

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 3132304****Date: 30/11/2019****Subject Name: Thermoset Plastics: Materials and Processing Techniques****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	(a) List the basic characteristics of Thermoset Molding materials.	03
	(b) Define i) Preforms ii) Bulk factor iii) Preheating	04
	(c) Explain the manufacturing process of MF resin with a neat flow diagram.	07
Q.2	(a) Explain the preparation of Melamine and Formaldehyde monomers.	03
	(b) Differentiate between Thermoplastics and Thermoset materials.	04
	(c) Explain various preparation techniques of Phenol monomer.	07
	OR	
	(c) Explain the preparation and curing mechanism of Epoxy resin.	07
Q.3	(a) Explain briefly about bulk factor of a material.	03
	(b) List the properties and applications of Silicon.	04
	(c) Explain the properties, processing characteristics and applications of UF resin	07
	OR	
Q.3	(a) Explain briefly about Breathing in Compression Molding Process.	03
	(b) Draw a neat sketch of the Pot type transfer mold.	04
	(c) Explain the raw material preparation and curing mechanism of UF resin.	07
Q.4	(a) Explain briefly, the steps in compression molding.	03
	(b) List the properties and applications of PF resin.	04
	(c) Determine the height of powder well for a semi positive landed compression mold for a cylindrical hollow product having outer diameter 20mm and inner diameter 18mm. The height of the product is 14 mm. The bulk factor of the material is 6 and the land width is 5mm.	07
	OR	
Q.4	(a) List the advantages of Preforms.	03
	(b) Explain about the importance Preheating and its methods.	04
	(c) List and explain the advantages and disadvantages of Transfer Molding.	07
Q.5	(a) Explain about Height of Powder well.	03
	(b) List the properties and applications of Epoxy resin.	04
	(c) Write a short note on Positive type compression mold.	07

- Q.5
- (a) Differentiate between Novolac and Resols. **03**
 - (b) Explain the properties and applications of unsaturated polyester resin. **04**
 - (c) Write a short note on Semi-Positive type compression mold. **07**

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