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15CV753

Seventh Semester B.E. Degree Examination, July/August 2022 Rehabilitation and Retrofitting of Structures

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Differentiate between repair and retrofitting of structure. (04 Marks)
 b. Briefly discuss the various physical causes of distress of concrete structure. (12 Marks)

OR

- 2 a. Differentiate between strengthening and rehabilitation of structure. (04 Marks)
 b. Briefly discuss the various chemical causes of distress of concrete structure. (12 Marks)

Module-2

- 3 Discuss the procedure of assessment for evaluating a structure with a flow chart. (16 Marks)

OR

- 4 How to estimate the strength of concrete in existing structure and name the tests? Explain about the rebound hammer test and its limitations. (16 Marks)

Module-3

- 5 a. List various construction and design deficiency which causes distress in RCC structure. (08 Marks)
 b. Explain the importance of concrete cover in RCC structure. Give recommendations of IS 456 – 2000 for nominal cover. (08 Marks)

OR

- 6 Describe the process of rebar corrosion in concrete. Also discuss the various techniques of its corrosion protection. (16 Marks)

Module-4

- 7 a. Define “Maintenance”. Briefly explain about facts of maintenance. (09 Marks)
 b. Discuss the importance of maintenance. (07 Marks)

OR

- 8 Name the different types of strengthening of existing columns and beams. With simple sketches, explain any two methods. (16 Marks)

Module-5

- 9 a. Tabulate different types of fibers used in concrete. What are its advantages? (08 Marks)
 b. Write short notes on “concrete chemicals”. (08 Marks)

OR

- 10 a. What is vacuum concrete? Explain the application. (08 Marks)
 b. Define the term underpinning. Discuss about pit method. (08 Marks)

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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.