

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***Sixth Semester**Civil Engineering***CE3013 - Advanced Construction Techniques***Regulations - 2021***Duration : 3 Hrs****Maximum : 100
Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q. No	Questions	BLT	CO	Marks
1.	Enlist the different dewatering techniques.	L1	1	2
2.	Why caissons are used?	L2	1	2
3.	Mention the various techniques used for concreting.	L2	2	2
4.	What are the precautions to be taken while erecting light weight components on tall structures?	L1	2	2
5.	Under what circumstances, articulated structures are adopted?	L2	3	2
6.	Distinguish between bow string bridges and cable stayed bridges.	L2	3	2
7.	Define underpinning.	L1	4	2
8.	List any four soil stabilization techniques.	L1	4	2
9.	Mention any four chemicals used for chemical explosion.	L1	5	2
10.	Point out the safety precaution to be followed in Demolition and Dismantling of a structure.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q. No	Questions	BLT	CO	Marks
11.	a i Discuss the factors that influence the choice of tunneling techniques.	L2	1	10
	i In what scenario, box jacking typically used in substructure construction?	L2	1	06
	Or			
	b i Describe the methods of dewatering for underground open excavation and their significance in construction projects.	L2	1	10
	i Using suitable sketch, explain the sinking cofferdam in detail.	L2	1	06
12.	a i Discuss the equipments used and the specific steps involved in the vacuum dewatering process.	L3	2	08
	i How does the modern concrete paving technology improve the efficiency and quality in tall building construction?	L3	2	08

Or

	b	i	Discuss how continuous concreting is carried out in the construction of tall buildings, particularly with varying shapes and sections.	L3	2	08
		i	Explain the launching techniques used for heavy decks and	L3	2	08
		i	the necessary precautions and planning for their safe transportation and placement.			
13.	a		Evaluate the construction methods and sequence involved in the erection of lattice towers for transmission lines with advantages and disadvantages.	L3	3	16
			Or			
	b		Explain the construction methods and sequence for building cable-stayed and bow-string bridges.	L3	3	16
14.	a		Imagine you are tasked with retrofitting an old, earthquake-prone building. Propose a comprehensive seismic retrofitting plan, addressing the strengthening of beams, columns, slabs, and masonry walls with various techniques.	L6	4	16
			Or			
	b		Imagine you are responsible for enhancing the durability of a building situated in a flood-prone area. Discuss the soil stabilization techniques you would recommend for improving the subgrade and ensuring waterproofing for the foundation.	L6	4	16
15.	a		Explain the different demolition techniques, also compare the efficiency, safety, and environmental impacts of each method.	L2	5	16
			Or			
	b		Describe the dismantling techniques used in demolition and outline the key safety precautions required during the demolition process.	L2	5	16