FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2020-21

Programme: **Bachelor of Engineering (Information Technology)**

Semester: **VI**

Course Code: **102070622**

Course Title: **Fundamentals of Food Preservation**

Course Group: **Open Elective - II**

Course Objectives: To make students understand about the mechanism of spoilage and deterioration in foods, the basic food preservation principles and methods to preserve foods..

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
				Theory		J/V/P*		Total
Lecture	Tutorial	Practical		Internal	External	Internal	External	
3	0	0	3	40/14	60/21	NA	NA	100/35

* **J**: Jury; **V**: Viva; **P**: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	**Introduction:** Definition of food, classification and sources of food, constituents of food, food processing and preservation.	06
2	**Food Spoilage:** Definition, types of spoilage - physical, enzymatic, chemical and biological spoilage.	08
3	**Preservation by using Preservatives:** Food preservation: Definition, principles, importance of food preservation, traditionaland modern methods of food preservation. Food additives – definition, types, Class I andClass II preservatives.	11
4	**Preservation by use of high temperature:** Pasteurization: Definition, types, Sterilization, Canning - history and steps involved,spoilage encountered in canned foods.	09
5	**Preservation by use of Low Temperature:** Refrigeration and freezing, types of freezing, common spoilages occurring during freezing, difference between refrigeration and freezing. Food irradiation.	08
	Total	42

Reference Books:

1	Gould, G. W. (2012), "New Methods of food preservation", Springer Science &Business Media.
2	Manay, N.S. Shadaksharaswamy, M. (2004), "Foods- Facts and Principles", Newage international publishers, NewDelhi.
3	Subalakshmi, G and Udipi, S.A.(2001),"Food processing and preservation". NewAge International Publishers, New Delhi.
4	Srilakshmi, B.(2003), "Food Science", New Age International Publishers, New Delhi.

Supplementary learning Material:	
1	https://fssai.gov.in
2	https://cftri.res.in
3	https://www.canr.msu.edu/
4	https://epgp.inflibnet.ac.in/

Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Industrial/ Field visits

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						**R**: Remembering; **U**: Understanding; **A**: Applying; **N**: Analyzing; **E**: Evaluating; **C**: Creating
R	**U**	**A**	**N**	**E**	**C**	
20%	**24%**	**20%**	**20%**	**16%**	**0%**	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Students will get the introductory knowledge of food sources, classification and processing.	**12**
CO-2	Students will understand the different ways in which food spoilage occurs and the techniques to prevent it.	**20**
CO-3	Students will get the in depth knowledge about the action of different preservatives.	**30**
CO-4	Students will get acquainted with the principles to preserve different types of foods using thermal methods.	**20**
CO-5	To get a preliminary idea about the basic unit operations in food processing	**18**

Curriculum Revision:	
Version:	1.0
Drafted on (Month-Year):	June-2020
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	June-2025