

SRI VENKATESWARA UNIVERSITY :: TIRUPATI

MINOR

Subject: Food Science & Technology
w.e.f. AY 2025-26

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
III	V	5	Food Safety and Quality Control	3	3
			Food Safety and Quality Control Practical Course	2	1
		6	Baking Science & Technology	3	3
			Baking Science & Technology Practical Course	2	1

SEMESTER- V
COURSE 5: FOOD SAFETY AND QUALITY CONTROL

Theory 3 hrs

Credits: 3

Learning Objectives:

To study the various aspects of quality control and sensory evaluation process in food industries.

Learning Outcomes: On successful completion of the course, students will be able to

- LO1: To gain the knowledge about the food safety of various hazards involved in it.
- LO2: To understand the quality assurance & various voluntary & obligatory food standards.
- LO3: To learn the sampling methods & testing of raw materials & finished food products.
- LO4: To learn about sensory parameters & its associated subjective & objective tests.
- LO5: To study about the sanitation, hygiene & quality assurance in food industries.

Unit – I

- Food safety: Definition, meaning – Importance of food safety
- Food hazards: Physical, chemical and biological hazards for food safety.
- Food Safety and standard bill, Food safety and standards act (FSSA)
- Hazard Analysis Critical Control Point (HACCP) and its implementation.
- Worldwide food safety issues.

Unit-II

- Quality assurance: Theoretical and practical considerations, description of different systems: GAP, GMP, TQM, ISO.
- Indian food standards - voluntary and obligatory standards (PFA, FPO, MMPO, Meat and Meat Products order, AGMARK etc.) Codex-Alimentarius
- Fair average quality(FAQ) Specification for food grains ISO 9000series

Unit-III

- Quality assessment of various Raw food materials – Cereals, pulses, Fruits & Vegetables, Milk & Milk Products, bakery, Egg, Flesh foods etc.
- Quality assessment of various Process food materials
- Sampling methods & techniques for food analysis – Random, Systematic, Stratified and Cluster.
- Inspection techniques – Pre-process, In-process, & Post-process inspection

Unit-IV

- Sensory evaluation - Requirements and methods.
- Sensory parameters: colour, flavour, texture, taste, aroma, general acceptability
- Subjective and objective test of sensory parameters - (Differential tests, Descriptive test, Rating tests, Sensitivity threshold test)

Unit-V

- Cleaning In Place (CIP) – cleaning cycle, Different Sanitizers and detergents
- Cost of quality (COQ), importance and benefits of COQ
- Supplier development – steps in supplier development, importance.
- Food analyst – Role and responsibilities.

References:

1. Pomeranz Y and Meloan C E, “ Food analysis: Theory And Practice”. 3rd ed. CBS Publishers, New Delhi.1996.
2. Nielsen S S, “ Introduction to the chemical analysis of foods”Jones and Bartlett Publishers, London.1994.
3. Nielson S S. “Food analysis laboratory manual”. Chips Ltd, USA.2003.
4. Lawless H T and Heymann H. “ Sensory Evaluation of Foods Principles And Practices”, Chapman and Hall, New York1998.
5. AOAC, “Official methods of analysis. Association of OfficialAnalytical Chemists”, Arlington 1995.

SEMESTER-V

COURSE 12: FOOD SAFETY AND QUALITY CONTROL

Practical 2 hrs

Credits: 1

1. Layout of quality control laboratory for food processing unit the requirements of glassware and equipments.
2. Microbiological quality control of utensils and glassware SWAB, RINSE methods
3. Evaluation of personnel hygiene
4. Evaluation of detergents AOAC method.
5. Evaluation (Sensory and chemical) of canned foods
6. Evaluation (Sensory and chemical) of dairy products
7. Evaluation (Sensory and chemical) of confectionery products
8. Detection of common adulterants
9. Good Laboratory Practices
10. Visit to food industry quality control lab

SEMESTER-V
COURSE 13: BAKING SCIENCE & TECHNOLOGY

Theory 3 hrs

Credits: 4

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 & procession preparation of cakes.

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

UNIT-1

- Baking – Importance of baking, Principles of baking, Traditional & Modern Baking.
- Ingredients used in baking- Flour, Yeast, Fat, Eggs, Baking powder, sugar, their need, importance and functions
- Minor ingredients used in baking: Salt, Essence, Improving agents, foods enzymatic supplements, oxidizing agents, salt, dairy products, mold inhibitors, dough strengtheners/ softeners and enrichments etc.
- Role and importance of time and temperature in baking.

Unit – II

- Breads- Types of breads, Methods of Bread making
- Bread making process - Mixing and dough processing; Fermentation of dough, dough make up, dividing, rounding and pre-molding of dough
- Changes taking place during fermentation and baking of bread and bread cooling
- Faulty breads and causes and preventive measures to control faults, perfect breads - properties
- Bread spoilage and staling, causative factors and control measures

Unit – III

- Biscuits; biscuits, cookies and crackers - ingredient used and their functions,
- granulation, Shortening, sweeteners, chemical leaveners
- 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: Types of cakes, Cake making methods
- Various ingredients used in cake making, their role and functions.
- Cake faults and their remedies
- Equipment used in cake making
- Cake decoration- importance, Types of icings and its usage.

Unit – V

- Waffles: Types of waffles, ingredients used and their function,
- Method of preparation of waffles.
- Puff pastries – types and methods of preparation
- Meringue – Hot & Cold meringues, Boiled/Italian Meringue,
- Method of preparation of Meringue and care to be taken in preparation of meringue.

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. Pomeraz. Y, “Wheat chemistry & Technology” Vol.I & II , 3rd edition A.A.C.C.
5. Wade. P , “Biscuits Cookies & Crackers” Vol.I , Elsevier. 1998.
6. Almond , “Biscuits Cookies & Crackers “Vol.II , Elsevier 1998.

SEMESTER-V

COURSE 13: BAKING SCIENCE & TECHNOLOGY

Practical 2 hrs

Credits: 1

1. Testing of Gluten quality
2. Cake preparation
3. Bread making
4. Buns and other types of bread preparations
5. Puff pastry preparation
6. Types of Waffles making
7. Biscuits making
8. Cookie preparation
9. Icing preparations
10. Decoration of cakes.

SEMESTER-V

COURSE5:ROOMSDIVISIONMANAGEMENT

Theory

Credits:4

5hrs/week

UNIT -I: MANAGING HUMANRESOURCES, TRAINING AND SCHEDULLNG F/O & HK STAFF

Preparing job lists and job descriptions for front Office and housekeeping staff, Source Of internal and external recruiting, Role Of executive housekeeper and front Office manager in Selecting staff Orientation process — the role of the ex. HK and FOM, Developing job breakdowns for the H.K and F_O job positions, Skills training - the four step using method (prepare, present. Practice, Follow up), Developing staffing guides for room attendants, supervisors , general workers Alternative scheduling techniques- (part-time employees,flexible work hour compressed schedules, job sharing Cross training and Incentive programstar staff

UNIT-II:PLANNINGOFFRONTOFFICEOPERATIONS

Identify and describe the functions of management with relation to front office and housekeeping department. Establishing room rates through market condition approach rule Of thumb approach and the Hubbart formula. Forecasting room availability, forecasting data, percentage Of walk ins, percentage of overstays, percentage of No-shows, percentage of under stays, percentage of early arrivals, forecast formula, forecast forms, importance of forecasting. Budgeting for front officeforecasting room revenue, estimating expenses

UNITIII:HOUSEKEEPINGCONTROLS

Establishing par levels and inventories/ control of linen & uniform, guest loan items, machines & equipment, cleaning supplies, guest supplies, The role of the housekeeper in planning operating and capital budgets, Budgeting housekeeping expenses Controlling expense, Purchasing systems

UNITIV:MEASURINGPERFORMANCEINTHEROOMSDIVISION

Importance and calculation of operational statistics, Percentage of single occupancy, Percentage ifmultiple occupancy, Percentage if domestic and foreign occupancies, ARR of ADRAveragerateperguest.Averagelengthorstay,RevPARDailyoperationsreportits importance SalesMixorClientele Mix, its calculation,

UNITV:REVENUEMANAGEMENT

The concept of revenue management, Hotel industlY applications — capacity management, discount allocation, duration control, Measuring Yield — potential average Single rate, potential average double rate, rate spread, multiple occupancy, potential average rate, roomrate achievement factor, Yield statistics Elements of Revenue Management group room sales, transient room sales, food and beverage activity, special events, Using revenue management Potential high and low demand tactics


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Reference Books:

1. From Office Operations And Management, Ahmed Ismail, Thomson Delmar, 2002
2. Housekeeping Management, Margaret McKappa, F.iah & La, 2nd Ed./ 1997
3. Hotel Hostel & Hospital Housekeeping, Joan C Branson, Margaret Hodder & Stoughton, 5th Ed /2003



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SEMESTER-V

COURSE5:ROOMSDIVISIONMANAGEMENT

Practical

Credits:1

2 hrs/week

- **1.Guest Cycle:** Students will practice all stages of the guest cycle, from pre-arrival (reservations, confirmations) to departure.
- **2.Check-in/Check-out Procedures:** Simulations of guest registration, room assignment, handling payments, and guest inquiries will be conducted.
- **3.Reservation Management:** Students will learn to manage reservations using various methods, including online and manual systems.
- **4.Managing Reservation Systems:** Students will gain experience using reservation software and managing room inventory.
- **5.Yield Management:** They will learn about strategies to optimize room revenue and occupancy.
- **6.Forecasting Room Availability:** Students will practice forecasting occupancy rates and managing room inventory
- **7.Problem-solving:** Developing skills to address and resolve guest issues.
- **8.Teamwork:** Working effectively in a team environment.
- **9. Bed Making**
- **10. Room Cleaning .**


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SEMESTER-V

COURSE6:HOSPITALITYMARKETING

Theory

Credits:4

5hrs/week

UNIT1:HOSPITALITYASAPRODUCT

Definingthehospitalityasaproduct,differencebetweengoodsandservices .Pilot

Program: Test new marketing initiatives on a small scale before implementing them more broadly.

UNIT 2 : INTRODUCTION

Hospitalityindustry,contribution toIndianeconomy, growthpotential

Developing a social media strategy for a local hotel,

This could involve creating engaging content, running targeted ad campaigns, and building a community of followers.

UNIT3:MARKETING

Basicconcepts,needs,wants,demand,transaction.valueandsatisfactioninhospitality industry, marketingphilosophies. application of these concepts in hospitalityindustry.

UNIT4:MARKETINGENVIRONMENT

Needandtrendanalysisandmarketingeffectiveness,SWOTanalysisforhospitality industry.

UNIT 5 :Product, levels of product. expected augmented, potential. tangible and intangibleproducts,productmixinhospitalityindustry,Productstrategy&Service strategy in the hospitality industry

Reference

- 1.ServicesmarketingbyZeitalValerie
- 2 DeliveryofqualityservicebyPassasuramanandBitner
- 3 ServicemarketingbyRaviShankar
- 4 Marketingfor hospitalityindustryby Roberts
- 5 MarketingleadershipinhospitalitybyRobertLewis
- 6 MarketingManagementPhilipKotler


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SEMESTER-V

COURSE6:HOSPITALITYMARKETING

Practical

Credits:1

2 hrs/week

- **1.Target Audience:**

Define specific customer segments (e.g., business travelers, families, couples) and tailor marketing efforts accordingly.

- **2.Marketing Mix (5Ps):**

Analyze and optimize the 5Ps – Product, Price, Place, Promotion, and People – to create a cohesive marketing strategy.

- **3.Marketing Channels:**

Identify and leverage appropriate channels (e.g., social media, email marketing, online travel agencies, content marketing).

- **4.Budget Allocation:**

Determine how to allocate resources effectively across different marketing activities.

- **5.Key Performance Indicators (KPIs):**

Establish measurable goals and track progress using relevant metrics (e.g., website traffic, booking conversions, customer satisfaction).

.6 . Market Research:

- **7.Customer Needs and Preferences:**

Conduct surveys, interviews, or focus groups to understand what motivates guests to choose a particular hotel, restaurant, or attraction.

- **8.Competitive Analysis:**

Identify key competitors and analyze their strengths, weaknesses, and marketing strategies to find opportunities for differentiation.

- **9.Market Trends:**

Research current trends in the hospitality industry (e.g., sustainable tourism, personalized experiences, digital marketing) to inform strategy.

10. Grooming and Body Language.


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4- Year UG Honours, Major
Syllabus
(2025-26)
Semester- V

Model Question Paper

Time : 3hrs

Marks:75

Section - A

Answer any Five Questions. Each Question carries equal Marks 5 x 5 = 25 Marks

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

Section - B

Answer the following questions. Each question carries equal Marks 5 x 10 = 50 Marks

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