

Principle of food Processing

Full Marks:-100

1. Introduction, historical development of food preservation
2. Deterioration and spoilage of foods: Definition, factors, control
3. Post harvest operations: Cleaning storage and grading, peeling, trimming and blanching.
4. Hurdles concept of food preservation.
5. **Food preservation by dehydration:** principle, moisture content vs. a_w , dehydration process, drying equipments. 20
6. **Food preservation by high temperature:** principle, pH classification of foods, pasteurization, canning, thermo bacteriology, canning process, aseptic processing, spoilage of canned foods. 26
7. **Preservation of fresh produce:** principle cellar storage, chilling storage, gas storage (MAS, MAP, CAS), freezing methods freezing curves, ice crystal formation, freezing methods, freezing equipments, calculation of tons refrigeration. 22
8. **Food preservation by preservatives:** Introduction, chemical, natural and biopreservatives 10
9. **Radiation preservation of foods:** Introduction, definition of units and terms, dose and dosimetry, mode of action, radiation source, application, merits and demerits of irradiation. 10
- 10 Principle of food concentrates such as jam, jelly preserves. 4
11. **Principle of food fermentation:** Principle, importance, types fermented foods (wine, vinegar, beer, pickle) 6
12. Non- conventional methods of food preservation. Introduction to high hydrostatic pressure, high intensity pulsed electric fields etc. 4
13. Traditional and indigenous methods of food preservation. 4

Practical

1. Preparation and measurement of brines and syrups.
2. Test of adequacy of blanching.
3. Dehydration of different fruits and vegetables.
4. Canning fruits, vegetables and meat.
5. Preparation of squash
6. Preparation of jam, jelly and marmalade

7. Preparation of wine, brandy and pickles.
8. Freezing of foods.
9. Calculation of processing time (F value)
10. Visits of neighboring food processing factories.
11. A survey of traditional and indigenous methods of food preservation.

Text Books:

1. Desrosier, N.W, and Desrosier, J.N (1987) The Technology of food preservation, 4th Edition CBS Pub, Dist., India
2. Lal G. Siddappa, and Tendor ,G.L (1998) Preservation of fruits and vegetables, ICAR, New Delhi, India
3. Potter, N.P (1987). Food Science, 3rd Edition CBS Pub, Dist., India
- 4 Fellows, P.J (1990). Food Processing Technology - Principles and practice , Ellice Horwod Ltd,UK
5. Kharel, G.P .Principles of Food Preservation.
6. Rahman, M.S (1999) Handbook of Food Preservation Marcel Dekkar, Inc.NY