

DEPARTMENT: CIVIL (R13)

YEAR/SEM:IV/II

Sub Code: RT42014C

Academic Year: 2018-19

SUBJECT: REPAIR AND REHABILITATION OF STRUCTURES (Elective IV)**(Weightage of Each Question 5 Marks)****UNIT-01 DETERIORATION OF STRUCTURES**

1. What is meant by deterioration of structures and mention causes.
2. What is the process of deterioration like freezing and thawing.
3. What meant by wetting and drying explain in detail?
4. What is meant by abrasion erosion, pitting.
5. Write a clear note on Carbonation and Abrasion.
6. Explain Alkali aggregate reaction on structures
7. Describe briefly about sulphate attack acid attack temperature and their causes

UNIT-02 NON DESTRUCTING TESTING

1. Write a detail note about non destructive method for concrete structures
2. Explain the testing procedure of rebound hammer method clearly
3. Explain about damages caused due to corrosion with neat sketch
4. What are the factors effecting corrosion
5. Describe ultrasonic pulse velocity test for concrete members with sketch
6. Explain briefly rebar locator and corrosion meter?
7. Determine the methods of corrosion measurements.
8. Write a detail note on pull out test

UNIT-03 FAILURES OF BUILDING

1. Definition of building failures and types of failures for in concrete structures
2. What are the different types of failures in Distressed building.
3. List out the causes of failures.
4. Discuss about faulty design failure.
5. Write a detail note on fire damage
6. Explain diagnostic methods and equipment.
7. What are the remedial measures for cracks.
8. Explain the methodology for investigation of failures in buildings and explain any one method.

UNIT-04 MATERIALS FOR REPAIR AND REHABILITATION

1. What is mean by admixtures? write different types of admixtures used in concrete making
2. What are the materials used for repair and rehabilitation.
3. List out the natural admixtures.
4. Explain the detail about fibers, wraps, glass, carbon fiber wraps, steel plates.
5. Explain the concrete behavior under corrosion
6. Explain detail about depth of carbonation
7. Explain detail about corrosion activity measurement.
8. Explain detail about ultrasonic pulse velocity tests and pull out tests.

UNIT-05 REPAIR TECHNIQUES

1. Explain concept of grouting technique for a cracked beam.
2. What is meant by jacking, short creating.
3. Write detail about different repair techniques for concrete structures
4. What is meant by nailing underpinning.
5. What is meant by bonded plates.
6. Explain the process for under watering
7. Distinguish between repair and rehabilitation
8. What is the application of expansive cement?

UNIT-06 INVESTIGATION OF STRUCTURES

1. Write down the case study for rehabilitation for bridges piers
2. Write down the case study for rehabilitation for dams
3. Write down the case study for rehabilitation for canals
4. Write down the case study for rehabilitation for heritage structures.
5. Explain detail corrosion and erosion structures.
6. How you do you repair and rehabilitation a structures distresses by fire.