

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Construction Engineering and Management

ST4073 – Maintenance, Repair and Rehabilitation of Structures

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define Maintenance.	RE	1	2
2.	Outline the facets of maintenance.	UN	1	2
3.	What are the factors affecting the durability of concrete?	RE	2	2
4.	Classify the types of cracks based on its thickness.	UN	2	2
5.	Tell about various repair materials.	RE	3	2
6.	Summarize the applications of special concretes.	UN	3	2
7.	Name the methods for concrete protection.	RE	4	2
8.	Illustrate the characteristics of good coatings.	UN	4	2
9.	Recall the term rehabilitation.	RE	5	2
10.	Compare grouting and routing.	UN	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Identify the various steps involved in the systematic approach of investigations and the factors to be ascertained.	AP	1	13
	Or			
	b Construct a flow diagram for repair and maintenance during material selection, construction, and service life period of a structure.	AP	1	13
12.	a Examine in detail about the effect of temperature on concrete.	AN	2	13
	Or			
	b Inspect the various methods of corrosion in protection of rebar.	AN	2	13
13.	a Explain about methodology of selection, health and safety precautions for handling and applications of repair materials.	AP	3	13
	Or			
	b Identify the different grouting materials and explain each.	AP	3	13

14.	a	Analyse the mechanism of the following corrosion protection methods i) Corrosion inhibitors ii) Cathodic protection	AN	4	13
		Or			
	b	Analyse the mechanism of the following concrete protection methods i) Reinforcement protection ii) Self-regulating anode	AN	4	13
15.	a	Illustrate in detail various methods of crack repair in concrete structure.	UN	5	13
		Or			
	b	Explain the repair of various corrosion damaged of structural elements by jacketing methods.	UN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Describe the types, properties, and uses of special mortars and special concretes.	UN	3	15
		Or			
	b	Infer in detail about protective coatings for concrete and steel.	UN	3	15