Sea	t No.:	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		M. E SEMESTER - II • EXAMINATION - WINTER • 2014	
Sul	hiect (	code: 1722405 Date: 04-12-2014	
		Name: Composites Material Technology	
	-	2:30 pm - 05:00 pm Total Marks: 70	
	tructio	•	
1115		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
		Figures to the right indicate full marks.	
Q.1	(a)	Explain about the vacuum bag and pressure bag moulding for FRP with neat	<b>07</b>
		sketch.	
	<b>(b)</b>	Describe the RTM process in detail with some applications.	07
Q.2	(a)	Describe in detail about the filament winding process and give the advantages and	07
	. ,	disadvantages of FRP over metal.	
	<b>(b)</b>	Describe in detail about pultrusion process and write down their applications.	<b>07</b>
		OR	
	<b>(b)</b>	Write a short note on: 1. DMC 2. TMC	07
Q.3	(a)	Give a brief account of preparation, properties and applications of vinyl ester	07
		resins.	
	<b>(b)</b>	What is Non- Destructive Technique? Explain the Ultrasonic Technique used for	<b>07</b>
		testing of composites.	
0.0		OR	<b>~=</b>
Q.3	(a)	Write a short note on manufacturing, properties and applications of the following	07
	(b)	materials: 1. Carbon fibre 2. Aramid Fibre Explain the types of glass fibre and its manufacturing process in detail.	07
	<b>(b)</b>	Explain the types of glass hore and its manufacturing process in detail.	U/
Q.4	(a)	Explain in brief	07
<b>~··</b>	()	i. Shelf life of resins	٠.
		ii. Room and elevated temperature catalysts	
	(b)	Write down the applications of FRP in marine and aerospace field.	07
	` ′	OR	
Q.4	(a)	Write a notes on	<b>07</b>
		1. Boron fibres	
		2. Natural fibres	
	<b>(b)</b>	Explain the manufacturing process and properties of alkyd resins.	07
Q.5	(a)	Describe the testing methods used to study the mechanical properties of	07
	()	composites.	
	<b>(b)</b>	Define and explain the following terms	07
	•	i. Prepregs	
		ii. Nanocomposites	
		OR	. –
Q.5	(a)	What is whisker? Explain the manufacturing process of any one type of whisker.	07
	<b>(b)</b>	Write down the applications of FRP in manufacturing of chemical storage tank and	07
		railway coach.	

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