Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.ARCH. - SEMESTER–VI EXAMINATION – WINTER 2015

Subject Code: 1065004 **Date: 04/12/2015**

Subject Name: Structure – VI

Time: 02:30pm to 4:30pm **Total Marks: 50**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use of IS – 465:2000, 875 & 3370 is Permitted.**

Q.1	**(a)**	Draw the Bending moment and Shear force diagram of combined footing. Also Locate the critical section	**06**
	(b)	Give the explanation of various types of combined footing.	**04**
	(c)	Write the steps with Formula for Calculating Retaining Wall.	**10**
Q.2	**(a)**	Find the Depth of Rectangular Footing having a load of 1000 KN and 1400 KN. Column is having a size of 400mm by 400mm. Space between columns 3m c/c. SBC of Soil = 300 KN/m^2. Use M_{20}, Fe $_{415}$. Grade.	**12**
	(b)	Fix the basic dimension and design the top dome of Intze type container elevate water tank to store 3 lakh litre water. Draw the Sketch. If the height of container is 12 meter, Wind load 1.5 kN/ m^2 & Soil Bearing Capacity of 200 kN/ m^2. M_{20} & Fe $_{415}$ grade of steel.	**10**
	(b)	Or Give the difference between: Combine Footing & Continuous Footing, Grillage Foundation & Raft Foundation, Deep Foundation & Shallow Foundation, and Stepped Foundation & Simple Footing.	**10**
Q.3		Design Cantilever Retaining wall of height 6.5 m. Having, 180 kPA as the Soil Bearing Capacity $\varnothing = 30^o$, $\mu = 0.5$ & Soil = 16 kN/m^3 M_{20} & Fe $_{415}$.	**08**
Q.3		Or	
	(a)	Explain the types of force acting on retaining wall & also draw the figure.	**04**
	(b)	Explain the counter fort retaining wall and also enlist the various types of retaining wall.	**04**

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