Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – WINTER • 2014

Subject Code: 182304 **Date: 25-11-2014**

Subject Name: Fiber Reinforced Plastics and Composites

Time: 02:30 pm - 05:00 pm **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)**	Define Polymer matrix and reinforcements. Explain role of both in FRP.	**07**
	(b)	List the advantages, disadvantages and application of FRP.	**07**
Q.2	**(a)**	Explain Pultrusion process with neat sketch.	**07**
	(b)	List the factors influence the designing of FRP. Explain any one in detail.	**07**
		OR	
	(b)	Short Note: (1) Prepreg (2) RTM	**07**
Q.3	**(a)**	List the mold material for FRP. Explain about Plaster mold.	**07**
	(b)	Explain Hand layup process with neat sketch. List advantages and disadvantages of it compare to other process.	**07**
		OR	
Q.3	**(a)**	Explain Foam Reservoir Molding process in detail.	**07**
	(b)	Short note: Release Agent use for FRP process.	**07**
Q.4	**(a)**	What is Gel-coat? What is the purpose of Gel-coat? Explain about formulation of Gel-coat.	**07**
	(b)	Explain Sheet Molding Compound (SMC) process with neat sketch.	**07**
		OR	
Q.4	**(a)**	List the types of Fiber used in Polymer Matrix Composites. Explain manufacturing of Carbon fiber with line diagram.	**07**
	(b)	Short note: (1) Whiskers (2) Extended Chain Polyethylene fiber.	**07**
Q.5	**(a)**	Explain Filament winding process with neat sketch.	**07**
	(b)	List and Explain about types of Glass fiber according to their application and commercial forms of availability.	**07**
		OR	
Q.5	**(a)**	List causes and remedies of the following faults : (1) Fish eyes or craters (2) Blisters and bubbles.	**07**
	(b)	Explain about effect of inhibitor on gel time and cure rate of Polyester resins.	**07**

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