FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Electrical Engineering)

Semester: VI

Course Code: 202070622

Course Title: Fundamentals of Food Preservation

Course Group: Open Elective Course

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	50/18	50/17	-	-	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

Reference Books:

1	Gould, G. W. (2012), "New Methods of food preservation", Springer Science &Business Media.

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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
- Course Projects

Internal Evaluation:

The internal evaluation comprised of written exam (40% weightage) along with combination of various components such as Certification courses, Assignments, Mini Project, Simulation, Model making, Case study, Group activity, Seminar, Poster Presentation, Unit test, Quiz, Class Participation, Attendance, Achievements etc. where individual component weightage should not exceed 20%.

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.

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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
Drafted on (Month-Year):	June-2022
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	June-2025

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