Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – IV • EXAMINATION – WINTER 2012

Subject code: 142801 **Date: 27/12/2012**

Subject Name: Manufacturing and Applications of Polymeric Materials

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Discuss the properties of Polyethoxylates with their applications in textile processing.	**07**
	(b)	Describe the manufacturing process of DMEU with its textile applications.	**07**
Q.2	**(a)**	Justify the position of silicone polymers in textile finishing.	**10**
	(b)	Discuss the suitability of Urea formaldehyde resin as cross linking agents.	**04**
		OR	
	(b)	Discuss the use of PE in textile lamination and coating.	**04**
Q.3	**(a)**	Justify the suitability of polyacrylates in textile sizing and finishing.	**07**
	(b)	Discuss the use of polyacrylates as SAP with any one method of it's manufacturing.	**07**
		OR	
Q.3	**(a)**	State the difference between compact normal and dry blend grades of PVC. Describe in brief, the process for manufacturing of PVC.	**07**
	(b)	Describe in brief, high pressure and slurry process for manufacturing of PE.	**07**
Q.4	**(a)**	Describe various manufacturing processes of U.F. precondensate.	**07**
	(b)	What is Polysol? Describe the process for its manufacturing with technical aspects.	**07**
		OR	
Q.4	**(a)**	Elaborately discuss the chemistry, properties and applications of Polyethylene glycols.	**07**
	(b)	What difference between silicon and silicone? Describe the general chemistry of silicones.	**07**
Q.5	**(a)**	What are PH and FH grades of PVA? Describe the process for manufacturing of PVA.	**07**
	(b)	What are silicone fluids? Discuss various technological aspects associated with its applications.	**07**
		OR	
Q.5	**(a)**	With block diagram, describe the process for manufacturing of polymethyl methacrylate by emulsion polymerization.	**07**
	(b)	Discuss the textile applications of PVC.	**07**

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