Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I • EXAMINATION – WINTER 2014

Subject Code: 2712401 **Date: 07/01/2015**

Subject Name: PLASTICS MATERIALS

Time:2:30 to 5:00 **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)**	With help of flow diagram, describe the emulsion process for manufacturing PVC. What are the main advantages and disadvantages of this process?	**07**
	(b)	What are the differences between Chain and Step polymerization processes?	**07**
Q.2	**(a)**	Describe the manufacturing process of Polypropylene by Ziegler Natta process with diagram. Give its general properties, manufacturers list with trade names.	**07**
	(b)	Describe the production process of unsaturated polyester resin and its properties.	**07**
		OR	
	(b)	How Nylon 6 and Nylon 66 are prepared and give their applications?	**07**
Q.3	**(a)**	Write down the important properties, processing characteristics and applications of PEEK.	**07**
	(b)	Write short notes on (I) PTFE (II) PCTFE	**07**
		OR	
Q.3	**(a)**	Describe the production process of unsaturated polyester resin and its properties.	**07**
	(b)	How polycarbonates are made and give its properties?	**07**
Q.4	**(a)**	Explain in details the important properties, processing characteristics and applications of Liquid crystal polymer (LCP).	**07**
	(b)	How styrene is made and describes the methods of producing Polystyrene (PS)?	**07**
		OR	
Q.4	**(a)**	Explain the manufacturing process of Melamine Formaldehyde resin.	**07**
	(b)	Name some fluorine containing polymers and give their molecular structures. What are the specific characteristics related to their molecular structures?	**07**
Q.5	**(a)**	How epoxy resins are produced and describe their applications.	**07**
	(b)	Explain the manufacturing process of Polyurethane and Silicones.	**07**
		OR	
Q.5	**(a)**	Explain in details the Conducting polymer. List various conducting polymers and give their applications.	**07**
	(b)	Write short notes on (I) PVF (II) PVDF	**07**

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