

VIII Semester CIVIL

REPAIR & REHABILITATION OF STRUCTURES (Elective III)

Time: 3hrs

Max. Marks: 100

(Answer ALL questions)

I. Explain briefly the following:

- a) Environmental causes for deterioration in steel structures
- b) Any two preventive measures for deterioration in steel structures
- c) Detection of embedded reinforcement
- d) Repairing of corrosion damage of reinforced concrete
- e) Ferro-cement as a retrofitting material (5× 4 Marks)

II. (a) Explain *any four* causes of deterioration in concrete structures (20 Marks)

OR

- (c) Discuss how corrosion, abrasion, fatigue and earthquakes cause deterioration in steel structures (20 Marks)

III. (a) Discuss the Pull out test for diagnosis and assessment of deterioration in concrete structures. (20 Marks)

OR

- (b) Explain the ultrasonic pulse velocity method for diagnosis and assessment of deterioration in concrete structures. (20 Marks)

IV. (a) Discuss the different methods of repairing the cracks in concrete. (20 Marks)

OR

- (b) Discuss any four techniques of strengthening of existing concrete structures (20 Marks)

V. (a) Discuss the different methods of adopted for prevent water leakage in concrete. (20 Marks)

OR

- (b) Discuss the use chemicals for strengthening of existing concrete structures (20 Marks)