Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) • EXAMINATION – WINTER 2016

Subject Code:2142306 **Date:21/11/2016**

Subject Name:Manufacturing of plastics Material-2

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1		Short Questions	14
	1	Give advantages of Bulk Polymerization.	
	2	Polyphenylene sulfide (PPS) is an engineering thermoplastic that is characterized by high temperature stability.- True or False	
	3	Enlist polymers which can be biodegradable.	
	4	Which monomers are used in manufacturing of Nylon 66?	
	5	What is the density of PTFE?	
	6	By which method PE can be manufactured?	
	7	Polymer obtained from Reaction between Dimethyl Terephthalate (DMT) and Ethylene Glycol is called _____.	
	8	Define the term Distillation.	
	9	Thermoplastics can be recycling, why?	
	10	Give structure of PEEK.	
	11	Enlist Factors affecting Plant Layout.	
	12	Give full name of HIPS.	
	13	What is Ziegler Natta catalyst?	
	14	Give the example of Ter-Polymer	
Q.2	(a)	What are the main Objectives of a good plant layout?	03
	(b)	Compare : Addition Polymerization with Condensation Polymerization	04
	(c)	Explain Emulsion Polymerization Technique. Give its advantages and disadvantages.	07
		OR	
	(c)	Explain Suspension Polymerization Technique. Give its advantages and disadvantages.	07
Q.3	(a)	Define Leaching, Extraction and Crystallization.	03
	(b)	What is Unit operation? Give monomer purification process for PS.	04
	(c)	Define: Engineering Plastics. Give general comparison of Engineering plastics with Commodity plastics.	07
		OR	
Q.3	(a)	Explain different kinds of Polyethylene (PE) with their structure.	03
	(b)	Give properties and applications of ABS.	04
	(c)	Discuss the manufacture of Polystyrene with neat layout	07
Q.4	(a)	Give properties and applications of PVC.	03
	(b)	Discuss properties and applications of PP homopolymers and Copolymers.	04
	(c)	Discuss in detail the High Pressure Process for manufacture of LDPE resins.	07
		OR	
Q.4	(a)	Discuss properties and applications of PET resin.	03
	(b)	Give applications of PPS and PEEK.	04
	(c)	Explain Manufacturing process for Nylon-6 with flow chart.	07
Q.5	(a)	Provide chemical structure for PAN, SAN and ABS.	03

	(b)	Discuss properties and Applications of Nylon-66	04
	(c)	Which are the monomers of PC? Write polymerization reaction of PC. List the properties of PC.	07

OR

Q.5	(a)	List the properties and application of PTFE.	03
	(b)	Give common structure of Polyacetal. Discuss its properties and applications.	04
	(c)	Discuss manufacture of PVC resin in detail.	07

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