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Date:11 /12/ 2015

Seat No.:	
No	

Subject Code:163406

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VI EXAMINATION - WINTER 2015

	•	Name: Composite Technology :30pm to 5:00pm Total Marks: 70	
	tructio 1. 2.	ons: Attempt all questions.	
Q.1	(a)	Give detail classification of fibers used as reinforcement in composite. Discuss natural fibers in detail along with its advantages.	07
	(b)	How epoxy resin is manufactured? Mention its properties and also give its advantage over other thermoset matrices.	07
Q.2	(a) (b)	Discuss various steps to manufacture carbon fibers with flow diagram. What are composites? What is the role of matrix and reinforcement? List various advantages of FRP.	07 07
	(b)	OR Write about preparation and curing reaction of Vinyl ester resin.	07
Q.3	(a)	Which are the types of glass fibers? List various forms of glass fibers	07
V. 2	(b)	commercially available. Give advantages and disadvantages of glass fibers. How DMC/BMC prepared? Explain in detail.	07
Q.3	(a)	OR Write about (1) Coupling agents (2) Flame retardants.	07
	(b)	List various molding processes for composites. Explain hand lay-up process in detail along with advantages and limitations.	07
Q.4	(a)	What is pultrusion? Which types of products can be prepared from pultrusion? Explain pultrusion process with neat diagram.	07
	(b)	Explain vacuum bag molding process with neat diagram. Give difference between vacuum bag and pressure bag molding. OR	07
Q.4	(a) (b)	Give applications of FRP in marine, chemical and space structures. Discuss nondestructive tests (NDT). Explain Ultrasonic method in detail.	07 07
Q.5	(a)	How Flexural properties of composite determined as per ASTM standard? Discuss.	07
	(b)	Discuss catalyst and accelerators used in FRP.	07
Q.5	(a) (b)	OR Explain Filament winding process with neat diagram. What do you mean by shelf life? How gel time is determined? Explain.	07 07
