

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2142301****Date: 30/05/2017****Subject Name: Basic Plastic Processing and Thermal Engineering****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 Compression Molding.	
	2 Products like acrylic trays & disposable glasses are made by the _____ process.	
	3 What is flash in compression molding.	
	4 Soft drink bottles made by PET are manufactured by _____ process.	
	5 What is preheating?	
	6 Product like overhead water storage tanks are manufactured by _____ process.	
	7 Define conduction?	
	8 What is a parison?	
	9 _____ & _____ are the materials used in the manufacture of blow molded articles.	
	10 What do you mean by breathing in compression molding?	
	11 Define Transfer Molding?	
	12 Strength of stretch blow molded bottles is more in comparison to normal blow molded bottles. (True/False)	
	13 _____ & _____ are the materials which can be processed by compression molding.	
	14 Insert molding can be done by transfer molding process. (True/False)	
Q.2	(a) What is bulk factor? Explain in brief.	03
	(b) What is plastic processing. List out various methods used for processing of thermoplastics & thermosets materials.	04
	(c) Define conduction, convection & radiation. Explain Fourier's law of heat transfer.	07
	OR	
	(c) What is a heat exchanger? List the types of heat exchanger and explain any one.	07
Q.3	(a) What are performs? Explain them briefly.	03
	(b) List four points of difference between thermoplastics & thermosets.	04
	(c) List the types of mold used for compression molding. Explain any one with a neat sketch.	07
	OR	
Q.3	(a) Define core, cavity and pinch-off.	03

	(b)	Discuss the properties of materials required for thermoforming process.	04
	(c)	Discuss the steps in compression molding process along with advantages and disadvantages.	07
Q.4	(a)	Differentiate between Injection Blow Molding and Extrusion Blow Molding.	03
	(b)	Enlist the advantages and disadvantages of transfer molding process.	04
	(c)	Explain continuous extrusion blow molding process with a neat sketch.	07
OR			
Q.4	(a)	Discuss three problems, causes and remedies of compression molding.	03
	(b)	Compare blow molding with rotational molding.	04
	(c)	Explain pot type transfer molding process with neat sketch.	07
Q.5	(a)	Define rotational molding. Give its advantages & disadvantages and list the materials used in rotational molding process.	03
	(b)	Explain rotational molding process briefly.	04
	(c)	Explain parison programming in detail.	07
OR			
Q.5	(a)	Define thermoforming. Give its advantages and disadvantages and list the types of thermoforming processes.	03
	(b)	Explain the vacuum forming process.	04
	(c)	Explain plug assist thermoforming process with a diagram.	07
