

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3171407

Date:19-12-2023

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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1**
- | | | |
|-----|---|-----------|
| (a) | Enlist the various effects of respiration process on fruits and briefly explain anyone. | 03 |
| (b) | What is deaeration? Explain the importance of deaeration of juices. | 04 |
| (c) | Enlist the spoilage indicators of canned products and explain any three. | 07 |

- Q.2**
- | | | |
|-----|--|-----------|
| (a) | Distinguish between photosynthesis and respiration. | 03 |
| (b) | Explain the different stages in the life of fruits and vegetables. | 04 |
| (c) | Explain the influence of ripening on the taste and textural changes in fruits? | 07 |

OR

- | | | |
|-----|--|-----------|
| (c) | Write short notes on:
1. Ripening of fruits
2. Primary processing of fruits. | 07 |
|-----|--|-----------|

- Q.3**
- | | | |
|-----|---|-----------|
| (a) | Enlist the maturity indices for harvesting of following commodities.
1. Mango 2. Banana | 03 |
| (b) | Define 'respiratory quotient' and state its relation with respiratory substrate. | 04 |
| (c) | Define blanching. Enlist the various methods of blanching and explain the optimization process of blanching parameters for fruits and vegetables. | 07 |

OR

- Q.3**
- | | | |
|-----|--|-----------|
| (a) | What is meant by exhausting of cans? | 03 |
| (b) | Explain the selection criteria of fruits for juice extraction. | 04 |
| (c) | Enlist and explain the good manufacturing practices followed in tomato processing. | 07 |

Q.4	(a)	Distinguish between fruit juice and fruit beverage with suitable examples.	03
	(b)	Define fruit jelly. Enlist the constituents of fruit jelly and explain the role of any one constituent in fruit jelly.	04
	(c)	Explain the process of juice clarification using physical fining agents.	07
OR			
Q.4	(a)	What is germ proof filtration of juices? State its importance.	03
	(b)	Define horticulture and state the advantages of horticultural crop processing.	04
	(c)	Describe the factors which are responsible for the spoilage of canned products.	07
Q.5	(a)	Briefly explain the process of making tomato puree.	03
	(b)	Explain fibril theory of gel formation in fruit jelly.	04
	(c)	Enlist the various methods of fruit peeling and explain any three common methods.	07
OR			
Q.5	(a)	Comment on selection of raw material for tomato processing.	03
	(b)	Explain the effect of following problems on the quality of fruit jelly and also suggest the remedial measures. i. Addition of too much sugar. ii. Lack of acid or pectin.	04
	(c)	Explain the ideal process of manufacturing mixed fruit jam consisting of apple, mango and papaya.	07
