

CHUKA



UNIVERSITY

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**THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

FOST 342: FRUIT AND VEGETABLES TECHNOLOGY

STREAMS: DTHM Y1S2

TIME: 2 HOURS

DAY/DATE: TUESDAY 30/03/2021

2.30 P.M – 4.30 P.M

INSTRUCTIONS

Answer all questions in section A and any other two in section B

SECTION A: (30 MARKS)

1. (a) Describe the factors to consider while selecting fruits for production of mango juice. [3 marks]
- (b) As a food technologist, briefly explain factors to consider while setting up a vegetable processing industry. [4 marks]
2. (a) Describe the differences between jam and marmalade. [4 marks]
- (b) Explain the effects of heating, acid and alkali on the various colour pigments during processing of fruits and vegetables. [6 marks]
3. (a) Clearly differentiate climacteric fruits and non-climacteric fruits on the basis of ethylene gas synthesis and respiration. State two examples in each case. [5 marks]
- (b) Describe the mechanism which results to plumpness and succulence of fruits and vegetables during ripening. [3 marks]

Fruit : sugar 60:40 desired brix in the finished product 70

15 kg of fruit at 10% TSS

10 kg of sugar

80g of pectin

60g citric acid

SECTION B (40 MARKS)

4. (a) Discuss the manufacturing process of tomato sauce and explain functions of ingredients used. [14 marks]
- (b) Explain how pectin substances bring about gelling property during the processing of papaya jam. [6 marks]
5. (a) Describe the steps involved during processing mango concentrate. [8 marks]
- (b) Discuss major causes of post-harvest losses of fruits and vegetables and highlight possible interventions. [12 marks]
6. (a) Using specific example, classify fruits and vegetables basing on their morphological features. [10 marks]
- (b) Discuss challenges that are facing fruit and vegetable industries of processed products in Kenya and highlight possible solutions. [10 marks]
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