Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – SUMMER • 2015

Subject Code: 182304 **Date:05/05/2015**

Subject Name: Fiber Reinforced Plastics And Alloys

Time:10.30AM-01.00PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Describe the designing of a FRP product, with material, process and reinforcement selection.	**07**
	(b)	Compare steel moulds and FRP moulds with advantages and disadvantages.	**03**
	(c)	Explain the single stage and two- stage casting of Epoxide moulds.	**04**
Q.2	**(a)**	Describe the curing reaction of epoxide resin in FRP. Explain the role of each ingredients used in the curing process.	**07**
	(b)	Define low styrene emission resins, with suitable examples. How foamed poly styrene resin is made?	**07 (3+4)**
		OR	
	(b)	Describe in detail with proper sketches the process of making FRP split moulds.	**07**
Q.3	**(a)**	How mineral fillers and metal fillers differ in their application while used in FRP? Explain with examples.	**07**
	(b)	Describe in detail the manufacturing process for glass fibers and its surface protection systems.	**07**
		OR	
Q.3	**(a)**	Explain the role of reinforcements in fiber reinforced plastics. Which are types of fibers used and their specific application?	**07**
	(b)	Which are the specialties of amid fibers, describe with suitable examples.	**07**
Q.4	**(a)**	Explain the Contact moulding process (wet lay up and spray lay up) with detailed sketches.	**07**
	(b)	Define Pregregs systems in FRP. What is the role of prepregs in actual moulding process.	**07**
		OR	
Q.4	**(a)**	Describe vacuum bag moulding and its advantages and limitations with sketches.	**07**
	(b)	What are SMC and DMC in FRP moulding? Describe with examples.	**07**
Q.5	**(a)**	Compare and contrast filament winding and Pultrusion.	**07**
	(b)	What is Vacuum infusion moulding, the equipments used and major trouble	**07**

shootings in the process.

OR

Q.5	**(a)**	Differentiate hot press and cold press moulding and describe hot press matched metal moulding.	**07**
	(b)	Narrate the importance of carbon fiber, structure, manufacturing process and applications.	**07**

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