

**Model Syllabus for Food Science and Technology (Minor) in consonance
with Curriculum framework w.e.f. AY 2026-27**

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
II	III	1	Fundamentals of Food Science and Technology	3	3
			Fundamentals of Food Science and Technology-Practical	2	1

SEMESTER-III

COURSE 1: FUNDAMENTALS OF FOOD SCIENCE AND TECHNOLOGY

Theory

Credits: 3

3 hrs/week

LEARNING OBJECTIVES

To understand the role of foods in our daily life and also to gain knowledge of different plant and animal derived foods and their nutritive values and properties

LEARNING OUTCOMES

1. To understand the sources of food and their importance at different age groups of human development
2. To learn about the nutritional benefits of plant products
3. To understand the nutritional significance of animal products
4. To gain knowledge about starch, sugars and fats and oils
5. To gain significance scope of food technology and research organizations

UNIT – I

Food as a source of nutrients: classification of nutrients and functions, recommended dietary allowances (RDA), BMR, and SDA. Balanced diet, food pyramid and food exchange list.

UNIT- II

Nutritional composition and benefits of foods based on plant origin: Cereals, millets, pectin, gums, dietic fibres, pulses, legumes, vegetables, fruits, nuts and plantation crops

UNIT III

Nutritional composition and benefits of foods based on animal origin: Milk and milk products - composition, and functional properties. Egg: composition, and functional properties. Meat and poultry: structure, muscle composition, and functional properties. Fish and marine foods: classification, composition, nutritive benefits.

UNIT IV

Starch: characteristics, gelatinization, factors affecting gelatinization. Sugars: Types of sugars and sugar syrups, Sugar cookery and applications. Fats and oils: Sources, composition, absorption, functional properties of fats and oils. Sensory evaluation – Sensory attributes and its characteristics, Requirements to conduct sensory evaluation, Sensory tests.

UNIT –V

Definition and Scope of Food Technology and emerging trends in food technology. Research and standards organization of Food Science and Food Technology: Role and Function of the organizations; Nutritional research organization- ICMR-NIN, NNMB; Food Technology research organization- AFSTI, CFTRI, DFRL, NIFTEM. Food Standards- FSSAI, AMARK, FPO, MMPO.

References:

1. Food Science by Helen Charley.
2. Food Facts and Principles - N. Shakuntala Manay & M. Shadakshara swamy,
3. Vijaya Khader, Text book of food science and technology, Indian council of Agricultural research New Delhi, 2001.
4. Food Science – B. Srilakshmi, New Age international (P) Limited, New Delhi.
5. Swaminathan, M. (1990). Essentials of food and nutrition, Vol. I and Vol. II. 12
6. Nutrition: An Integrated Approach- Pike & Brown;
7. Principles of Nutrition E.D Wilson, K.H.Fisher & M.C.Faqua
8. Food Science- N.Potter & J.H. Hotchkiss- CBS Publishers & Distributors, New Delhi.
9. Khatkar, B. S. (Ed.). (2007). Food Science and Technology. Daya Books.
10. Gopalan, C. (1992). Basic issues in combating malnutrition- NFI Publication.
11. Mehtab S. Bamji. (1996). Text book of human nutrition, Oxford & IBH Co.PVT.LTD, Delhi,
12. Suitor, C.W. and Hunter, M.F. (1980). Nutrition principles and application in health promotion, J.B. Lippincot Company, Philadelphia
13. Food science, Chemistry and Experimental foods by M. Swaminathan.
14. Experimental study of Foods by Griswold R.M.

SEMESTER-III

COURSE 1: FUNDAMENTALS OF FOOD SCIENCE AND TECHNOLOGY

Practical	Credits: 1	2 hrs/week
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- 1) Sensory evaluation of food- preparation of score card, threshold tests, sensory testing.
- 2) Standardization of weights and measures of various foods
- 3) Fats and oils – Smoke points, oil absorption and mayonnaise preparation.
- 4) Vegetable and fruit – Effect of time, temperature, media and cooking methods on pigments, Enzymatic Browning- Preventive measures.
- 5) Pulse cookery – effect of different cooking methods
- 6) Visit industries of plant and animal food product processing and preservation technology

4- Year UG Honours MINOR

Syllabus

(2026-27)

Semester-III

Model Question Paper

Time : 3hrs

Marks:75

Part-A

Answer any Five Questions. Each Question carries 3 Marks.

5x3=15

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Answer the following questions. Each question carries 12 Marks

5x12=60

11. a) Unit-I
(Or)
b) Unit-I

12. a) Unit-II
(Or)
b) Unit-II

13. a) Unit-III
(Or)
b) Unit-III

14. a) Unit-IV
(Or)
b) Unit-IV

15. a) Unit-V
(Or)
b) Unit-V