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BTECH
(SEM VI) THEORY EXAMINATION 2023-24
REPAIR AND REHABILITATION OF STRUCTURES

TIME: 3 HRS**M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A**1. Attempt all questions in brief.**

a.	Illustrate the measures required to arrest decay?	2
b.	What are the classifications of distress?	2
c.	List out the requirements of quality management system.	2
d.	Demonstrate about the term strength of concrete.	2
e.	Define epoxy injection method.	2
f.	Define the role of Dampness in concrete structures.	2
g.	What do you mean by retrofitting.	2
h.	How do you repair concrete structures?	2
i.	Define strain gauge.	2
j.	Why Long-term monitoring is important?	2

SECTION B**2. Attempt any three of the following:**

a.	Explain various categories of inspection based on method and interval.	10
b.	What is Quality Assurance in concrete construction? Discuss quality assurance of concrete construction.	10
c.	Elaborate in detail about the facets of maintenance and its importance.	10
d.	Analyze an RCC building is under distress due to rebar corrosion. Column beams and slabs are under cracks. The age of the building is 20 years. Give the flowchart for diagnosis and suitable repair scheme.	10
e.	Define Leakage. Explain the remedial measures on roof leakages and concrete slab leakages with neat sketches.	10

SECTION C**3. Attempt any one part of the following:**

a.	Draw a flow chart of the general approach adopted pre-repair evaluation of distress concrete structure.	10
b.	Illustrate the causes of deterioration and explain how it occurs due to corrosion.	10

4. Attempt any one part of the following:

a.	Identify the effects of concrete structures under durability and serviceability due to chemicals, wear and erosion	10
b.	How does the properties of fine aggregate, coarse aggregate and cement affect the relationship of water demand on slump, and the water-cement ratio and compressive strength?	10

5. Attempt any one part of the following:

a.	Discuss in detail about causes and effects of any four defects in concrete.	10
b.	Tabulate the different types of fibers used in concrete. What are its advantages?	10

6. Attempt any one part of the following:

a.	Classify different crack patterns in a reinforced concrete beam and with a neat sketch and explain their causes and remedial measure.	10
b.	Elaborate factors affecting strengthening and stabilization.	10

7. Attempt any one part of the following:

a.	Explain the Role of Piezoelectric Sensors in Structural Health Monitoring System?	10
b.	Explain about Electrical-Mechanical Impedance (EMI) Method?	10