Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 163406 **Date: 03/05/2017**

Subject Name: Composite Technology

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)**	Explain manufacturing of carbon fibres with flow diagram	**07**
	(b)	What is importance of composite in plastics industries? Explain the type of composite with suitable examples.	**07**
Q.2	**(a)**	What is the role of accelerators? Give detail description on various accelerators used in resin system	**07**
	(b)	How epoxy resin is manufactured? Mention its properties and also give its advantage over other thermoset matrices	**07**
		OR	
	(b)	Write about preparation and curing reaction of Vinyl ester resin	**07**
Q.3	**(a)**	Explain Pultrusion process used for the manufacturing of profiles	**07**
	(b)	Explain vaccum bag and pressure bag moulding with suitable sketches	**07**
		OR	
Q.3	**(a)**	Write about UV stabilizers, flame retardants and toughening agents with examples.	**07**
	(b)	Explain briefly the determination of shelf life and gel time.	**07**
Q.4	**(a)**	Which are the types of glass fibers? List various forms of glass fibers commercially available. Give advantages and disadvantages of glass fibers	**07**
	(b)	Describe SMC and DMC process with neat sketch	**07**
		OR	
Q.4	**(a)**	Discuss Resin transfer molding process along with advantages and applications	**07**
	(b)	Explain manufacturing of Unsaturated polyester resin used as matrix in composites	**07**
Q.5	**(a)**	Give various applications of FRP products in marine and automotive.	**07**
	(b)	Describe ultrasonic testing method for non destructive testing of composites	**07**
		OR	
Q.5	**(a)**	What is the need to conduct non-destructive testing? What are the various methods used for non-destructive testing? Write about any one method	**07**
	(b)	Give various applications of FRP products in the fields of chemicals, railways and electrical and electronic industries	**07**

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