

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – SUMMER 2013****Subject Code: 142801****Date: 07-06-2013****Subject Name: Manufacturing and Applications of Polymeric Material****Time: 10:30am – 01:00pm****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) Answer the following objective questions. **10**
- i. Show the reaction scheme of DHEU.
 - ii. What is difference between UF precondensate and DMU?
 - iii. -----resins are prone to chlorine damage.
 - iv. What is difference between silicon and silicone?
 - v. What is meaning of FH and PH grades of PVA?
 - vi. Printing binders are generally prepared by _____ polymerization.
 - vii. Name two initiators, one for aqueous and one for non aqueous system of polymerization.
 - viii. Print table adhesives normally based on _____ polymers.
 - ix. What is compact normal PVC?
 - x. Polyethylene possesses good chemical and UV resistance, true or false? Correct if false.
- (b) State various draw backs of DMU. **04**
- Q.2** (a) Describe various manufacturing processes of U.F. precondensate. **07**
- (b) With flow chart and recipe, describe the manufacturing of PVC by suspension polymerization. **07**
- OR**
- (b) Describe various techno-chemical aspects of silicone fluids. **07**
- Q.3** (a) Discuss, textile applications of polyvinyl chloride. **07**
- (b) Describe the chemistry and applications of M.F. pre condensate. **07**
- OR**
- Q.3** (a) Describe the manufacturing and applications of DMDHEU. **07**
- (b) Give the method for synthesis of polysol. **07**
- Q.4** (a) What is superabsorbant? What are its applications? Describe the method for preparation of super absorbent polymer. **07**
- (b) Discuss about the chemistry, properties and various grades of Polyvinyl alcohol. Also discuss its application in textile finishing. **07**
- OR**
- Q.4** (a) Discuss about the suitability of polyacrylate polymers as printing binders and sizing agent. **07**
- (b) Throw light on chemistry of ethylene oxide condensation products. Discuss their properties and textile applications. **07**
- Q.5** (a) Describe in detail the manufacturing processes of DMEU. **07**
- (b) Elaborately discuss about the chemistry, properties and textile applications of PEG. **07**
- OR**
- Q.5** (a) Justify the position of polyacrylates as print table adhesives and soil releasing agents. **08**
- (b) Give the method for preparation of polyvinyl alcohol. **06**
