Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– 2 EXAMINATION – SUMMER - 2023

Subject Code:3722411 Date:13 Jul 2023

Subject Name: Plastics Packaging Technology

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.**

Q.1	**(a)**	What is packaging? Explain the purpose & functions of packaging.	**07**
	(b)	Explain the properties & applications of PP used as a packaging material.	**07**
Q.2	**(a)**	With a neat diagram explain the blown film manufacturing process to manufacture films used for packaging.	**07**
	(b)	Explain about Nylon and PS films used for packaging	**07**
		OR	
	(b)	With a neat sketch explain the injection stretch blow molding process to manufacture bottles used for packaging.	**07**
Q.3	**(a)**	Explain the Water Vapor Transmission Rate test to measure the migration resistance of a material.	**07**
	(b)	Explain the properties & applications of LDPE, LLDPE & HDPE used as a packaging material.	**07**
		OR	
Q.3	**(a)**	Discuss about stretch wrap and shrink wrap films used for packaging.	**07**
	(b)	Explain about properties & applications of PVC used as a packaging material.	**07**
Q.4	**(a)**	List the points of difference between Injection and Extrusion blow molding techniques used for making packaging products.	**07**
	(b)	Explain about the following processes used for printing on packaging products. i) Pad printing process ii) Hot stamping process	**07**
		OR	
Q.4	**(a)**	Write a short note on plug assist vacuum forming technique used to convert raw material to a packaging product.	**07**
	(b)	Explain the rotogravure printing process used for multicolor printing process on packaging materials.	**07**
Q.5	**(a)**	With a neat diagram explain the scrap less thermoforming process used for packaging.	**07**
	(b)	Write a short note on extrusion lamination process.	**07**
		OR	
Q.5	**(a)**	Write a short note on Tear Strength and Burst strength used to test plastic films used for packaging.	**07**
	(b)	Explain recycling of plastic films and containers.	**07**

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