Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 171401 **Date: 26/12/2012**

Subject Name: Food Packaging Technology

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Answer in brief:	
		"Packaging is scientific and artistic segment of marketing." Explain?	**04**
		What are the problems associated wood as packaging material?	**03**
	(b)	"Packaging means value addition for all stake holders." For whom and How?	**07**
Q.2	**(a)**	What are the requirements for an ideal package?	**07**
	(b)	Compare glass, paper and aluminum as packaging material for liquid food products in terms of compatibility, cost and environment friendliness.	**07**
	OR		
	(b)	List the information required to develop a good package.	**07**
Q.3	**(a)**	Write short notes on-	
		PET	**04**
		Grease proof paper	**03**
	(b)	Write anote on blister packaging. How it can be used in food packaging?	**07**
		OR	
Q.3	**(a)**	i. List basic types of metal plates used in food processing packaging.	**03**
		ii. What are the things to be specified while placing the order for cans?	**04**
	(b)	Write a note on biodegradable packaging. What are its limitations?	**07**
Q.4	**(a)**	Suggest and justify suitable packaging materials for Crisp fat rich cookies Acidic fruit juices	**07**
	(b)	Discuss possible hazards and suggest step by step suitable packaging material for a product having following characteristics: Crispy, low moisture, high fat, well flavored, salty products	**07**
		OR	
Q.4	**(a)**	Suggest and justify suitable packaging materials for Freshly harvested litchi Ready to eat paranthas	**07**
	(b)	Discuss possible hazards and suggest step by step suitable packaging material for dairy products.	**07**
Q.5	**(a)**	Explain the different tests conducted for paper and paper board used for packaging.	**07**
	(b)	An aluminum foil lined cylinder (56cm diameter and 80cm high) is used to fill the bulk fruit powder (particle density 800 kg /m3) with a porosity of 34%. If in one cylinder 10 kg extra powder is filled. Calculate the per cent increase or decrease in the porosity.	**07**
		OR	
Q.5	**(a)**	Describe the components and working of Form Fill and Seal machine	**07**
	(b)	A CFB box has been designed for accommodating 5 kg apples with 30% porosity. If the same box is used to carry tomato with 50% porosity, find out how many more or less boxes will be required to carry 1200kg of tomatoes. If the true density of the apple to tomato is 1.2.	**07**

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P.T.O.