Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 2712401

Subject Name: Plastics Materials Time: 2:30 pm to 5:00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. **Q.1** (a) Describe the manufacturing process of Polypropylene by Ziegler Natta process 07 with diagram. Give its general properties, manufacturers list with trade names (b) With help of flow diagram, describe the emulsion process for manufacturing 07 PVC. What are the main advantages and disadvantages of this process? **Q.2** (a) Describe the production process of unsaturated polyester resin and its properties **07** (b) How Nylon 6 and Nylon 66 are prepared and give their applications? Explain in 07 details the important properties, processing characteristics and applications of Liquid crystal polymer (LCP). OR **(b)** Write down the important properties, processing characteristics and applications 07 of polyacetal. Explain in details the Conducting polymer. List various conducting polymers 0.3 (a) 07 and give their applications. (b) Give the structure of polysulphone and give their characteristics and 07 applications OR 0.3 (a) How epoxy resins are produced and describe their applications. **07** (b) Explain in details about structure property relationship of Teflon **07** Why polyimide (PI) is called a high performance polymer? Give detailed 07 0.4 (a) properties and applications of polyimide. **(b)** How styrene is made and describes the methods of producing Polystyrene (PS)? **07** OR (a) How polycarbonates are made and give its properties? **Q.4** 07 (b) Explain the manufacturing process of Melamine Formaldehyde resin 07 0.5 Explain the properties and applications of PPO 07 (a) Write down the important properties and processing characteristics and **07** applications of PEEK.

Date:04/01/2017

		OR	
Q.5	(a)	Describe the differences in between Chain and Step polymerization processes?	07
	(b)	Give the structure of polysulphone and give their characteristics and	07
		applications	
