

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

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

Fifth/Sixth Semester

Civil Engineering

CE3005 - Rehabilitation/Heritage Restoration

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.	List the main objectives of maintenance of the building.	RE	1	2
2.	State any four causes for deterioration of structures.	RE	1	2
3.	Recall the factors affecting durability of the concrete.	RE	2	2
4.	Compare structural and non structural cracks with an example.	UN	2	2
5.	What is geopolymer concrete? List the ingredients of geopolymer concrete.	RE	3	2
6.	Compare filling ability and passing ability of SCC.	UN	3	2
7.	When will you recommend underpinning for a structure?	RE	4	2
8.	State the reason for coating the reinforcement in RCC Structures.	RE	4	2
9.	List any four demolition techniques of RC Structures.	RE	5	2
10.	What are the two methods of retrofitting of concrete structure subjected to leakage?	RE	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 Explain the steps involved in the assessment procedure for evaluating the damages and to carry the rehabilitation works.	UN	1	13
	Or			
	b Illustrate the deterioration mechanism of structure with neat sketch.	UN	1	13
12.	a Describe the different types of cracks in RC structures with neat sketch and recommend the remedial measures for it.	AP	2	13
	Or			
	b i Explain the importance of concrete cover in RCC Structures and state the codal recommendations.	AP	2	8
	ii Discuss the importance of durability in design and construction of RC structures.	AP	2	5
13.	a Explain the materials, mechanism and behaviour of fresh and hard high-performance concrete. State the merits and demerits of HPC.	UN	3	13
	Or			
	b Explain the following in detail, i) Fibre reinforced concrete (6) ii) Self compacting concrete (7)	UN	3	13

14.	a	Describe the working of NDT techniques, i) Ultrasonic pulse velocity (8) ii) Rebound hammer (5)	UN	4	13
		Or			
	b	Write short notes on, i) Shoring (6) ii) Underpinning (7)	UN	4	13
15.	a	Explain the strengthening of structural elements with neat sketch.	AP	5	13
		Or			
	b	Illustrate the procedure for rehabilitation of RCC Slabs and beams damaged by fire.	AP	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	Illustrate the stitching procedure to repair the flexural cracks in RC members with neat sketch.	AP	5	15
		Or			
	b	Describe rebar corrosion in RCC Structure and discuss the corrosion protection techniques.	AP	4	15