

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018

**Subject Code: 2180607**

**Date: 19/11/2018**

**Subject Name: Repairs & Rehabilitation Of Concrete Structures**

**Time: 02:30 PM TO 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) Give various construction errors leads to the cracking and deterioration of concrete. **03**  
(b) Discuss Epoxy as a repair material **04**  
(c) How corrosion occurs in RCC Structures. Discuss various corrosion mitigation techniques? **07**
- Q.2** (a) How we can improve durability of concrete in sea water? **03**  
(b) How corrosion of reinforcement prevent in RCC? **04**  
(c) Explain carbonation in concrete.? How it is determined in concrete. What are the limitation associated with it. **07**
- OR**
- (c) What are the causes of distress in concrete. **07**
- Q.3** (a) How repairing of small crack carried out structures? **03**  
(b) Explain methodology to repair earthquake deficient structure. **04**  
(c) Explain rebound hammer test with neat sketch. **07**
- OR**
- Q.3** (a) Which are the parameters required for selection of repair material. **03**  
(b) Write short note on fiber wrap technique. **04**  
(c) Enlist factors affecting on permeability. Explain in details. **07**
- Q.4** (a) How to carry out repairs of leakage from terrace?. **03**  
(b) Explain crack due to overloading with sketch. **04**  
(c) What do u mean by jacking ? Explain column jacking with neat sketch. **07**
- OR**
- Q.4** (a) Distinguish between Rehabilitation and Retrofitting. **03**  
(b) What are the factors affecting on pulse velocity measurement. **04**  
(c) Write short note on vacuum concrete and ferrocement **07**
- Q.5** (a) What is durability ? Enlist factors affecting on durability **03**  
(b) Write short note on temperature effect on concrete. **04**  
(c) Explain alkali silica reaction in details. **07**
- OR**
- Q.5** (a) Give advantage of utilize Portland slag cement. Where it used? **03**  
(b) Write short note in visual inspection to assess fire damaged structures. **04**  
(c) Write short note on effect freezing and thawing. **07**

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