

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME - SEMESTER II • EXAMINATION – SUMMER 2017**

**Subject Code: 2723308****Date: 31/05/2017****Subject Name: Rehabilitation and Retrofitting of Buildings****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) Elaborate on Rebar locator and SASW method. **07**  
 (b) Explain on the defects and deterioration observed in steel structures. **07**
- Q.2** (a) Enlist the materials used for repair with their specific uses. **07**  
 (b) Explain the procedure of controlling the sulphate attack. **07**
- OR**
- (b) Explain the role of quality control in construction as preventive measures maintenance of building. **07**
- Q.3** (a) Explain various schemes of retrofitting RCC slab for different types of structural deficiency. **07**  
 (b) Why efflorescence takes place? What are the factors affecting on it? State remedies. **07**
- OR**
- Q.3** (a) Differentiate in detail 'Active Repair and Passive Repair with the application. **07**  
 (b) State and explain the need of non-destructive testing for concrete with their specific uses. **07**
- Q.4** (a) Explain the use of FRP as a retrofitting a column. Explain the procedure for its application. State its disadvantages. **07**  
 (b) Explain the durability of concrete. Write the factors affecting on the durability. **07**
- OR**
- Q.4** (a) Explain the following terms in context of the corrosion of steel in concrete. **07**  
 Electrochemical Process, Passivity of steel, Electrical Resistivity of Concrete and Expansion of concrete & Cracking  
 (b) Explain the carbonation effect on concrete. **07**
- Q.5** (a) Explain on building performance levels and attributes for better performance of the structures. **07**  
 (b) Explain the survey procedure and assessment of structural conditions in masonry structures **07**
- OR**
- Q.5** (a) Explain on "Alkali – Silica reaction" on concrete. **07**  
 (b) Explain the push over analysis. **07**

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