Seat 1	No.: _	Enrolment No GUJARAT TECHNOLOGICAL UNIVERSITY	
BE - SEMESTER-IV (OLD) • EXAMINATION – WINTER 2016 Subject Code: 143605 Date: 24/11/2016 Subject Name: Composite Materials			
	e:02	30 PM to 05:00 PM Total Marks: 70	
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain the manufacturing of Low density polyethylene polymer in detail.	07
	(b)	Explain the manufacturing of Nylon 6 polymer in detail.	07
Q.2	(a)	Explain Resin Transfer molding technique in detail with neat figure. Write its limitations.	07
	(b)	Explain Pultrusion technique in detail with neat figure. Write its advantages.	07
	(b)	OR Explain the manufacturing of phenol formaldehyde in detail and write its applications.	07
Q.3	(a)	Explain in detail about the glass fibre reinforcement in polymer composites.	07
	(b)	Explain Carbon fibre reinforcement used in polymer composites with its advantages.	07
Q.3	(a)	OR With the help of neat figure, explain hand lay-up technique in detail. Write its applications.	07
	(b)	Explain in brief the manufacturing of unsaturated polyesters. Write its properties.	07
Q.4	(a)	Explain stress-strain relations and engineering constants for polymer composites in detail.	07
	(b)	How the analysis of laminates after initial failure is carried out? Write its importance.	07
Q.4	(a)	OR Explain the stiffness matrix in polymer composites in detail.	07
	(b)	How the impact strength testing is done for polymer composites? Explain in detail with neat sketch.	07
Q.5	(a)	Explain in detail the role of nano-materials in advanced composites.	07
	(b)	Write structure, properties and applications of PEEK. OR	07
Q.5	(a)	Explain the manufacturing of PVC and write its properties.	07

(b) Write structure, properties and applications of Polyurethanes.

07