

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII • EXAMINATION – SUMMER • 2015

**Subject Code:180607**

**Date:05/05/2015**

**Subject Name Repairs and Rehabilitation Of Structures**

**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) Write short note on RCC Jacketing. **07**
- (b) Write short note on Foundation Rehabilitation Methods **07**
- Q.2** (a) Explain briefly cracking of concrete and remedial measures for prevention of cracking. **07**
- (b) Explain concrete repairing by grouting. Discuss in brief various mortars used for repairing of concrete structures. **07**
- OR**
- (b) List out various Non Destructive Test (NDT) used to determine strength of existing structure. Explain any one of them. **07**
- Q.3** (a) Explain need of concrete cover in R.C.C. structure. Give IS 456:2000 recommendations for nominal cover. **07**
- (b) What are the main objectives of condition assessment of structure? **07**
- OR**
- Q.3** (a) Explain Temperature effect on concrete. **07**
- (b) Define thermal properties of concrete **07**
- (i) Thermal conductivity (ii) Thermal diffusivity  
(iii) Specific heat (iii) Co-efficient of thermal expansion.
- Q.4** (a) What are the different means of corrosion of steel in reinforced concrete? Explain its mechanism with neat diagrams **07**
- (b) Explain the methodology to repair a earthquake deficient masonry structure **07**
- OR**
- Q.4** (a) Enlist and explain long term Health monitoring techniques. **07**
- (b) Differentiate between porosity and permeability of concrete. Discuss the Factors affecting permeability of concrete. **07**
- Q.5** (a) Differentiate between retrofitting and rehabilitation of structure. **07**
- (b) Describe various methods of demolition of framed reinforced concrete structure. What is implosion and what are its basic principles **07**

**OR**

- Q.5** (a) Write a short note on (any two) **07**
- (a) Visual observations to assess fire damaged structure
  - (b) Fiber reinforced concrete
  - (c) Vacuum Concrete
- (b) Briefly explain different demolition technique. **07**

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