Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – III • EXAMINATION – WINTER • 2013

Subject code: 732401 **Date: 28-11-2013**

Subject Name: Plastics Packaging Technology

Time: 10.30 am – 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)**	Enumerate polymers commonly used in packaging industry with its applications and properties.	**07**
	(b)	Write a short note on extrusion blow moulding technique.	**07**
Q.2	**(a)**	What is the yield of film? Calculate the yield of 25.4 μm Polypropylene film. (S.G 0.9 g/cm^3)	**07**
	(b)	Give the properties and applications of polyesters in packaging.	**07**
		OR	
	(b)	Define packaging. List and explain about types of packaging.	**07**
Q.3	**(a)**	Write a short note on skin pack and blister pack.	**07**
	(b)	Discuss in detail about the injection blow moulding process.	**07**
		OR	
Q.3	**(a)**	Why the surface treatment is required for the printing? Explain with suitable examples.	**07**
	(b)	What are barrier properties? Explain procedure to determine it for the plastic film.	**07**
Q.4	**(a)**	Explain tensile test conducted on plastic film for packaging purpose.	**07**
	(b)	Compare extrusion blow molding and stretch blow molding with respect to packaging industry.	**07**
		OR	
Q.4	**(a)**	Explain the plugassisted vacuum forming technique. Give its advantages and disadvantages.	**07**
	(b)	Write a short note on optical properties of the packaging materials.	**07**
Q.5	**(a)**	Explain in detail about the different types of printing techniques.	**07**
	(b)	Explain the terms : shrink pack, blister pack, orientation, skin pack, vacuum pack, stretch blow moulding	**07**
		OR	
Q.5	**(a)**	Discuss the environment related issues due to plastic packaging materials.	**07**
	(b)	Write short note with respect to packaging. 1) Offset printing 2) Screen printing	**07**

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