Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-I Examination January 2010

Subject code: 711506

Subject Name: Basics of Reinforced Concrete and Masonry Construction

Date: 29 / 01 / 2010 **Time: 12.00 – 2.30 pm**

Total Marks: 60

Instructions:

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

Q 1	**a**	State the various tests of cement and discuss the codal provision for its acceptance.	**06**
	b	Define workability of concrete. Which are the different methods of measuring it in the laboratory? Explain any one of them.	**06**
Q 2	**a**	Define admixtures and additives. Explain the effect of air entrainment on the properties of concrete.	**06**
	b	What is non-destructive testing of cement? Discuss any one method of this testing category.	**06**
		OR	
	b	Which factors should be considered while deciding the stripping time of formwork?	**06**
Q3	**a**	Write short note on fibre reinforced concrete.	**06**
	b	Write short note on self compacting concrete.	**06**
		OR	
Q 3	**a**	What do you understand by the terms polymer concrete, latex-modified concrete and polymer-impregnated concrete? What is the principal consideration in the design of polymer concrete mixtures?	**06**
	b	In spite of the cellular structure of aggregate, lightweight concretes show less micro cracking and excellent durability. Why?	**06**
Q 4	**a**	Write short note on earthquake resistant features of masonry.	**06**
	b	Write about the failure of riveted joint and its strength as per Indian Standard.	**06**
		OR	
Q 4	**a**	Write down the advantages and development of load bearing structure.	**06**
	b	Enlist the various sections of steel standardized by Indian Standard Institution.	**06**
Q 5	**a**	Write down and briefly explain the various causes of distress in a structure.	**06**
	b	Write about the function and requirement of mortar.	**06**
		OR	
Q 5	**a**	Enlist various repairing techniques of a damaged structure and explain any one in detail.	**06**
	b	Differentiate between nominal mixes and design mixes.	**06**

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