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D – 3412

Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, December 2017
(2008 Scheme)**

Branch : CIVIL ENGINEERING

08.806.8 Elective – IV : Repair and Rehabilitation of Structures (C)

Time : 3 Hours

Max. Marks : 100

Instructions : Answer *all* questions from Part – A and *one full* question from *each* Module of Part – B.

PART – A

1. Explain briefly the following :

- a) How errors in design cause deterioration in concrete structures ?
- b) Damages in structures due to dampness/leakage.
- c) Environmental causes for deterioration in concrete structures.
- d) Ultrasonic pulse velocity method.
- e) Windsor probe test.
- f) Fibre concretes for strengthening of existing structures.
- g) Methods of repairing disintegration in concrete.
- h) Jacketing for strengthening of existing structures. **(8×5=40 Marks)**

PART – B

Module – I

2. Discuss the effect of earthquake and fatigue on deterioration in steel structures. **20**

OR

3. Discuss the maintenance techniques to control the deterioration in structures. **20**

P.T.O.



Module – II

4. Discuss the various Crack detection techniques. 20

OR

5. Explain the principle of Rebound hammer method and how this method could be used for diagnosis and assessment of deterioration in concrete structures. 20

Module – III

6. Discuss how Ferro-cement could be used as a retrofitting material. 20

OR

7. a) Describe the role of cathodic protection and surface coatings for controlling corrosion. 10
- b) What are the methods adopted for excluding the external sources of chloride ions from concrete ? 10
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