

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)*

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026

*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)**

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Differentiate box jacking and pipe jacking in underground construction.	L1	1	2
2.	"Dewatering is necessary for underground open excavation". Justify.	L2	1	2
3.	Mention the purpose of vacuum dewatering in concrete flooring.	L2	2	2
4.	Compare in-situ pre-stressing and post-tensioning of slab in high-rise structures.	L1	2	2
5.	Name the primary function of rigging in the erection of transmission line structures.	L1	3	2
6.	Write the key steps involved in the construction of a dome structure.	L2	3	2
7.	What is seismic retrofitting?	L1	4	2
8.	Highlight the role of geosynthetics in soil stabilization techniques.	L2	4	2
9.	Specify the importance of personal protective equipment (PPE) in demolition work.	L1	5	2
10.	Recall the key factors to be considered when choosing a demolition technique for a building.	L2	5	2

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

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain about Under water construction of Diaphragm walls and basement.	L3	1	8
	ii Write short notes on coffer dam using sheet piles with neat sketches.	L3	1	8
	Or			
	b i Discuss the tunneling techniques with neat sketch.	L3	1	10
	ii Enumerate the application of Dewatering equipment for underground open excavation.	L3	1	6
12.	a i Examine the process of vacuum dewatering of concrete flooring with advantages.	L3	2	6
	ii Illustrate the challenges and methods involved in handling and erecting lightweight components on tall structures.	L3	2	10

Or

	b	i	Elaborate the techniques used for continuous concreting operations in tall buildings of varying shapes and sections.	L3	2	10
		ii	Mention the different launching techniques used for heavy decks in bridge and structural construction.	L3	2	6
13.	a	i	Elucidate the construction sequence and methodology involved in building a cooling tower.	L3	3	6
		ii	Assess the launching and pushing techniques used for box decks in bridge construction	L3	3	10
			Or			
	b	i	Write the steps involved in rigging of transmission line towers.	L3	3	6
		ii	Inculcate the construction sequence and methods in domes with the help of neat sketch.	L3	3	10
14.	a		Critically analyze the impact of micro piling on surrounding structures, especially in dense urban environments where space is limited. List the methods to be used to monitor and ensure the safety of adjacent buildings during micro piling.	L4	4	16
			Or			
	b		Evaluate the long-term durability of different materials (steel, FRP, concrete jacketing) used for beam strengthening in coastal environments, where corrosion is a significant concern.	L4	4	16
15.	a	i	Outline the different types of demolition Techniques.	L3	5	6
		ii	Summarize the various techniques used for dismantling large metal structures for recycling purposes.	L3	5	10
			Or			
	b	i	Indicate the applications of Robotic machines in demolition of buildings.	L3	5	8
		ii	Discuss the safety precautions in demolition and dismantling.	L3	5	8