

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 **08**
- 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.
- (b)** Differentiate following: (i) Photosynthesis and Respiration **06**
(ii) Climacteric and Non climacteric fruits
- 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 "In controlled atmosphere storage oxygen concentration cannot be decreased and carbon dioxide concentration cannot be increased after certain critical levels for some commodities". **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. **08**
2. Premature setting of jam.
3. Surface graining and shrinkage in jam.
4. Crystallization in jam.
- (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. **08**
2. Blanching of fruits and vegetables.
- (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. **07**
2. Effect of acidity on sterilization of canned product.
- (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**
