	Seat	No.: Enrolment No				
		GUJARAT TECHNOLOGICAL UNIVERSITY				
		BE - SEMESTER-III • EXAMINATION – WINTER • 2014				
	Sub	Subject Code: 131405 Date: 18-12-2014				
	Subject Name: Introduction to Food Processing Technology					
		ne: 02:30 pm – 05:00 pm Total Marks: 70				
		ructions:				
	111501	1. Attempt all questions.				
		2. Make suitable assumptions wherever necessary.				
		3. Figures to the right indicate full marks.				
Q.1	(a)	a) How many kilograms of a solution containing 10% NaCl can be obtained by	07			
		diluting 15 kg of a 20% solution with water?				
		b) Draw a diagram and set up equations representing total mass balance and				
		component mass balance for a system involving the mixing of pork (15% protein,				
		20% fat, and 63% water) and back fat (15% water, 80% fat, and 3% protein) to				
	<b>(7.</b> )	make 100 kg of a mixture containing 25% fat.	^=			
	<b>(b)</b>	Differentiate between;	07			
		<ol> <li>Wet bulb temperature and Dry bulb temperature</li> <li>Material balance and Energy balance</li> </ol>				
		3. Cleaning, Grading and Sorting				
		4. Specific heat and Sensible heat				
Q.2	(a)	Explain the importance of the following in food industry	07			
	( )	1. Cereals and Millets				
		2. Milk and milk products				
		3. Ready to eat food				
	<b>(b)</b>	In the manufacture of jam the crushed fruit is mixed with sufficient sugar to give a	<b>07</b>			
		mixture of 45 parts of fruit to 55 parts of sugar and sufficient pectin (about 0.113 kg				
		/45.35 kg of sugar) is added. The mixture is then evaporated until the soluble solids				
		are 67%. What yield of jam can be expected from a fruit which has 14% soluble solids? Considering 0.4535 kg of fruit entering the system				
		OR				
	<b>(b)</b>		07			
	(~)	different types of drying methods.	٠.			
<b>Q.3</b>	(a)	How size reduction helps in processing of food? Explain with the help of stress and	07			
		strain diagram, different property of materials. Discuss Kick's and Rittinger's law.				
	<b>(b)</b>	What do you mean by Recommended Daily Allowances (RDA) for nutrients?	07			
	(0)	Explain the importance of preservation of foods. Discuss heating method of	07			
		preservation.				
		OR				
Q.3	(a)	Justify that "Packaging is Heart of Processed Food". Discuss different types of	<b>07</b>			
		packaging materials with their advantages and disadvantages.				
	<b>(b)</b>	Draw the skeleton of psychrometric chart and explain the characteristics of that.	<b>07</b>			
		Also define Relative humidity, Specific volume, Dew point temperature.				
<b>Q.4</b>	(a)	Uses of material handling equipments in food industry. List out the advantages of	07			
	<b>(b</b> )	material handling equipments.	07			
	<b>(b)</b>	Give the name of the instruments which measure temperature, relative humidity, pressure respectively. Also state the importance of control of temperature, relative	07			
		humidity, pressure during the processing of foods.				
		OR				

<b>Q.4</b>	(a)	Write the full form of the followings;	07
	. ,	NIFTEM, FPO, CFTRI, BIS, PFA, FSSAI, ICAR	
	<b>(b)</b>	Discuss the role of egg in human diet. Explain different methods of peeling.	07
Q.5	(a)	What do you understand by canning of food products? Give importance of statutory	07
		laws in food. How they are maintained?	
	<b>(b)</b>	Define / Explain the following terms	07
	. ,	1. Nutrients, Spices, Poultry food, Meat	
		2. Chemical additive, Ready to eat food	
		3. Future growth for food in industry	
		4. Give advantages of entrepreneurship.	
		OR	
Q.5	(a)	Define pulping, peeling and blanching. What are different criteria based on which,	07
	` ,	cleaning and grading equipments are classified? Discuss any one cleaning or	
		grading equipment with diagram.	
	<b>(b)</b>	Explain industrial training concept in food industry and its benefits. What are	07
		different segments/sectors of processed food industry? Give names of any four	
		Indian Food Processing industries with their brand names.	

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