

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – SUMMER • 2014****Subject Code: 142801****Date: 16-06-2014****Subject Name: Manufacturing and Applications of Polymeric Materials****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) What is polysol? Describe its manufacturing process. **07**
(b) Describe the chemistry and applications of melamine formaldehyde pre condensate. **07**

- Q.2** (a) Name the starting material of PVA. **07**
Describe elaborately the manufacturing of PVA.
(b) With flow chart and recipe, describe the manufacturing of polyvinyl chloride by suspension polymerization. **07**

OR

- (b) Describe various techno-chemical aspects of superabsorbent polymer. **07**
- Q.3** (a) State various textile and allied applications of polyvinyl chloride. **07**
(b) Justify the position of polyacrylates as print table adhesives and soil releasing agents. **07**

OR

- Q.3** (a) Describe the manufacturing and applications of DMDHEU. **07**
(b) Describe in detail the manufacturing processes of DMEU. **07**

- Q.4** (a) Discuss about the suitability of polyacrylate polymers as printing binders and sizing agent. **07**
(b) Describe in detail the gelling and non-gelling type water repellant silicone finishes. **07**

OR

- Q.4** (a) Describe various techno-chemical aspects of silicone emulsions **07**
(b) Throw light on chemistry of ethylene oxide condensation products. **07**
Discuss their properties and textile applications.

- Q.5** (a) Describe various manufacturing processes of U.F. precondensate. **07**
(b) Elaborately discuss about the chemistry, properties and textile applications of PEG. **07**

OR

- Q.5** (a) Name two grades PVA. **08**
Discuss the applications of PVA in textile printing and finishing.
(b) Give a brief account on the chemistry and properties of silicone. **07**
