Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) - EXAMINATION - SUMMER 2017 Subject Code: 2131405 Date: 31/05/2017 **Subject Name: Introduction to Food Processing 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 Short Questions** 14 Fill in the blanks Secondary dimensions do not involve a combination of . 1 Sphericity is ______ properties. 2 3 Material balance is based on the law of . 4 _____ solution is used for peeling process. 5 Psychometric chart is designed at ______ pressure. Drying is a good method of of foods. 6 7 Bucket elevators are used to transport the material . Ball mill is used to ______ of dry food materials. 8 9 Relative humidity is expressed in ______. Superheated steam contains ______ vapors. 10 If you know any two properties of air-water vapor mixtures, you can find out 11 all other properties from _____ **12** is used in abrasion peeling. 13 Unit of specific volume is . 14 Blanching is carried out to List the importance of instrumentation and control in food industry. Also give **Q.2** 03 (a) the name of equipments used for temperature measurement and pressure **(b)** Discuss Kick's and Rittenger's law of size reduction of grains. 04 Give your views on "Effect of nutrient variability and bio-availability of nutrients on 07 RDA for Indians" OR (c) Discuss the followings in details 07 1. Formation of steam 2. Latent heat and Sensible heat 3. Specific Volume and 4. Dry Bulb Temperature 5. Mass balance

Write in brief about "Textural measurement of food".

a) Fat and protein requirements for Indiansb) Methods of evaluating protein quality

What is drying? How it helps in preservation? Discuss different advantages of

0.3

(a)

(b)

(c)

drying.

Write short notes on following

1

03

04

07

		OR	
Q.3	(a)	Describe the subjective and objective evaluation of food.	03
	(b)	State the use of psychometric chart in food processing. Draw a neat labelled diagram	04
		of psychometric chart indicating various variables.	
	(c)	What do you understand by quality control in food processing and describe	07
		various methods of food evaluation.	
Q.4 (a) V		What are different methods of sensory evaluation of food?	03
	(b)	Draw the stress strain diagram by showing the different material properties of	04
		materials.	
	(c)	Explain how energy requirements of Indians are assessed?	07
	. ,	OR	
Q.4	(a)	Write in brief about different causes of spoilage.	03
	(b)	Give the importance of blanching in the processing of fruits and	04
	` '	vegetables. Briefly discuss the working of steam blancher and	
		hot-water blancher.	
	(c)	3500 kg of mixture of hexane (H) and toluene (T), containing 50% by mass of B to	07
	(C)	be separated in to two streams in a distillation column contains 375kg of B and the	
		bottom output stream contains 515 kg of T.	
		1. Perform mass balance for H and T	
		2. Determine the composition of the top and bottom streams	
Q.5	(a)	State the need and importance of industrial training and exposure in the field of food	03
		processing.	
	(b)	Discuss the criteria based on which, cleaning and grading	04
		equipments are classified	
	(c)	Discuss the Government initiatives for development of food processing industry in	07
	(0)	India.	٠.
		OR	
Q.5	(a)	Discuss all methods of peeling in detail.	03
•	(b)	Justify the statement "Food processing is inter-disciplinary subject".	04
	(c)	Draw the skeleton of Psychrometric Chart. Explain the application of Psychrometric	07
	(-)	Chart in food processing technology.	