Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-I Regular Examination January / February 2011

Subject code: 711506N

Subject Name: Basic of Reinforced Concrete and Masonry Construction

Date: 04 /02 /2011 **Time: 02.30 pm – 05.00 pm**

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)**	State the general characteristics of concrete ingredients that influence the properties of fresh and hardened concrete.	**07**
	(b)	Write down the steps of IS method of mix design and compare the changes as per IS-10262(2009).	**07**
Q 2	**(a)**	Discuss briefly role of aggregates in preparation of strong and durable concrete.	**07**
	(b)	What precautions are to be taken during mixing and transportation process of concrete? Discuss the adverse effects that occur due to improper mixing or placing.	**07**
		OR	
	(b)	Compare the role of angular and rounded aggregates in manufacturing good concrete	**07**
Q3	**(a)**	Formwork can have a major role when non plaster concrete of good exterior look is required. Discuss the requirements.	**07**
	(b)	Explain the need for self compacting concrete and give its advantages over normal concrete.	**07**
		OR	
Q 3	**(a)**	State the types of steel to be used as construction material. Mention the standards and test required for the same.	**07**
	(b)	Give reasons: Damage assessment of structural elements is essential before deciding the strategy for repair and rehabilitation.	**07**
Q 4	**(a)**	What do you understand by the term smart concrete? Give its benefits. Explain how it participates in arresting cracks.	**07**
	(b)	How does fly ash concrete help in reducing carbon footprints? Discuss the role of fly ash in the green concrete movement.	**07**
		OR	
Q 4	**(a)**	Give an overview about cube tests and acceptance criteria in concrete.	**07**
	(b)	Enlist the various repairing materials and repairing techniques that are used for distressed structures.	**07**
Q 5	**(a)**	State the steps for brick masonry design with a suitable example.	**07**
	(b)	Explain the test stating its significance (any two): Compressive strength of cement or ultrasonic pulse velocity test or sieve analysis of aggregate	**07**
		OR	
Q 5	**(a)**	Enlist various techniques used for curing of concrete and explain any one in detail.	**07**
	(b)	Write short note on admixtures used as plasticizers	**07**

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