its significance.

Q.2) a) Enlist the assumptions in Terzaghi's bearing capacity analysis [6] and write the equations to calculate ultimate bearing capacity for circular footing.

OR

b) State and Explain Meyerhof's bearing capacity theory with [6] sketch.

Q.3) a) Explain with a neat sketch spring analogy for demonstrating [6] consolidation process.

OR

b) Define contact pressure. Draw a diagram showing the variation [6] of contact pressure for a rigid footing on clay and sand.

Q.4) a) What is caisson? Enlist its uses.

[4]

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[4] b) Explain how you decide bearing capacity of single pile by a conventional pile load test.

OR

Q.5) a) Explain 'Constant volume method' to determine swelling [6] pressure of soil with neat sketch b) What is coffer dam? Where they are used? [4]

c) How will you reduce the swelling pressure of black cotton soil [4]

OR

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	Q.6)	a) Explain 'Free swell test' with neat sketch	
		b) Write a note on 'stone column'. [4	3 (B) (B)
	07)	c) Discuss any two types of cofferdams with sketch. [4	10 I
	Q.7)	a) What is reinforced earth wall? Explain with neat sketch.b) Enlist and explain different types of seismic waves.	875
		b) Enlist and explain different types of seismic waves. [4 c) What do you mean by liquefaction? What are its effects ? [4	
		OR	ני
9 10 10 10	Q.8)	 a) Explain the use of geosynthetics in [6 i. Retaining wall ii. Deep foundation iii. Embankments on soft soils 	100 100
		b) Explain the use of geosynthetics in bearing capacity [4 improvement.	FJ
		c) Explain how possibility of Liquefaction can be reduced? [4	1]
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(*)		(i) If the is colder dealer (chart are there are used)?	
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