

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Fifth/Sixth Semester**Civil Engineering***CE3003 - Prefabricated Structures***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.	Define Modular co-ordination in prefabrication system.	L2	1	2
2.	List out the different methods used in erection of prefabrication Structures.	L1	1	2
3.	Classify the shear wall.	L2	2	2
4.	Name two benefits of using large panel systems in prefabricated construction.	L1	2	2
5.	Identify two factors that influence the efficiency of material usage in designing cross sections for precast concrete systems.	L3	3	2
6.	List two challenges associated with the transportation of demountable precast concrete elements.	L1	3	2
7.	Give any four types of joints in prefabrication.	L1	4	2
8.	Summarize the functions of joints.	L2	4	2
9.	Define degree of progressivity.	L1	5	2
10.	Differentiate between intensity and progressive earthquake.	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 Compare the advantages and limitations of prefabrication with conventional construction methods.	L2	1	8
	ii Discuss the role of standardization in enhancing prefabrication. Highlight its impact on production efficiency and material wastage.	L2	1	8
	Or			
	b i Relate how different load combinations affect the structural integrity of prefabricated elements. Provide examples.	L2	1	8
	ii Illustrate the process and challenges of erecting prefabricated structures, including alignment and stability issues.	L2	1	8
12.	a i Classify the structural components of skeletal and portal frame systems and analyze how each contributes to the system's overall stability and strength.	L4	2	8
	ii Analyze the structural behavior of roof and floor slabs in prefabricated buildings. Discuss their role in load distribution and stability.	L4	2	8
	Or			

	b i	Compare large panel systems and block systems in terms of installation process, cost, and structural stability with relevant examples.	L4	2	8
	ii	Examine the behavior of beams and columns in prefabricated construction systems. Explain how prefabrication affects their design and structural efficiency	L4	2	8
13.	a	Apply the principles of design philosophy to analyze how joint flexibility impacts the overall performance of demountable precast concrete systems.	L3	3	16
		Or			
	b	Demonstrate how stripping, stacking, and erection of elements are carried out in prefabricated structures, and provide examples to illustrate each process.	L3	3	16
14.	a	Classify the different types of joints used in the prefabrication process based on their action under forces and functions and provide examples for each	L2	4	16
		Or			
	b i	Compare the merits and demerits of expansion joints in prefabricated structures.	L2	4	8
	ii	Explain any two types of beam to column connections in prefabricated structures with neat sketches.	L2	4	8
15.	a	Outline the codal provisions for progressive collapse and Enumerate the details of the Importance Avoidance of progressive collapse.	L2	5	16
		Or			
	b	Summarize the procedure for calculating equivalent design loads when the structure is subjected to earthquake loading.	L2	5	16