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Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 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 Write a short note on:
- | | | |
|--------------------------------|---------------------------------|------------|
| a) Freeze and Thaw on concrete | b) Thermal movement in concrete | |
| | | (16 Marks) |

OR

- 2 Write a short note on:
- | | | |
|------------------------------------|----------------------------|------------|
| a) Chloride attack on the concrete | b) Alkali silica reaction. | |
| | | (16 Marks) |

Module-2

- 3 a. Briefly explain the purpose of assessment. (06 Marks)
b. Explain briefly the investigation of damage. (10 Marks)

OR

- 4 Write short note on:
- | | | |
|-------------------------------------|--|------------|
| a. Ultrasonic pulse velocity method | | |
| b. Windsor HP probe system. | | (16 Marks) |

Module-3

- 5 a. Briefly explain the effect of temperature on concrete. (08 Marks)
b. Briefly explain the effect of wear and erosion on concrete. (08 Marks)

OR

- 6 a. List the factors influencing the corrosion process. (03 Marks)
b. List the corrosion protection techniques and explain any three of them. (13 Marks)

Module-4

- 7 a. Define maintenance engineering. Explain the classification of maintenance. (10 Marks)
b. Give the importance of maintenance. (06 Marks)

OR

- 8 a. Give the factors or reasons which are needed for strengthening of concrete structures (any 04). (04 Marks)
b. With neat figure explain: i) Jacking technique ii) Externally bonding technique. (12 Marks)

Module-5

- 9 Write a short note on:
- | | | |
|----------------------|--|------------|
| a. Aramid fibers | | |
| b. Carbon fibers | | |
| c. Natural fibers | | |
| d. Rust eliminators. | | (16 Marks) |

OR

- 10 Write short note on:
- | | | |
|---------------------|--|------------|
| a. Short Crete | | |
| b. Epoxy Injection. | | (16 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.