

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

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.	Write the advantages of prefabrication.	RE	1	2
2.	Define modular co-ordination.	RE	1	2
3.	What are the types of prefabricated structural components?	RE	2	2
4.	Recall the term “shear wall”.	RE	2	2
5.	What do you mean by joint flexibility?	RE	3	2
6.	Why should we give allowance for joint deformation?	UN	3	2
7.	Distinguish between compression and tension joints.	UN	4	2
8.	List out the various types of sealants are used in prefabricated structures.	RE	4	2
9.	Define abnormal loads.	RE	5	2
10.	Define degree of progressivity?	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Describe briefly the principles involved in prefabrication and state its need and limitations.	AP	1	13
	Or			
	b Describe briefly the important aspect to be taken for consideration while during production, transportation and erection of precast elements.	AP	1	13
12.	a i Explain the method of construction of roof and floor slab.	UN	2	7
	ii Illustrate about the structural behavior of precast panels.	UN	2	6
	Or			
	b Explain in detail about the large panel construction and state its merits and demerits.	UN	2	13
13.	a Elaborate the steps involved in the process of disunity of prefabricated structures along with its merits and demerits.	AP	3	13
	Or			
	b Elaborate the design for stripping, stacking and transportation of precast elements.	AP	3	13

14.	a	i	List out the general recommendations for the design of an expansion joint.	UN	4	7
		ii	State the advantages and applications of an expansion joint.	UN	4	6
Or						
	b	i	Briefly discuss the various types of beam to column connection.	UN	4	7
		ii	Briefly discuss the various types of column to foundation connection.	UN	4	6
15.	a		Explain the procedure for calculating equivalent design loads when the structure is subjected to earthquake loading based on Indian codal provisions.	AN	5	13
Or						
	b		Explain the progressive collapse with a case study and mention the conditions for avoiding the progressive collapse.	AN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>	<i>Questions</i>			<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	i	Explain standardization and write the factors in detail.	AP	1	8
		ii	Describe the manufacturing process of wall panel.	AP	2	7
Or						
	b	i	Distinguish between the construction and contraction joints.	AP	4	8
		ii	Explain strong column weak beam theory.	AP	5	7