	Seat No.:	Enrolment No.
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Subject Code: 143605

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV • EXAMINATION - SUMMER • 2014

Date: 25-06-2014

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	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain the suspension polymerisation technique with its advantages and disadvantages.	07
	(b)	Explain the free radical polymerisation with example.	07
Q.2	(a)	Explain the synthesis properties and application of phenol formaldehyde (Novlak)	07
	(b)	What is reinforcement in composite? Explain carbon fiber and glass fiber reinforcement.	07
	(b)	OR Define and explain the following terms with examples:	
	(~)	 Polymer Polymerization Polymer Composite 	02 02 03
Q.3	(a)	Draw the well diagram of die and explain die parts, die materials and the function of die.	07
	(b)	Explain the extrusion process of wire and cable coatings. OR	07
Q.3	(a) (b)	Explain how the tensile testing of composite material is carried out. Explain the melt flow index testing of polymer with the machine diagram.	07 07
Q.4	(a)	Define breakdown voltage of polymer and explain how the dielectric strength of polymer is measured.	07
	(b)	Explain how the izode impact strength of composite material is measured. OR	07
Q.4	(a)	What is nanocomposite? Explain the synthesis of polypropylene nanocomposite.	07
	(b)	Explain the synthesis, properties and applications of polysulphone and polycarbonate.	07
Q.5	(a)	What are fillers? Explain different types of fillers used in composites with its function.	07
	(b)	Explain different problems occur in extrusion process with its remedies. OR	07
Q.5	(a)	Explain the synthesis, properties and application of Nylon 6,6 and polyvinyl chloride.	07
	(b)	Explain any one with suitable diagram; 1. Pultrusion Process 2. Filament Winding	07
