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Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

Subject Code: 2131405

**BE – SEMESTER III(NEW)– • EXAMINATION – SUMMER 2015** 

Date:27/05/2015

Su	bject	Name: Introduction to Food Processing Technology	
		2.30pm-05.00pm Total Marks: 7	0
Inst	tructio		
	1. 2. 3.	Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	State the challenges and opportunities for the Indian food processing industry. Explain how the government supports the growth of Indian food processing industry	07 07
Q.2	(a) (b)	Give the significance of Legumes and Milk & Milk products in a daily diet. What are the advantages of processing of foods? Describe various levels of processing of foods.	07 07
		OR	
	<b>(b)</b>	Describe the current approach used to assessment of energy requirement of Indian individual.	07
Q.3	(a)	Milk with 3.8% fat and 8.1% fat free solids (FFS) is used for the production of canned concentrated milk. The process includes the separation of cream in a centrifuge and concentration of the partially defatted milk in an evaporator. If the cream that is produced in the centrifuge contains 55% water, 40% fat and 5% FFS, calculate how much milk is necessary in order to produce a can of concentrated milk that contains 410g milk with 7.8% fat, 18.1% FFS. How much cream and water must be removed in the centrifuge and the evaporator respectively	07
	<b>(b)</b>	What is the difference between convection and conduction? Derive the expression for multilayered system of cylinder and also show its electrical resistance analogy.	07
0.3	( )	OR	05
Q.3	(a)	Give the importance of rheological properties application of TPA in food processing. Define Cohesiveness, Hardness and Chewiness	07
	<b>(b)</b>	Discuss the followings in brief;  1. Sensible heat  2. Angle of repose  3. Particle density  4. Importance of physical properties	07
Q.4	(a)	Give the applications of psychrometric carts and describe the essential elements of psychrometric chart with suitable diagram.	07
	<b>(b)</b>	List out different thermal properties of food material. Predict the specific heat for a model with a following composition, carbohydrate 40%, Protein 20%, fat 10%, ash 5% and moisture 25%.	07
<b>.</b> .	, .	OR	
Q.4	(a)	Write meaningful explanatory notes on the following giving suitable examples for each:  (i) Extraction  (ii) Centrifugation  (iii) Homogenization	07
		<ul><li>(iv) Water activity</li><li>(v) Solid-Liquid Leaching</li></ul>	

	<b>(b)</b>	List out the purposes to study the physical properties. Explain the application of frictional properties. Describe angle of repose.	07
Q.5	(a)	<ul><li>Write short notes on following</li><li>a. Guidelines for intake of dietary fat for Indians</li><li>b. Quality parameters for evaluating protein quality</li></ul>	07
	<b>(b)</b>	Which principles are used for determining nutritional requirements of individual?	07
		OR	
Q.5	(a)	How do you classify the food industry into different sub-sectors?	07
	<b>(b)</b>	Justify the statement "Food Processing is sunrise industry in India"	07

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