

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June 2010

Subject code: 142801

Subject Name: Manufacturing & Applications of Polymeric Materials

Date: 17 / 06 /2010

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) Describe various manufacturing processes of U.F. precondensate. 07
(b) Describe various applications of urea - formaldehyde resin. 07

- Q.2** (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

- (b) Discuss the suitability of polyacrylates in textile warp sizing and finishing. 07

- Q.3** (a) Describe in detail the gelling and non-gelling type water repellent silicone finishes. 07
(b) Describe in brief the chemistry, manufacturing process and various applications of melamine formaldehyde resin. 07

OR

- Q.3** (a) Describe various techno-chemical aspects of silicone fluids. 07
(b) Describe in detail the manufacturing processes of DMEU. 07

- Q.4** (a) Enlist various applications of Polyvinyl alcohol. Discuss the application of PVA in preparation of printing screens. 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) Describe the process for manufacturing of PVC by suspension polymerization. 07

- Q.5** (a) Describe the manufacturing process of Polyethylene by high pressure process. 07
(b) Discuss various applications of Polyvinylchloride. 07

OR

- Q.5** (a) Describe the process for preparation of polyethoxylate non ionic surfactants with the technological aspects involved. 07
(b) Discuss the properties and textile applications of polyethylene glycols. 07
