Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III(New) EXAMINATION – SUMMER 2016

Subject Code:2132302 **Date:31/05/2016**

Subject Name:Manufacturing of Plastic Materials-1

Time:10:30 AM to 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.**

			MARKS
Q.1		**Short Questions**	**14**
	1	Define Monomer. List any two monomer used for manufacture thermoset plastics.	
	2	_____ was the first synthetic plastics made by Henry Backeland.	
	3	How polymer classified with respect to their thermal behavior?	
	4	Define Curing.	
	5	Define Thermoplastics. Give two example of Thermoplastics material.	
	6	Define Thermosets. Give two example of Thermosets material.	
	7	The polymers of silicone are produced by _____ polymerization.[Addition/Condensation]	
	8	Why Urea formaldehyde is suitable for Electrical fittings?	
	9	The most important synthetic process for production of phenol is (a) Cumene process (b) sulphonation process (c) Rasching process	
	10	The Novalaks are prepared by_____. [Acidic condensation /Basic condensation]	
	11	Which type of filler used to improve the electrical insulation properties in PF molding? (a) Silica (b) mica with asbestos (c) china clay	
	12	Molding from MF has lower hardness than molding from PP. [True/False]	
	13	Give full form of PF and MF.	
	14	Which of the following is a thermoset? (a) Ebonite (b) PC (c) HDPE (d) PEEK	
Q.2	**(a)**	Give at least three point for comparison of thermoplastic and thermosets.	**03**
	(b)	Give chemical formula of ethylene, propylene, urea and ammonia.	**04**
	(c)	Explain Neptha cracking with flow diagram.	**07**
		OR	
	(c)	Explain Basic Rheological characteristics of Thermoset material.	**07**
Q.3	**(a)**	List application of Epoxy.	**03**

	(b)	List properties of Epoxy.	**04**
	(c)	Explain manufacturing process of Epoxy Resin.	**07**
		OR	
Q.3	**(a)**	Give chemical structure of Phenol and Formaldehyde.	**03**
	(b)	List properties of phenol formaldehyde.	**04**
	(c)	Explain manufacturing process of Phenol.	**07**
Q.4	**(a)**	List properties of MF.	**03**
	(b)	List application of MF.	**04**
	(c)	Explain manufacturing process of Silicon.	**07**
		OR	
Q.4	**(a)**	List properties of Silicon.	**03**
	(b)	List application of Silicon.	**04**
	(c)	Explain manufacturing process of MF with flow diagram.	**07**
Q.5	**(a)**	Give chemical reaction to produced Polyester resin.	**03**
	(b)	List application of Polyester resin.	**04**
	(c)	List properties of Polyurethane.	**07**
		OR	
Q.5	**(a)**	Draw chemical structure of Urea and formaldehyde.	**03**
	(b)	List properties of UF.	**04**
	(c)	Explain manufacturing process of UF with flow diagram.	**07**

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