Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1722405 **Date: 03-06-2013**

Subject Name: Composites Material Technology

Time: 10.30 am – 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**

Q.1	**(a)**	Explain continuous process used for the manufacturing of profiles.	**07**
	(b)	Write a note on Ultrasonic test method for non-destructive testing of composites.	**07**
Q.2	**(a)**	Describe Filament winding process with neat sketch and give its applications	**07**
	(b)	What is the function of catalyst? Explain room temperature and elevated temperature catalysts.	**07**
		OR	
	(b)	Classify Glass fibres and explain manufacturing process of glass fibre with neat sketch.	**07**
Q.3	**(a)**	Give classification of composite. What are the role of matrix and reinforcement in composite?	**07**
	(b)	Which are the principle ingredients in the preparation of Unsaturated polyester resin? Explain.	**07**
		OR	
Q.3	**(a)**	Define: Curing, Gelation, hardening, half-life, critical temperature, initiators, and inhibitors.	**07**
	(b)	What isthe role of accelerators? Give detail description on various accelerators used in resin system.	**07**
Q.4	**(a)**	Explain manufacturing and properties of Epoxy resin used as matrix in composites.	**07**
	(b)	Why fillers are added in resin system? Explain types of fillers used in resin system	**07**
		OR	
Q.4	**(a)**	Describe Vacuum bag molding with a neat diagram with advantages and disadvantages.	**07**
	(b)	Explain: Gel-time test.	**07**
Q.5	**(a)**	Write a note onAcousto- Ultrasonic test method for non-destructive testing of composites.	**07**
	(b)	Explain DMC/BMC.	**07**
		OR	
Q.5	**(a)**	Explain manufacturing of carbon fibres with flow diagram.	**07**
	(b)	List various additives used for composites. Explain Flame retardants and thixotropic agent.	**07**

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