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Department of Research & Development
Mid - Term Examinations – SEPTEMBER 2024

Odd Semester: Ph.D. Course Work	Date: 28 /09/2024
Course Code: CIV 803	Time: 2:00pm – 3:30pm
Course Name: Maintenance and Repair of Concrete Structures	Max Marks: 50
Department: Civil engineering	Weightage: 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 5 marks.		4Qx5M=20M
1	Corrosion process can be physical, chemical and electrochemical in nature. In 2014, the direct cost of corrosion in India was Rs. 4 lakhs crores/year, approximately 3 to 4% of GDP. Explain the corrosion process. What are the preventive methods. (C.O.No.1)[Comprehension]	5 Marks
2	What are the two major types of corrosion in concrete structures? Explain with schematic. (C.O.No.2)[Comprehension]	5 Marks
3	What kind of reinforcement material can be used in reinforced concrete to prevent / reduce corrosion? (C.O.No.1)[Comprehension]	5 Marks
4	Propose a test method and procedure to assess the quality of reinforcement to be used in RC structures. (C.O.No.2)[Comprehension]	5 Marks

Part B

Answer ALL Questions. Each question carries 15 marks.		2QX15M=30M
5	Explain the corrosion process in pre-stressed concrete members. With a schematic show the process of pumping grout into the ducts of pre-stressed beam. (C.O.No.2)[Application]	15 Marks
6	Recommend the steps one must take to prevent deterioration of cementitious systems. (C.O.No.2)[Application]	15 Marks