Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-VIII Examination May 2012

Subject code: 180607

Subject Name: Repairs and Rehabilitation of Structures

Date: 08/05/2012 **Time: 10.30 am – 01.00 pm**

Total Marks: 70

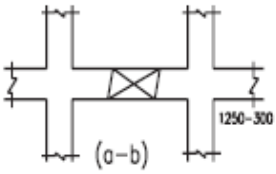
Instructions:

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

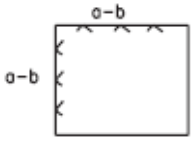
Q.1 **(a)** List various construction and design deficiency which causes distress in the RCC structure. **07**

(b) Describe the mechanism of micro-crack due to differential thermal exposure of RCC structure. **04**

(c) Interpret the diagrams given below and state the symptoms of distress and its notations. **03**



a. Beam



b. Column

c. Slab

Q.2 **(a)** What are the objectives of condition survey? In detail explain the various stages of condition survey. **07**

(b) "Air and moisture permeability of concrete adversely affect the health of concrete" – Justify the statement with relevant examples. **07**

OR

(b) Write requirements as per IS: 456 for durability of RCC structure. **07**

Q.3 **(a)** Write short note on polymer latex concrete including its general requirement, field application and properties. **08**

(b) What is realkalisation? Explain its process. **06**

OR

Q.3 **(a)** State in detail the essential parameters for repair materials. **08**

(b) Explain the conditions of distress for which the following technique/method can be adopted for repair work. **06**

a. Vacuum concrete
b. Foamed concrete
c. Fibre Wrap Technique

Q.4 **(a)** Write short note on RCC Jacketing. **07**

(b) Write short note on Foundation Rehabilitation Methods. **07**

OR

Q.4 **(a)** Name the fire damage assessment techniques. Explain any one in detail including its result interpretation. **07**

(b) State various methods use to enhance shear strength and flexure strength of beam. **07**

Q.5	**(a)**	Distinguish between Rehabilitation and Retrofitting	**04**
	(b)	Explain Alkali Silica Reaction.	**03**
	(c)	When one should go for demolition rather than rehabilitation of distressed structure? Briefly describe the factors affecting selection of demolition techniques.	**07**

OR

Q.5	**(a)**	What is the importance of field and laboratory testing for damage assessment of structure?	**07**
	(b)	In detail explain various methods of demolition techniques..	**07**

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