Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (New) EXAMINATION – WINTER 2015

Subject Code:2142301 **Date:06/01/2016**

Subject Name: Basic Plastic Processing & Thermal Engineering

Time: 02:30pm to 05:00pm **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)**	Define the term Plastic Processing. List out the various methods used for processing of Thermoplastic and Thermoset materials.	**07**
	(b)	Discuss the material selection criteria for Thermoforming Process.	**07**
Q.2	**(a)**	Give the classification of Blow Molding Process. Explain Continuous Extrusion Blow Molding Process with neat sketch.	**07**
	(b)	List the types of Mold used for Compression Molding. Explain Positive Mold with Neat sketch.	**07**
		OR	
	(b)	Explain in brief: (1) Bulk Factor (2) Preforms	**07**
Q.3	**(a)**	State and explain the Stefan Boltzmann Law for the rate of heat radiation from black body to another black body.	**07**
	(b)	Define: Conduction, Convection & Thermal Radiation. Explain Fourier's Law of Heat Transfer.	**07**
		OR	
Q.3	**(a)**	Explain Stretch Blow molding process with neat sketch.	**07**
	(b)	Compare: Compression Molding with Transfer Molding	**07**
Q.4	**(a)**	Define Thermoforming. List the Process steps of it. Explain about Blister Packaging.	**07**
	(b)	List and Explain about variables of Plug Assist forming process.	**07**
		OR	
Q.4	**(a)**	What is parison programming? Explain about it in detail with necessary sketch.	**07**
	(b)	Explain Pot type transfer molding process with neat sketch.	**07**
Q.5	**(a)**	Why preheating of a material is required? Explain various process variables for compression molding process.	**07**
	(b)	Explain Intermittent Extrusion blow molding process with neat sketch.	**07**
		OR	
Q.5	**(a)**	List the types of Heat Exchanger. Explain any two in detail.	**07**
	(b)	Explain: (1) Straight Forming (2) Match tool Forming	**07**

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