



ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

Model Syllabus for 4-Year UG Honours in B.Sc. (Food Science and Technology) as Major in consonance with Curriculum framework w.e.f. (W.E.F. AY-2026-27)

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
II	III	5	Technology of Fats and Oils	3	3
			Technology of Fats and Oils-Practical	2	1
		6	Dairy Technology	3	3
			Dairy Technology-Practical	2	1
		7	Confectionery Technology	3	3
			Confectionery Technology-Practical	2	1

SEMESTER - III

COURSE 6: DAIRY TECHNOLOGY

Theory

Credits: 3

3 hrs/week

Learning Objectives

To study the composition and manufacture of dairy products

Learning Outcomes

Upon successful completion of the course, the students will be able to

LO1: To study about the different methods of processing. LO2: To study about the knowledge

LO3: The understanding about freezing food industry. LO4: To understand about micro-organisms.

LO5: To understand about sterilization method.

UNIT-I

Processing of Milk

- Milk Industries in India – Role of operation flood program
- Definition of milk – Source as food composition and
- nutritive value Physical and Chemical Properties of milk
- Processing of milk: Receiving of milk, Platform tests,
- Filtration and Clarification, Standardization
- Pasteurization methods– Sterilization methods,
- Homogenization, Packaging and distribution of milk
- Definition – Standardized milk, Single toned, Double toned milk
- Manufacture and shelf life of Sterilized bottle milk and flavored milk

UNIT-II

Cream & Butter

- Cream – cream separation, cream
- separator, Methods of cream separation-
- Factors governing richness of cream, factors governing fat
- percentage. Butter- introduction, composition process involved,

cream neutralization, addition of starter cultures, cream ripening, churning, packing of butter Packing- factors influencing churning, over-run in butter,

- Butter defects- their causes and prevention.

UNIT- III

Cheese

- Cheese- introduction, history, definition,
- Classification, composition, nutritive value, legal standards.
- Manufacturing of cheddar cheese, their defects and control
- Manufacture of processed cheese their defects and control
- Manufacture of Swiss cheese and their defects and control
- Manufacture of cottage cheese, their defects and control.

UNIT – IV

Concentrated & Dehydrated Milk Products

- Condensed milk- history, composition, and types
- Methods of manufacture, vacuum pan condensing, and defects in condensed milk.
- Dried milk (Milk Powder)- history, types, composition of dried milk-
- Methods of manufacture- drum drying, spray drying, freeze-drying,
- Packaging of milk powder- Properties of dry milk- bulk density, solubility, solubility index, wettability, dispersability
- Defects in dried milk, Reconstitution- instant milk
- powder- Malted milk beverages like horlicks, viva, etc.

UNIT- V

Ice Cream

- Ice cream – history, definition, classification,
- composition Ingredients sweethearts, stabilizers,
- flavours, etc- Preparation of ice cream, calculation

- of ice cream mix,
- Pasteurization of milk, homogenization, ageing, freezing, packaging of ice cream-defects and over run in ice cream.
- Indigenous milk products:
Rabri, kheer, channa, paneer, rasogolla, ghee, khoa, Kalakhand, srikhand & lassi
- Methods of preparation of Indigenous milk products &
- composition. Cultured milk products: Dahi / Yoghurt – their
- composition, Changes in constituents during fermentation and flavor development.

REFERENCES

1. Sukumar De, “Outlines of Dairy Technology, Oxford Univ. Press, 1980.
2. Aneja RP, Mathur BN
, Chandan RC & Banerjee AK. “ Technology of Indian Milk Products”, Dairy India Publications, 2002.
3. Rathore NS et.al. “ Fundamentals of Dairy Technology – Theory & Practices”, Himanshu Pub., 2008.
4. Henderson JL. “Fluid Milk Industry”, AVI Pub.1971.
- 5 Web BH, Johnson AH & Lford JA, “ Fundamentals of Dairy Chemistry”, 3^d Edition. AVI Pub.1987.

SEMESTER - III

COURSE 6: DAIRY TECHNOLOGY

Practical	Credits: 1	2 hrs/week
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| <ul style="list-style-type: none">• Determination of pH, Specific gravity in• milk Estimation of Fat and Total Solids• (TS) Estimation of Solids-Not-Fat (SNF)• in milk. Estimation of Protein and Casein• in milk.• Detection of Adulterants in milk.• Detection of Preservatives in• milk. Preparation of Milk• Products.• Quality Evaluation of Milk• Products. Cream Separation using• Separator• Visit to Milk Chilling and Processing Center | | |
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4- Year UG Honours, Major
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