18/12/23 - AN

Reg. No. : | | | | | | | | | | | | |

**Question Paper Code : 70333**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023.

Sixth/Seventh/Eighth Semester

Civil Engineering

CE 8020 — MAINTENANCE, REPAIR AND REHABILITATION OF STRUCTURES

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Envisage the steps on remedial maintenance.
2. List the causes of distress and deterioration of concrete.
3. What is the effect of creep on concrete structure?
4. List the sustained elevated temperature.
5. Mention the uses of chemical modifier.
6. How do you prepare geopolymer concrete?
7. What is the use of pachometer?
8. List the classifications of corrosion inhibitors.
9. Mention the type of crack repairing techniques.
10. Enlist the rehabilitation techniques for earthquake damage.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the different state of maintenance processes.

Or

(b) Enlist the testing systems of hardened concrete? Explain any one of them briefly.

12. (a) Explain about causes and deterioration of RCC building.

Or

(b) Discuss the various corrosion protection techniques used in concrete structures.

13. (a) Explain

(i) High performance concrete (7)

(ii) Reactive power concrete. (6)

Or

(b) Discuss the uses of industrial waste in concrete.

14. (a) Describe the testing methods to assess the corrosion damages in concrete structures.

Or

(b) Explain the various Non-destructive testing using in concrete structures. Explain any one of them briefly.

15. (a) Explain

(i) Jacketing technique (6)

(ii) Plate bonding technique (7)

Or

(b) Discuss the poor construction practice and errors in design of concrete structures.

PART C — ($1 \times 15 = 15$ marks)

16. (a) Enlist the factors influencing corrosion of reinforcement. Explain the damages in RC structures due to corrosion of reinforcement.

Or

(b) Explain the different methods of strengthening the concrete structure against earthquake.

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