



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	IV	8	Baking Science and Technology	3	3
			Baking Science and Technology-Practical	2	1
		9	Technology of Fruits and Vegetables	3	3
			Technology of Fruits and Vegetables-Practical	2	1
		10	Technology of Cereals, Pulses and oil seeds	3	3
			Technology of Cereals, Pulses and oil seeds-Practical	2	1

SEMESTER - IV

COURSE 8: BAKING SCIENCE & TECHNOLOGY

Theory

Credits: 3

3 hrs/week

Learning Objectives: To understand the principles of baking science & technology of production.

Learning Outcomes: On successful completion of the course, students will be able to LO1: To gain knowledge about the bread, formulation & ingredients.

LO2: To learn the bread making & its baking process.

LO3: To understand the methods & ingredients used in biscuit production. LO4: To learn the principles & process preparation of cakes.

LO5: To learn the preparation of frozen dough products & application of starches in bakery industry.

UNIT-1

- Bread types, quality assessment and formulations
- Ingredients: wheat flour, components and functions; proteins carbohydrates, lipids and enzymes
- Miscellaneous flours (rye, tricale)
- shortenings; functions, sources, types and mechanisms
- sweeteners; functions; types
- yeast; functions, types and factors influencing the fermentation
- Minor ingredients; yeast foods enzymatic supplements, oxidizing agents, salt, dairy and egg products, mold inhibitors, dough strengtheners/ softeners and enrichment

Unit – II

- Bread making process; straight dough - rapid
-

processing mechanical dough development

- Mixing and dough processing; functions of mixing, mixer
- types fermentation, dough transfer system, dough make up
- dividing rounding and pre-moulding
- first proving moulding panning and proving Process;
- developments Baking process, stages, baking reactions and bread cooling
- thermal reactions keeping properties of bread and related
- products Bread spoilage and staling, factors and control measures

Unit – III

- Biscuits; biscuits, cookies and crackers ingredient and their functions, wheat flour, granulation, Shortening, sweeteners, chemical leaveners
- Baking powder, function, composition, and reactive rates, neutralizing value
- Preparation of biscuits dough's mixing objectives, mixer types
- fermentation of shaped dough pieces
- Biscuit baking, heat transfer mechanism, changes during
- baking Cooling, packaging and storage

Unit – IV

- Cakes: cake varieties, ingredients and their functions
- wheat flour, components; shortening, egg, baking powder icing, confectionery coating, minor ingredients formulations, formula balance

- cake mixing objectives and methods
- Batter specific gravity, temperature and P^H , baking reactions

Unit – V

- Wafers: fermentation, ingredients and their function
- flour, water, shortening, aerating agent and minor ingredients
- mixing, storage and depositing of wafer butter, baking, cooling and conditioning of wafer sheets
- Frozen dough
- products Fat
- bread technology
- Starches-sources, composition, properties, modifications methods and applications in bakery industry

Reference Books

1. Cauvain & Linda S.Y, “ Technology of Bread making”, Blackie Academy & Professional, London 1998.
2. Matz, S.A. “Bakery Technology & Engineering” 3rd edition, CBS publications Delhi. 1996.
3. Plyer, E.J “Baking Science & Technology” Vol. -I & II, 3rd edition, Sopsland Pub. Kansas, U.S.A 1988.
4. Pomeroy, Y, “Wheat chemistry & Technology” Vol. I & II, 3rd edition A.A.C.C.
5. Wade, P, “Biscuits Cookies & Crackers” Vol. I, Elsevier. 1998.
Almond, “Biscuits Cookies & Crackers” Vol. II, Elsevier 1998.

SEMESTER - IV

COURSE 7: BAKING SCIENCE & TECHNOLOGY

Practical

Credits: 1

2 hrs/week

1. Determination of gluten content
2. Preparation of plain cake
3. Preparation of bread and evaluation by subjective and objective methods.
4. Preparation of Cookies and evaluation by subjective and objective methods
5. Preparation of biscuits and evaluation by subjective and objective methods
6. Visit to bread and cake making industries

4- Year UG Honours, Major
Syllabus
(2026-27)
Semester-IV

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