

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026*****Second Semester******Construction Engineering and Management*****PCNT2421 – ADVANCED CONSTRUCTION TECHNIQUES*****Regulations - 2024******Duration: 3 Hrs******Maximum: 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

Q.No	Questions	BLT	CO	Marks
1.	Outline the function of a diaphragm wall in deep basement construction.	L2	1	2
2.	What is the purpose of using well points in dewatering systems for underground excavation?	L2	1	2
3.	In what ways concrete paving technology can be used to achieve uniform surface quality in large-scale road construction.	L2	2	2
4.	How does aerial transporting contribute to accelerating the installation of prefabricated components on a high-rise building?	L2	2	2
5.	Outline the typical construction sequence for building cooling towers in industrial facilities.	L2	3	2
6.	How do articulated structure enhance the flexibility of space decks?	L2	3	2
7.	Illustrate the steps involved in grouting for foundation stabilization and discuss its effectiveness in soil stabilization.	L2	4	2
8.	Evaluate the effectiveness of various protection methods for structures against seismic forces, focusing on both design and material choices.	L2	4	2
9.	Compare the differences between demolition by machines and demolition by explosives.	L2	5	2
10.	List the environmental considerations that must be taken into account during the demolition process.	L2	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a Explain how would you apply pipe jacking to construct a tunnel beneath a busy city road, ensuring minimal surface disruption?	L3	1	16
	Or			
	b Describe the various methods of dewatering for open excavation	L3	1	16
12.	a i Evaluate the effectiveness of different concrete paving technologies for urban roads and highways.	L2	2	10
	ii Explain the factors that may be considered in selecting the appropriate technique for large-scale projects.	L2	2	6

Or

	b	i	Compare post-tensioning and pre-tensioning in slab construction for tall buildings.	L3	2	8
		ii	Analyze the differences in impact construction timelines and structural flexibility.	L3	2	8
13.	a		Explain the process of erection of lattice towers for a high-voltage transmission line across a mountainous region.	L3	3	16
			Or			
	b		Imagine you are tasked with constructing a jetty to withstand harsh marine conditions. Explain the steps you would take to ensure the durability of the structure and how you would address challenges posed by tides, waves, and corrosion.	L3	3	16
14.	a	i	Compare and contrast the effectiveness of seismic retrofitting methods for beams and columns versus masonry walls.	L3	4	10
		ii	Discuss the factors that influences the choice of method in different structural contexts.	L3	4	6
			Or			
	b		Analyze the role of soil stabilization techniques in enhancing the structural integrity of foundations	L3	4	16
15.	a		Explain the demolition techniques by machine and explosives with its advantages and disadvantages.	L3	5	16
			Or			
	b		Compare the advantages and disadvantages of dismantling techniques in detail	L3	5	16
