

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2180607

Date: 06/05/2017

Subject Name: Repairs & Rehabilitation of Concrete Structures (Departmental Elective - III)

Time: 10:30 AM to 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) What are the causes of distress in Structures? **07**
(b) “Air and moisture permeability of concrete adversely affect the health of concrete” – Justify the statement with relevant examples. **07**

- Q.2** (a) What is meant by carbonation of concrete? How it is determined in concrete. What are the limitation associated with it **07**
(b) What is condition assessment. What are objectives of same & also explain in detail the various stages of the same. **07**

OR

- (b) Discuss scenario of distressed structures in India **07**
Q.3 (a) List various Non-destructive tests for assessment of strength of concrete. Explain any one in detail **07**
(b) Explain various types of cracks and various causes of Structural cracks. **07**

OR

- Q.3** (a) Enlist repair materials available in the market for building maintenance. Discuss any one maintenance problem in detail. **07**
(b) **Differentiate (any two)** **07**
Repair Vs. Rehabilitation
Strengthening Vs. Retrofitting
Porosity Vs. Permeability
Abrasion Vs. Erosion

- Q.4** (a) **Write short note on any two** **07**
Dry packing Vacuum Concrete Micro concrete
(b) What is meant by jacketing? Explain different types of Jacketing. **07**

OR

- Q.4** (a) What are the causes of damage in Masonry buildings? Explain restoration of earthquake damaged masonry Structure. **07**
(b) Enlist various crack repair techniques in concrete and explain any one in detail. **07**

- Q.5** (a) Write short note on **07**
Ferro cement
Polymer concrete
(b) What is Shore? Enlist different types of shores and explain use of dead shore with sketch. **07**

OR

- Q.5** (a) Explain long term health monitoring of structures. **07**
(b) How corrosion occurs in RCC Structures. Discuss various corrosion mitigation techniques **07**
