



# CBGS SCHEME

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18CV824

**Eighth Semester B.E. Degree Examination, Jan./Feb. 2023**

## **Rehabilitation and Retrofitting**

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Define the following terms :  
(i) Repair (ii) Rehabilitation (iii) Retrofitting.  
(iv) Strengthening (v) Deterioration (05 Marks)  
b. Explain freezing and thawing effect on durability of concrete. (05 Marks)  
c. Discuss the common causes of deterioration of concrete. (10 Marks)

OR

- 2 a. Discuss the evaluation procedure for earthquake affected concrete structures. (10 Marks)  
b. Describe the effects of sulphate and chloride on durability of concrete. (10 Marks)

### Module-2

- 3 a. Describe the evaluation of cracks in case of distressed concrete structure. (10 Marks)  
b. Define Non-destructive testing of hardened concrete. Explain any two NDT tests in detail. (10 Marks)

OR

- 4 a. Discuss the procedure for rapid assessment of damaged concrete structures. (10 Marks)  
b. Define semi-destructive testing of hardened concrete. Explain any two methods in detail. (10 Marks)

### Module-3

- 5 a. Describe the common design errors for the failure of structures. (10 Marks)  
b. Describe any two methods of corrosion protection techniques for RCC members. (10 Marks)

OR

- 6 a. Explain the effect of wear and erosion on durability of concrete and also suggest the preventive measures. (10 Marks)  
b. Discuss the effects of cover thickness and cracking on corrosion. (10 Marks)

### Module-4

- 7 a. Describe the guidelines for seismic rehabilitation of existing building. (10 Marks)  
b. Explain the strengthening of concrete member by FRP composites and section enlargement technique. (10 Marks)

OR

- 8 a. Describe the types and importance of maintenance. (10 Marks)  
b. Describe External bonding and Post-tensioning technique for strengthening of concrete member. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

