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Seat No.:	Enrolment No.

Subject code: 142801

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **B.E. SEMESTER-IV EXAMINATION-SUMMER 2015**

Date: 05/06/2015

	-	Name: MANUFACTURING & APPLICATIONS OF POLYMERIC MATERIAL 0.30am-01.00pm Total Marks: 70	
Ins	1. 2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a) (b)	Describe various techno-chemical aspects of superabsorbent polymers. Describe in detail the manufacturing processes of DMEU.	07 07
Q.2	(a) (b)	Describe various applications of urea - formaldehyde resin.  Describe one manufacturing process of DMU. State the limitations of DMU.  OR	07 07
	<b>(b)</b>	Describe the manufacturing process of polyvinyl acetate.	07
Q.3	(a) (b)	Discuss elaborately the chemistry, properties and textile applications of PEG. State various methods manufacturing of polyvinyl chloride. Describe in detail suspension polymerization method.	07 07
Q.3	(a) (b)	OR  Describe the chemistry, properties and various applications of silicone fluids.  Describe in detail the gelling and non-gelling type water repellant silicone finishes.	07 07
Q.4	<ul><li>(a)</li><li>(b)</li></ul>	Describe the chemistry, manufacturing process and various applications of melamine formaldehyde resin.  Describe the manufacturing and applications of dimethylol dihydroxy ethylene urea.	07 07
		OR	
Q.4	(a) (b)	State the precursor of PVA. Describe its manufacturing process in detail.  Describe any one manufacturing process of polyethylene while mentioning various textile and non textile applications.	07 07
Q.5	(a)	Discuss with proper justification the applicability of polyacrylates as blanket adhesive and soil releasing agent.	07
	<b>(b)</b>	Describe in detail the chemistry, properties and textile applications of ethylene oxide condensation products.	07
Q.5	(a)	<b>OR</b> What is a printing binder? Describe the process for preparation of acrylate binder	07
۷.5	(a)	by emulsion polymerization.	U/
	<b>(b)</b>	Describe with flow chart the manufacturing process of PVC.	07

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