

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026***Fourth Semester**Civil Engineering***UCET24404 - ADVANCED CONSTRUCTION TECHNIQUES AND PRACTICES***Regulations - 2024**Duration : 3 Hrs**Maximum : 100 Marks****PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Discuss about High rise Building Technology.	L1	1	2
2.	List two key features of a Passive Building.	L1	1	2
3.	Explain the concept of sheet piles.	L2	2	2
4.	Define the well point method used for dewatering excavations.	L2	2	2
5.	What is vacuum dewatering of concrete flooring?	L1	3	2
6.	Mention the purpose of post-tensioning in slabs?	L2	3	2
7.	Write the term "rigging" in the context of transmission line structures.	L1	4	2
8.	Explain the situations in which articulated structures can be adopted and justify their use.	L2	4	2
9.	List two types of equipment used for earth moving operations.	L2	5	2
10.	What is a TBM (Tunnel Boring Machine)?	L1	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 Compare and contrast Load Bearing Structures with Framed Structures. Explain the load transfer mechanism in each and sketch a typical floor system for a framed structure.	L4	1	16
	Or			
	b Explain the concept of an Intelligent (Smart) Building. Discuss its key components like building automation and how it contributes to energy efficiency, with a case study of a smart office building in a composite climate.	L4	1	16
12.	a i Describe the various tunneling techniques used in modern construction.	L2	2	8
	ii Compare and contrast the Pipe Jacking and Box Jacking methods, highlighting their applications and advantages.	L2	2	8
	Or			
	b i Explain the construction of driving of diaphragm walls.	L2	2	8
	ii Describe the step-by-step process involved in their large reservoir construction.	L2	2	8

13.	a i	Explain the various erection techniques used for tall structures.	L2	3	8
	ii	Discuss the challenges and safety measures involved in handling and erecting lightweight components at great heights.	L2	3	8
Or					
	b	Describe the techniques of construction for continuous concreting operations in tall buildings with varying shapes and sections. How is in-situ prestressing integrated into such high-rise structures?	L2	3	16
14.	a	Explain the construction sequence and methods involved in building a large industrial chimney or a cooling tower. What are the key challenges in such projects?	L4	4	16
	Or				
	b	Explain the support structures required for heavy equipment and conveyors, including design and safety considerations.	L 4	4	16
15.	a	Discuss the factors to be considered for the selection of equipment for earthwork. Explain the working principles and applications of a scraper and a front-end loader.	L5	5	16
	Or				
	b	Classify equipment used for material handling and erection of structures. Describe the specific equipment used for pile driving and for concreting operations in a large infrastructure project.	L5	5	16