Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – SUMMER 2013

Subject Code: 181402 **Date: 13/05/2013**

Subject Name: Horticultural Produce Processing

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	**(a)**	Scientifically justify following statements a. Fruits and vegetables are considered as living commodities. b. One third quantity of sugar is added in initial stage during tomato ketchup manufacture. c. Respiration is considered as most significant metabolic process. d. Leafy vegetables has comparatively less shelf life than tubers like potato.	**08**
	(b)	Differentiate following: (i) Photosynthesis and Respiration (ii)Climacteric and Non climacteric fruits	**06**
Q.2	**(a)**	Define respiratory quotient and write a note on respiratory substrates.	**07**
	(b)	Explain the discolourations of canned products caused by different metals.	**07**
		OR	
	(b)	Explain in detail the role of pectinol in juice clarification.	**07**
Q.3	**(a)**	Describe the pickling process and discuss various types of pickles.	**07**
	(b)	Justify the statement ñIn controlled atmosphere storage oxygen concentration cannot be decreased and carbon dioxide concentration cannot be increased after certain critical levels for some commoditiesò.	**07**
		OR	
Q.3	**(a)**	Give the flow diagram for preparation of tomato ketchup with important process parameters and typical recipe.	**07**
	(b)	Enlist factors affecting rate of respiration and discuss any two in detail.	**07**
Q.4	**(a)**	Write remedies for the following defects of jam: 1 Sticky or gummy jam. 2. Premature setting of jam. 3. Surface graining and shrinkage in jam. 4. Crystallization in jam.	**08**
	(b)	Explain the fibril theory of gel formation in jelly.	**06**
		OR	
Q.4	**(a)**	Write short notes on : 1. Germ proof filtration of cold juices. 2. Blanching of fruits and vegetables.	**08**
	(b)	Explain the following: 1. Coloured juices are preserved with Sodium benzoate. 2. Role of pectin in jelly.	**06**
Q.5	**(a)**	Define canning and explain the process for mango pulp canning.	**07**
	(b)	Write the different types of jelly and explain the factors affecting the strength of jelly.	**07**
		OR	
Q.5	**(a)**	Explain the following: 1. Effect of altitude on processing time in canning. 2. Effect of acidity on sterilization of canned product.	**07**
	(b)	Write the necessary precautions to be taken to avoid the formation of hydrogen swell and perforation in canned products.	**04**
	(c)	Write the ideal characteristics of jelly.	**03**

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