Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER-VI • EXAMINATION – Summer 2015

Subject Code:160601 **Date:01/05/2015**

Subject Name: Advanced Construction Technology

Time:10.30AM-01.00PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Classify various types of piles based on : (i) Function (ii) Material and Composition	**07**
	(b)	Describe the methods adopted to facilitate the sinking of caissons with its advantages and disadvantages	**07**
Q.2	**(a)**	Describe the procedure of pumping from well points for dewatering. What are its advantages?	**07**
	(b)	Describe pile load test for determining the bearing capacity of a Pile.	**07**
		OR	
	(b)	Define a Coffer Dam. Explain with sketches: (i) Earth-fill Coffer Dam, (ii) Cellular Coffer Dam.	**07**
Q.3	**(a)**	Explain with sketches the method of forming Button Bottom Pile and Simplex Pile.	**07**
	(b)	What are the factors to be considered, while making choice between coffer dam and caisson?	**07**
		OR	
Q.3	**(a)**	What are the various reasons of pulling out of piles from their positions? What are the methods adopted for it?	**07**
	(b)	What are monoliths? Describe its construction procedure, giving detailed sketch. What are its advantages, disadvantages and uses.	**07**
Q.4	**(a)**	Describe Piping in single wall cofferdams.	**07**
	(b)	Why is formwork necessary? What are the requirements of a good formwork? Which are the materials used for preparing form work.	**07**
		OR	
Q.4	**(a)**	Describe Box Caissons, giving neat sketch. In which situations box caissons are adopted?	**07**
	(b)	What are the different types of centering for big arches of bridges? Explain briefly each of them.	**07**
Q.5	**(a)**	Explain the difference between Repair, Restoration, and Retrofitting.	**07**
	(b)	What is meant by prestressed concrete? What are the advantages and disadvantages of it?	**07**
		OR	
Q.5	**(a)**	Describe various properties of earthquakes resistant construction for better seismic performance.	**07**
	(b)	What is meant by Demolition? What are the factors affecting the evaluation of demolition methods?	**07**

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