



FOOD PRESERVATION TECHNIQUES

Credits : 2
Course Code : MFSN20401 (SEC-2)

II Year/ IV Semester
No. of Lecture hours: 30

OBJECTIVES:

To familiarize students with food preservation using different techniques which are widely followed in all food industries.

Outcome:

Students will gain knowledge about the impact of preservation techniques in maintaining the shelflife of foods.

UNIT I:

(12 Hrs)

Introduction & High Temperature Processing

- Food preservation and processing – Scope, historical developments, principles
- Processing and preservation by heat;
 - blanching, pasteurization, sterilization and UHT processing
 - canning, extrusion, cooking, dielectric heating
 - Microwave heating, baking, roasting and frying, etc.

UNIT II:

(12 Hrs)

Low Temperature Processing

- Processing and preservation by low-temperature-
 - refrigeration, freezing, dehydro freezing
 - CA, MA
- Processing and preservation by
 - Drying– Types of dryers - suitability for different food products.
 - Concentration, evaporation
 - Crystallization

UNIT III:

(12 Hrs)

Food Additives

- Preservation by Food additives: types and functions
- Permissible limits and safety aspects.
- Use and application of;
 - Enzymes & Microorganisms in processing and preservation of foods

UNIT IV

(12 Hrs)

Membrane Technology

- Membrane technology - Introduction to pressure activated membrane processes:
 - micro- filtration
 - UF
 - NF
 - RO
- Industrial applications of Membrane technology

K. V. S. Rao
Chairman

Board of Studies (Food Technology)
University College of Technology (A)
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w.e.f. Academic year 2022-23, Batch 2021-2023



UNIT V

(12 Hrs)

New Techniques of Preservation

- New techniques in food processing
- Processing and preservation by non-thermal methods
 - Irradiation, high pressure,
 - pulsed electric field,
 - ohmic heating
 - IR heating, pulsed X-rays
- Hurdle technology
- Nanotechnology: Principles and applications in foods

RECOMMENDED READINGS:

1. Arsdel WB, Copley MJ & Morgan AI. 1973. *Food Dehydration*. 2nd Ed. Vols. I, II. AVI Publ.
2. Desrosier NW & James N. 1977. *Technology of Food Preservation*. 4th Ed. AVI. Publ.
3. Fellows PJ. 2005. *Food Processing Technology: Principle and Practice*. 2nd Ed. CRC.
4. Jelen P. 1985. *Introduction to Food Processing*. Prentice Hall.
5. Potter NN & Hotchkiss 1997. *Food Science*. 5th Ed. CBS.
6. Potty VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.
7. Ramaswamy H & Marcotte M. 2006. *Food Processing: Principles and Applications*. Taylor & Francis.

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