Seat No.:	Enrolment No.

Subject Code: 162302

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VI • EXAMINATION - SUMMER 2015

Date:04/05/2015

Subject Name: Plastic Structure Property and Relationship Time: 10.30AM-01.00PM Instructions: Total Marks: 70			
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Define Stress, Strain, Yield point and Modulus of elasticity. Explain effect of plastics structure on Stress, Strain, Yield point and Modulus of elasticity with suitable examples.	07
	(b)	Explain in detail: Why PVC is heat sensitive material?	07
Q.2	(a) (b)	Explain effect of plasticizer on the properties of polymer. Discuss about C-H bond and its effect on properties of polymer. OR	07 07
	(b)	Discuss about structure and properties of Polystyrene.	07
Q.3	(a)	Define: (1) Hydrogen Bond (2) Covalent Bond (3) Metallic bond (4) Induced dipole bonding (5) Polar bond (6) Ionic Bond (7) Vader Waal forces	07
	(b)	Explain how the structure of a polymer affects its chemical properties OR	07
Q.3	(a)	Explain effect of plastic structure on dielectric constant, power factor and dissipation factor.	07
	(b)	Write chemical structure of Polycarbonate (PC). Why PC is transparent? Explain	07
Q.4	(a) (b)	Discuss effect of crystallinity on polymer structure. What is Glass Transition Temperature (Tg)? Explain about factors affecting on it in detail.	07 07
		OR	
Q.4	(a) (b)	Explain effect of molecular weight on the properties of polymer. Discuss effect of Oxygen on Polymer properties.	07 07
Q.5	(a) (b)	Explain effect of structure on properties of nylon 6 and nylon 66. Explain effect of molecular orientation on properties of Polymer OR	07 07
Q.5	(a) (b)	Discuss effect of Fluorine (F) and Silicone (S) on polymer properties Explain about Linearity, branching and cross-linking of polymer and its effect on the properties of polymer?	07 07
