Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (New) EXAMINATION - WINTER 2015

Subject Code:2131408 Date:05/01/2010			
Sı	ubje	ct Name: Basics of Food Engineering	
Ti	me:	2:30pm to 5:00pm Total Marks: 70	
In	struct	tions:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Ο 1		State the following contanges are TDITE or Folco	14
Q.1		State the following sentences are TRUE or False 1. Material balance is based on law of conservation of mass.	14
		 National balance is based on law of conservation of mass. Roundness is physical property 	
		3. Relative humidity is represented in percentage	
		4. Blanching is used to preserve the food products.	
		5. Drying is an ancient methods of food preservation technique	
		6. Lye peeling is done at a temperature of 90°C	
		7. Red colour of tomato is due to lycopene	
		8. Ball mill is used for size reduction	
		9. Cleaning and Grading is a unit operation.	
		10. Gumminess is textural properties of food material.	
		11. Terminal velocity is aerodynamic properties	
		12. Frictional properties are used to design the storage structure	
		13. Viscosity affects the rheological properties.14. Carbohydrate is the major energy source in the body.	
Q.2	(a)	• • • • • • • • • • • • • • • • • • • •	03
~	(4)	1. Dry bulb	00
		2. Wet bulb temperature	
		r	
	(b)	Discuss the followings with details	04
		1. Material and Energy balance	
		2. Pasteurization and Sterilization	
	(c)	•	07
		Nutrients, Spices, Poultry food, Chemical additive, Ready to eat food, Meat,	
		Pasteurization.	
	(c)	OR Give importance of	07
	(C)	1. Condiments and spices.	07
		2. Give uses of nuts and oil seeds.	
		3. Discuss the role of egg in human diet.	
Q.3	(a)		03
	(b)		04
		classified?	
	(c)	Give the importance of blanching in the processing of fruits and vegetables.	07
		Briefly discuss the working of steam blancher and hot-water blancher.	
		OR	0.2
Q.3	(a)	Discuss statutory laws for food industry.	03
	(b) (c)	Explain recommended daily allowance for nutrients. Explain the importance of material handling in food processing. Discuss the	04 07
	(6)	different equipments involved in handling of food products.	07
Q.4	(a)	What do you understand by food preservation?	03
V	(b)	Enlist different methods of preservation and discuss the heating methods of preservation.	04
	(c)		07

seed grader with diagrai	m.
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Q.4	(a)	List out the importance of size reduction in food industry.	03
	(b)	Discuss the different laws used to calculate the energy requirement in size reduction.	04
	(c)	Write the full form of PFA, FPO, ISI, BIS, ISO, APEDA and EIC	07
Q.5	(a)	Discuss the following:	03
		a) Hot water blanching and its purpose.	
		b) Homogenization.	
	(b)	Explain the followings	04
		a) Spoilage Microorganisms	
		b) Heat Convection	
	(c)	Why instrumentations and control is important in food industry? Give the name of	07
		pressure measuring instruments.	
		OR	
Q.5	(a)	Discuss entrepreneurship. Give requirements of smart entrepreneur.	03
	(b)	Discuss status and prospects of food processing in Gujarat and state the present priority sectors.	04
	(c)	Write short notes on human foods. Discuss foods for adults, children and patient.	07