GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code:182304   **Date:16/05/2016**

Subject Name:Fiber Reinforced Plastics and Composites (Department Elective II)

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.**

Q.1	**(a)**	Give advantages and limitations of FRP and also give functions of resin and reinforcement.	**07**
	(b)	Write a note on : Glass fibers	**07**
Q.2	**(a)**	Explain hand-layup technique with neat diagram, applications and its limitations.	**07**
	(b)	With neat diagram explain manufacturing of Prepregs along with its applications.	**07**

<div align="center">OR</div>

	(b)	Write about: (a) Surfacing tissues (b) Gelcoat.	**07**
Q.3	**(a)**	Explain determination of Gel Time and Peak Exothermic Temperature of Reacting Thermosetting Resins.	**07**
	(b)	Write a note on: GRP molds.	**07**

<div align="center">OR</div>

Q.3	**(a)**	Explain Resin Transfer molding (RTM) process with neat diagram along with its advantages.	**07**
	(b)	With neat diagram discuss manufacturing of pipes by filament winding process. Also draw various winding patterns.	**07**
Q.4	**(a)**	Discuss various Glycols and Acids used in preparation of Unsaturated polyester resin.	**07**
	(b)	Give classification of fillers. Explain thixotropic additives and flame retardant fillers.	**07**

<div align="center">OR</div>

Q.4	**(a)**	Explain continuous sheet manufacturing of corrugated roof sheeting with neat diagram.	**07**
	(b)	What is the role of catalyst and accelerators? List various types of catalysts and accelerators used for UPR resin.	**07**
Q.5	**(a)**	Discuss material selection and process selection criteria in designing FRP.	**07**
	(b)	Explain manufacturing of carbon fibers and give its applications.	**07**

<div align="center">OR</div>

Q.5	**(a)**	Explain centrifugal casting process for manufacturing of poles for street light.	**07**
	(b)	Write about: (a) Chemical resistance resin (b) Reduced flammability resin.	**07**

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