

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. E. Sem. – IV - Examination –June- 2011****Subject code: 142801****Subject Name: Manufacturing & Applications Of Polymeric Materials****Date:06/06/2011****Time: 10.30 am – 01.00 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) Enlist various applications of Polyvinyl alcohol. Discuss the application of PVA in preparation of printing screens. **10**
- (b) Describe applications of urea - formaldehyde resin as a cross linking agent. **04**
- Q.2** (a) Describe in detail the gelling and non-gelling type water repellent silicone finishes. **10**
- (b) Write in brief the techno-chemical aspects of silicone emulsions. **04**
- OR**
- (b) Discuss various applications of polyethylene glycols. **04**
- Q.3** (a) Describe the process for preparation of Polymethyl methacrylate with the flow sheet diagram. **07**
- (b) Justify the position of polyacrylates in textile printing binder. **07**
- OR**
- Q.3** (a) Discuss various applications of Polyvinylchloride. **07**
- (b) Describe in detail the manufacturing processes of DMEU. **07**
- Q.4** (a) Describe various manufacturing processes of U.F. precondensate. **07**
- (b) Describe the process for preparation of polyvinyl acetate emulsion with its application in textile finishing. **07**
- OR**
- Q.4** (a) Describe the process for synthesis of Polyvinyl alcohol with chemistry and the technological aspects involved. **07**
- (b) What difference between silicon and silicone? Describe the general chemistry of silicones. **07**
- Q.5** (a) Describe the manufacturing process of Polyethylene by high pressure process. **07**
- (b) Describe various techno-chemical aspects of silicone fluids. **07**
- OR**
- Q.5** (a) Describe the process for preparation of polyethoxylate non ionic surfactants with the technological aspects involved. **07**
- (b) Discuss the suitability of polyacrylates in textile warp sizing and finishing. **07**

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