ECHEVAC01- FOOD PRESERVATION TECHNOLOGY

Learning objectives:

- To study the importance of microorganisms in food preservation
- To introduce the basics of various food processing and preservation technologies.
- To train the student to analyze food components.
- To make the students aware of the standards of food quality

Course Outcomes:

Student should be able to

1. Analyze the reasons for spoilage of foods.
2. Adopt suitable preservation techniques for food varieties.
3. Measure the nutritive value of different foods.

UNIT I (6)

Principle of food preservation--Removal of Microorganism-Maintenance of anaerobic conditions-General principles underlying spoilage-Chemical changes caused by microorganisms - Spoilage of different kinds of foods-Intrinsic and Extrinsic Parameters that affect microbial growth.

UNIT II (6)

Heat preservation and Processing-Degrees of preservation-Selecting heat treatments-Heat resistance of Microorganisms-Heat transfer-Protective effects of food contamination-Cold Preservation and processing Distinction between Refrigeration and Freezing-Refrigeration and cold storage-Freezing and frozen stage- Different methods of drying process-Food dehydration-Food concentration-Food irradiation-Microwave heating and ohmic heating

UNIT III (6)

Milk and milk products-Meat and meat products-Cereals and cereal products-Sugar and sugar products-Canned foods and Bottled beverage-Fruit and Vegetable Products-Fruit juices-Jams-Marmalades-Squashes-Cordials-Ketchup /Sauces-Soup Powder.

UNIT-IV (Practical) (6)

1. Estimation of gluten content in wheat flour
2. Determination of TSS in different fruit juices
3. Determination of Moisture content of given sample
4. Estimation of Ash
5. Adulteration a) pepper b) chili powder c) Milk (Iodine) D) Coffee powder E) Honey F) Turmeric
6. Determination of milk (Water, MBRT, Coagulation).
7. Drying characteristics in vegetables.
8. Determination of titratable acidity in given sample.

UNIT-V (Practical) (6)

1. Determination of pH in different food using pH meter.
2. Extention of shelf life /preservation of food by use of low temperature.
3. Osmotic concentration / dehydration of certain fruits and vegetables using concentrated sugar and salt solution.
4. Pasteurization of milk (Low Temperature Less Time).
5. Blanching of tomato.
6. Preparation of sugar boiled Candy

References

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