



# CBCS SCHEME

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18CV824

## Eighth Semester B.E. Degree Examination, June/July. 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 distress of concrete. Explain the causes of distress in concrete in brief. (10 Marks)  
b. Describe the mechanism of plastic and drying Shrinkage and also enlist the precautionary measures. (10 Marks)

OR

- 2 a. Define durability of concrete. Explain the effect of carbonation and alkali action on durability of concrete. (10 Marks)  
b. Discuss the evaluation procedure for a concrete structure damaged due to earthquake. (10 Marks)

### Module-2

- 3 a. Explain the damage assessment procedure with a flow chart. (10 Marks)  
b. Describe Rebound hammer and penetration resistance test for assessing the strength of concrete structure. (10 Marks)

OR

- 4 a. Discuss the purpose and general procedure for investigation of damaged concrete structure. (10 Marks)  
b. Distinguish the types of testing systems for hardened concrete and also describe the method of load test for assessing the strength of in-situ concrete member. (10 Marks)

### Module-3

- 5 a. Explain the effects of climate and temperature actions on durability of concrete structure. (10 Marks)  
b. Define Corrosion. Explain the corrosion mechanism in reinforced concrete with a neat sketch. (10 Marks)

OR

- 6 a. Discuss the influence of design and construction errors on durability of concrete. (10 Marks)  
b. Describe corrosion inhibitors and cathode protection techniques for preventing corrosion of reinforcements. (10 Marks)

### Module-4

- 7 a. Define Maintenance. Describe the facts and importance of maintenance. (10 Marks)  
b. Explain the detail restoration of column by Jacketing technique with sketches. (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.

OR

- 8 a. Describe the types and necessities of maintenance. (10 Marks)  
b. Explain External bonding and near surface mounted technique in detail (10 Marks)

Module-5

- 9 a. Discuss the different types of fibers and their roles as a repair material. (10 Marks)  
b. Describe the types of chemical admixture for repair of cracks. (10 Marks)

OR

- 10 a. Explain different types of mortars for repair of cracks. (10 Marks)  
b. Describe Guniting shotcreting methods as repair techniques. (10 Marks)

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