

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 its 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**
