



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
DEHRADUN

End Semester Examination - May, 2022

Program/Course : B. Tech Food Technology
Subject: Fruits and Vegetable Process Technology
Code: HSFS2007
No. of pages: 03

Semester: IV
Max. Marks: 100
Duration: 3 hrs

NOTE:

- (A) **OPEN BOOKS, OPEN NOTES and OPEN RESOURCES EXAMINATION**
- (B) Assume all missing data. **State your assumptions clearly.** Sketch wherever necessary.

ANSWER ALL QUESTIONS

1. Theoretical scheme of any fruit processing unit is shown in Fig. 1.

Condition to choose the final product is as follows:

- Roll No. 1, 5, 9, 13 - Fruit Juice
- Roll No. 2, 6, 10, 14 - Fruit Jam
- Roll No. 3, 7, 11, 15 - Fruit Pulp
- Roll No. 4, 8, 12, 16 - Dry Fruit (Eg. Raisins)

(a) List down all the equipments/machinery for each process mentioned in the flowsheet. [10 marks]

(b) Calculate the amount of raw material required to produce “Last Four Digits of your SAP ID” kg of the final product. [40 marks]

2. Draw a flowsheet using block diagram describing various processes involved in the canning of vegetables. Also, list the equipments/machinery required for each process.

[25 marks]

3. Explain the following:

(a) Based on the different physiological development of a fruit, explain with a neat sketch (wherever necessary) the following terms:

- i. Parthenocarpy and Stenospermocarpy
- ii. Seasonal growth curve

[10 marks]

(b) Explain the following process in fruit / vegetable process technology

- i. HTST pasteurization
- ii. Blanching
- iii. Coring

[15 marks]

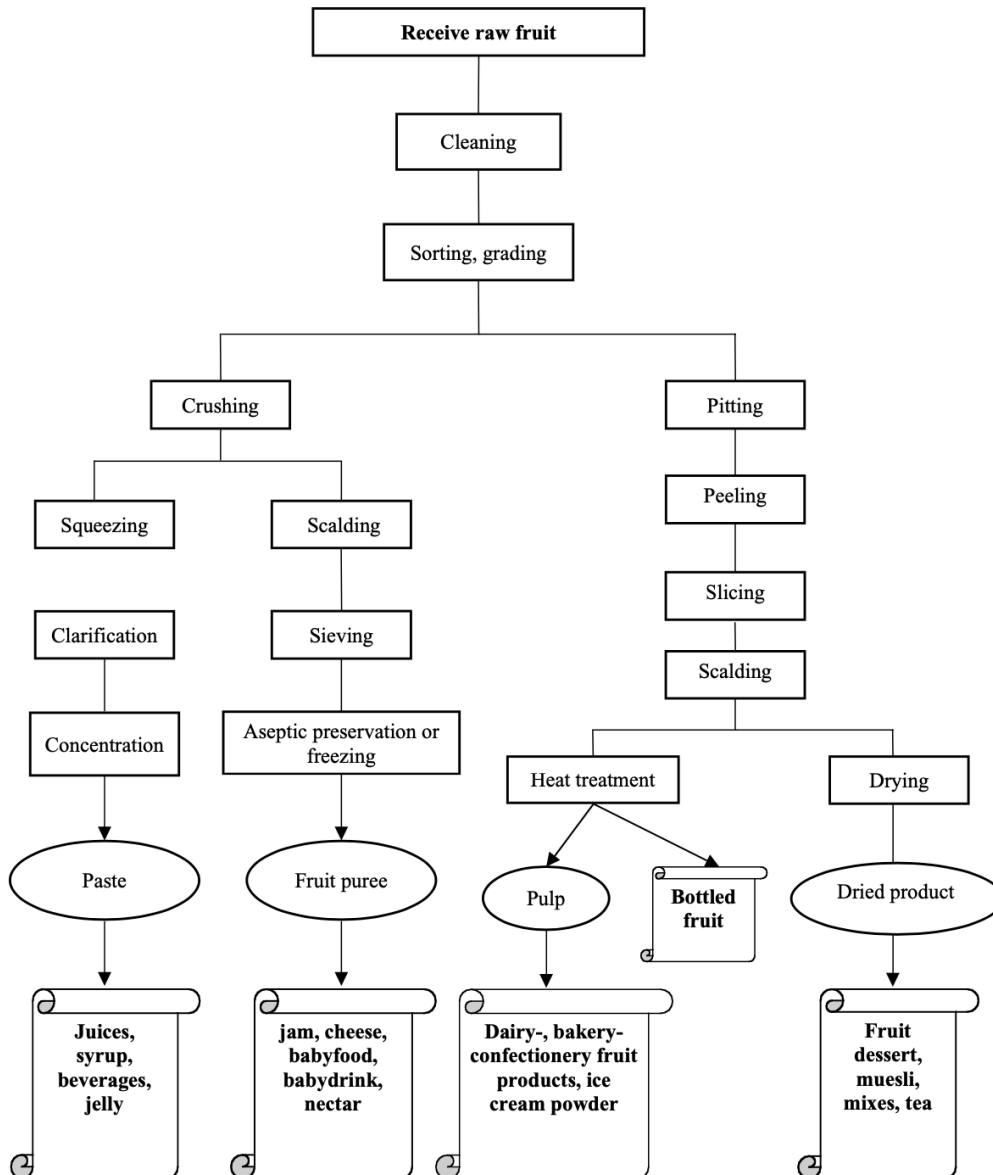


Figure 1: A generic representation of Fruit processing