

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3170622**Date:12-01-2023****Subject Name:Precast Construction****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Explain the types of joints in precast construction. Also explain its behavior.	03
	(b) Discuss in detail about the concept precast concrete building.	04
	(c) What are the Principle of prefabrication techniques and also mention its advantages and disadvantages.	07
Q.2	(a) State advantages and disadvantages of precast concrete.	03
	(b) Define Prefabrication and Explain Process of Prefabrication.	04
	(c) Discuss with sketches the concept of disuniting of structures in prefabrication.	07
	OR	
	(c) Explain accelerated hardening in details.	07
Q.3	(a) Distinguish between precast and other types of construction.	03
	(b) Explain the necessity of prefabrication in India.	04
	(c) Compare and contrast the prefabricated structures with monolithic structures.	07
	OR	
Q.3	(a) What are the erection stresses? How are they reduced or eliminated?	03
	(b) Classify the structure of building based on the load distribution and briefly explain the different types of such prefabricated building	04
	(c) What are the desirable properties of concrete and steel for prefabrication unit?	07
Q.4	(a) Explain framed buildings with partial and curtain walls.	03
	(b) Explain in detail about connections and joints for wall panels.	04
	(c) What are the three main types of large precast concrete roof units? Describe any two with neat sketches.	07
	OR	
Q.4	(a) Explain brief description of different types of precast beam.	03
	(b) Explain in detail about the precast reinforced waffle unit floor/roof.	04
	(c) Explain the necessity of providing shear walls in the precast structures. Also discuss about different types of shear walls.	07
Q.5	(a) Define classification of precast concrete walls.	03
	(b) What are the design requirements of precast truss?	04
	(c) Explain the equivalent design loads for considering abnormal effects.	07
	OR	
Q.5	(a) Define modular co-ordination in prefabrication system.	03
	(b) Explain the merits and demerits of expansion joints.	04
	(c) Explain the steps adopted for installation of precast columns.	07
