Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VIII.EXAMINATION - WINTER 2016

	•	Code: 182103 Date: 22/10/2016 Name: Composite Materials (Department Elective - II)	
Tir	ne: (02:30 PM to 05:00 PM Total Marks: 70 ons:	
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	What are composites? Give classification of composites. Describe importance of composites over other conventional materials.	07
	(b)	Explain the functions of Matrix & Reinforcements in composite materials. Discuss properties of the materials making them suitable for use as Matrix & Reinforcement.	07
Q.2	(a)	With suitable examples describe about Dispersion strengthening and particle fiber reinforcement composites.	07
	(b)	Describe about Sandwich Panels. Discuss the advantages of these structural composites.	07
	(b)	OR What is critical fiber length? Distinguish between Short & Continuous size fiber.	07
Q.3	(a)	What is a "Hybrid" composite? Compare the hybrid composites and normal fiber composites.	07
	(b)	Describe about Fiber reinforced composites. Enlist the factors governs Mechanical Properties of Fiber reinforced composites. OR	07
Q.3	(a)	Describe with neat sketch the following reinforcements (i) Particulates (ii) Flakes (iii Prepegs	07
	(b)	Compare the discontinuous and continuous fiber composites.	07
Q.4	(a) (b)	Explain the strengthening Mechanisms in composites. What are Polymer matrix composites? Explain the characteristics of fibers & resin materials in Polymer matrix composites. OR	07 07
Q.4	(a) (b)	Explain the Toughening mechanisms in Metal Matrix composites. Compare Polymer Matrix composites & Ceramic Matrix composites.	07 07
Q.5	(a) (b)	Explain the role of interfaces in composites. Explain with schematic Pultrusion Process of fabricating Polymer matrix composite. OR	07 07
Q.5	(a)	Describe the process of synthesis of Nano-composites. Discuss unique	07
	(b)	properties exhibited by them. Explain with Schematic Filament Winding process of manufacturing of composite.	07
