



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)

(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)

PALLAVARAM - CHENNAI

ACCREDITED BY **NAAC** WITH '**A**' GRADE

*Marching Beyond **25** Years Successfully*

B.Sc., FOOD SERVICE MANAGEMENT AND APPLIED NUTRITION

Curriculum and Syllabus Regulation 2023

(Based on Choice Based Credit System (CBCS))

And

Learning Outcomes based Curriculum Framework (LOCF))

**Effective from the Academic year
2023-2024**

**Department of Hotel and Catering Management
School of Hotel and Catering Management**

Vision of the Department

To be the premier hospitality management school in training and developing future professionals for the hospitality & tourism industry.

Mission of the Department

To train students to be leaders in all the facets of the hospitality industry by imparting knowledge and affording hands on training.

**VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES (VISTAS)
SCHOOL OF FOOD SERVICE MANAGEMENT AND APPLIED NUTRITION**

Minutes of the Board of Studies Meeting held on 18.05.2023

I Members Present:

All the members of the board of studies were present in the BOS Meeting.

Board of Studies Members

Chairman

Dr. Jaisree Anand

Dean

School of Hotel and Catering Management

VISTAS,

Pallavaram,

Chennai - 600 117.

External Members:

Mr. Wayne Timothy Clark

Sous Chef

The Park

601 Anna Salai, Chennai – 600006, India

Industry expert

Dr. Sangeetha,

HOD, THM department

Tourism and Hospitality Department

Bharat Institute of Higher Education and Research,

Bharat University, Chennai 600073

Academic expert

Internal Members:

1. Mr. Arun .A

Asst. Professor,

School of Hotel and Catering Management,

VISTAS,

Pallavaram, Chennai - 600 117.

2. Ms. Akshaya. V,

Asst. Professor,

School of Hotel and Catering Management,

VISTAS,

Pallavaram, Chennai - 600 117.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- PEO1:** To meet the demand for trained and professional people in the hospitality industry and clinical setting.
- PEO2:** To integrate theoretical knowledge and its practical application in the fields of Food service management and Nutritional Sciences.
- PEO3:** To enable the students to inculcate practical skills for Entrepreneurship and Careers in the field of Nutritional Sciences and Food Service Management.
- PEO4:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the hospitality industry and clinical setting.
- PEO5:** To offer a sound theoretical base in the fields of Food service management and Nutritional Sciences through practical sessions, projects, entrepreneurial and service learning programmes.

PROGRAM OUTCOME (PO)

- PO1:** Executes work activities effectively and efficiently to the standards expected in the operation required in the hospitality sectors and clinical setting
- PO2:** Manages tasks, functions, duties and activities in the operation of the hotels and hospitals in accordance with the competency standards.
- PO3:** Analyses situation, identifies problems, formulates solutions and implements corrective and / or mitigating measures and action management into foodservice industry and clinical setting.
- PO4:** Exhibit the ability to develop, examine, question, and explore perspectives or alternatives to problems in food services management and hospital operations
- PO5:** Demonstrate the ability to use professional written and oral communication skills and technology to successfully communicate.
- PO6:** Display awareness, understanding and skills necessary to live and work in a diverse world.
- PO7:** Practice professional ethics, provide leadership, demonstrate personal and global responsibility, and work effectively as a team member.

PROGRAMME SPECIFIC OUTCOME (PSO)

- PSO1:** Utilize interpersonal skills to lead/manage first-level employees in a hospitality and clinical setting.
- PSO2:** Recognize and articulate written and oral communication as appropriate for hospitality and clinical environments.
- PSO3:** Demonstrate ability to apply policies for managing diverse, multicultural hospitality and clinical environment
- PSO4:** Exhibit awareness of professional and ethical responsibility in all aspects of conduct.
- PSO5:** Illustrate the ability to manage the professional planning and preparation of diets for different acute and chronic conditions

**DEGREE OF BACHELOR OF SCIENCE IN FOOD SERVICE MANAGEMENT AND
APPLIED NUTRITION
CBCS – CHOICE BASED CREDIT SYSTEM (B.Sc., HCM)
SEMESTER SYSTEM**

Regulation and Syllabus (Effective from the Academic Year 2023-2024)

The curriculum and syllabus for the B.Sc. Food Service Management and Applied Nutrition Program conforms to outcome-based teaching-learning process. In general, several outcomes have been identified and the curriculum and syllabus have been planned in such a way that each of the courses meets one or more of these outcomes. Student outcomes illustrate what the students are expected to know and be able to do by the time of graduation. These relate to the skills, understanding, and behaviours that students acquire as they progress through the program. Further each course in the program brings out clear instructional objectives which are mapped to the student outcomes.

Appropriateness of the program to be conducted to acquire specific skills and competence. It enriches the students with the required skills, technical knowledge, and the professional acumen to discharge their responsibilities as nutritional and food service experts in the hospitality and other allied sectors.

1. Title of the Program

This degree shall be called Bachelor of Science in Food Service Management and Applied Nutrition.

2. Course Duration

The B.Sc .Food Service Management and Applied Nutrition, Course of School of Hotel and Catering Management, VELS Institute of Science Technology and Advanced Studies shall be spread in to three-year duration with six semesters. Each semester shall comprise of a minimum of 18 instructional weeks of 5 days each 6 hours a day (Total contact hours 540). Continuous Internal evaluation referred to as CA (Continuous assessment) during the course period and university examination at the end of each semester shall be conducted.

3. Medium of Instructions

The medium of instruction and examinations shall be English

4. Eligibility for Admission

4.1. A pass in the higher secondary or equivalent examinations conducted by boards/departments recognized by the University with a mark not less than 50% in aggregate including language.

4.2. Usual concession for minimum marks as stipulated by University and the State Government from time to time shall apply to SC/ST, OBC, and Other Categories of candidates.

5. Admission Procedure:

An admission Committee is constituted at the department level for administering the admission for B.Sc. Food Service Management and Applied Nutrition every year subject to the approval of honorable Vice -Chancellor. The entire admission process will be monitored by the committee.

The admission shall be based on the following two components.

- a. Qualifying examination at Plus two level – 50% of total marks.
- b. Interview

6. COURSE OF STUDY, CREDITS AND SCHEME OF EXAMINATION

Credit Assignment Each course is assigned a certain number of credits based on the following: Contact period per week CREDITS

1 Lecture Period	-	1 Credit
1 Tutorial Period	-	1 Credit
2 Practical Periods	-	1 Credit

(Laboratory / Seminar / Project Work / etc.)

7 REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER

7.1 Eligibility: Students shall be eligible to go to subsequent semester only if they earn sufficient attendance as prescribed therefor by the Board of Management from time to time.

7.2 Attendance: All Students must earn 75% and above of attendance for appearing for the University Examination. (Theory/Practical)

7.3 Condonation of shortage of attendance: If a Student fails to earn the minimum attendance (Percentage stipulated), the HODs shall condone the shortage of attendance up to a maximum limit of 10% (i.e. between 65% and above and less than 75%) after collecting the prescribed fee towards the condonation of shortage of attendance. Such fees collected and should be remitted to the University.

7.4 Non-eligibility for condonation of shortage of attendance: Students who have secured less than 65 % but more than 50 % of attendance are NOT ELIGIBLE for condonation of shortage of attendance and such Students will not be permitted to appear for the regular examination, but will be allowed to proceed to the next year/next semester of the program

7.5 Detained students for want of attendance: Students who have earned less than 50% of attendance shall be permitted to proceed to the next semester and to complete the Program of study. Such Students shall have to repeat the semester, which they have missed by rejoining after completion of final semester of the course, by paying the fee for the break of study as prescribed by the University from time to time.

7.6 Condonation of shortage of attendance for married women students: In respect of married women students undergoing UG programs, the minimum attendance for condonation (Theory/Practical) shall be relaxed and prescribed as 55% instead of 65% if they conceive during their academic career. Medical certificate from the Doctor together with the attendance details shall be forwarded to the university to consider the condonation of attendance mentioning the category.

7.7 Zero Percent (0%) Attendance: The Students, who have earned 0% of attendance, have to repeat the program (by rejoining) without proceeding to succeeding semester and they have to obtain prior permission from the University immediately to rejoin the program.

7.8 Transfer of Students and Credits: The strength of the credits system is that it permits inter Institutional transfer of students. By providing mobility, it enables individual students to develop their capabilities fully by permitting them to move from one Institution to another in accordance with their aptitude and abilities.

7.8.1. Transfer of Students is permitted from one Institution to another Institution for the same program with same nomenclature. Provided, there is a vacancy in the respective program of Study in the Institution where the transfer is requested. Provided the Student should have passed all the courses in the Institution from where the transfer is requested.

7.8.2. The marks obtained in the courses will be converted and grades will be assigned as per the University norms.

7.8.3. The transfer students are not eligible for classification.

7.8.4. The transfer students are not eligible for Ranking, Prizes and Medals.

7.8.5. Students who want to go to foreign Universities up to two semesters or Project Work with the prior approval of the Departmental/College Committee are allowed to get transfer of credits and marks which will be converted into Grades as per the University norms and are eligible to get CGPA and Classification; they are not eligible for Ranking, Prizes and Medals

8. List of courses for B. Sc. Food Service Management and Applied Nutrition
Regulation 2023 – 2024

Total No. of Credits : 140

SEMESTER - I			Hours / Week			
Category	Sub Code	Title of the Course	Lecture	Tutorial	Practical	Credits
AEC		Language – I	4	0	0	4
AEC		English Paper – I	4	0	0	4
DSC		Fundamentals of Food Chemistry	4	0	0	4
DSC		Food Science	4	0	0	4
SEC		Basic Cookery - Practical	0	0	4	2
DSC		Fundamentals of Food Chemistry - Practical	0	0	4	2
SEC		Soft skills	2	0	0	2
		Sub Total				22
SEMESTER - II						
AEC		Language - II	4	0	0	4
AEC		English Paper – II	4	0	0	4
DSC		Fundamentals of Food Microbiology	4	0	0	4
DSC		Human Physiology	4	0	0	4
DSC		Food Safety and Quality Control	4	0	0	4
DSC		Human Physiology Practical	0	0	4	2
DSC		Fundamentals of Food Microbiology - Practical	0	0	4	2
SEC		Life Skills for Personal Growth	2	0	0	2
		Sub Total				26
SEMESTER - III						
DSC		Functional Foods and Nutraceuticals	4	0	0	4
GE		Environmental Studies	2	0	0	2
DSC		Basic Nutrition	4	0	0	4
SEC		Entrepreneurship	2	0	0	2
DSE		Principles of Management	3	0	0	3
DSE		Introduction to Hospitality Industry	3	0	0	3
SEC		Basics in Bakery and Confectionery – Practical	0	0	4	2
		Sub Total				20

SEMESTER - IV						
Category	Sub Code	Title of the Course	Lecture	Tutorial	Practical	Credits
DSC		Fundamentals of Biochemistry	4	0	0	4
DSC		Food Preservation	4	0	0	4
DSC		Food Product Development and Marketing Strategy	4	0	0	4
DSC		Human Nutrition	4	0	0	4
DSE		Applications of Food Packaging	4	0	0	4
SEC		Basics in Rooms Division – Practical	0	0	4	2
		Sub Total				22
SEMESTER - V						
DSE		Facility Planning	4	0	0	4
DSC		Community Nutrition	4	0	0	4
DSC		Family Meal Management	4	0	0	4
DSC		Therapeutic Dietetics	4	0	0	4
DSC		Sports Nutrition	4	0	0	4
DSE		Advanced Cookery – Practical	0	0	4	2
		Sub Total				22
SEMESTER - VI						
SEC		Internship – 1 month	0	0	0	4
DSE		Research Methodology	4	0	0	4
DSC		Food Service Management	4	0	0	4
DSC		Human Growth and Development	4	0	0	4
DSC		Hospital Food Service Administration	4	0	0	4
DSC		Project	0	0	0	8
		Sub Total				28

TOTAL CREDITS = 140

DSC- Discipline Specific Core
SEC - Skill Enhancement Elective
DSE - Discipline Specific Elective
AEC - Ability Enhancement Core

9. Course Calendar

Date of commencement of course will be done by the university. The course calendar published by the university shall be followed for ensuring timely conduct of the course, examination and publication of results.

10. Scheme of the course

B.Sc. Food Service Management and Applied Nutrition will have 6 semesters. Each Course carries 100 marks (Internal 40 and external 60) excepting for Internship and Project Report. An internal viva voce examination will be conducted at the end of the 6th semester. **In the sixth semester there will be an internship for one month.**

11. Scheme of examination and Results

Assessment of students for each course will be done by continuous evaluation both internal and external. Internal evaluation shall be conducted by the faculty handling the course. End semester examinations of all subjects will be conducted by the university.

The split up of the Continuous Assessment Marks are as follows

CA Class tests	3X5= 15
Class Assignment	1X5= 05
Model Examination	1X5= 05
Attendance	1X5= 05
Aptitude of the student	1X5= 05
Faculty assessment (by teacher)	1X5= 05
Total	40

The split up of the Continuous Assessment Marks for Practical are as follows

Record work	1X10= 10
Class Assignment	1X5 = 05
Model Practical	1X10= 10
Attendance	1X5 = 05
Aptitude of the student	1X5 = 05
Faculty assessment (by teacher)	1X5 = 05
Total	40

- The internal assessment marks shall be awarded by the concerned faculty members in charge of the course based on the guide lines as follows.
- Each faculty member shall maintain record of performance of each candidate and it shall be made available to the Head of the Department at the end of each semester.
- The same should be put on the notice board and students can make their representations if any. However, the student shall file an appeal to the Head of the Department on his grievances in awarding the internal assessment within 3 days from the date of display of internal marks on the notice board. Head of the Department should take an appropriate decision within 5 days from the date of receipt of such appeal.

- No minimum marks are required in the internal assessment for both theory and practical. The student has to secure a minimum of 40% (24 marks out of 60) in the semester end examination and a total of 40% (40 marks out of 100) for a pass in the respective subject.
- Eligibility for appearing in examination a candidate shall attend 75% of the number of classes actually held for each of the courses in a semester will be eligible for appearing for examinations conducted by the university. However, the University may condone of 10% after collecting a condonation fee from the students who have secured 65% to 74% of attendance
- The students who have secured less than 65% attendance are not eligible to write the respective semester examination. He /She has to rejoin and redo the respective semester course in the next academic year by paying the prescribed tuition fee.
- Candidates who pass all the examinations prescribed for the course in the first appearance itself alone are eligible for Ranking/Distinction

13. Commencement of the regulation

The regulation shall take effect from the academic year 2023-2024, i.e. for students who are admitted to the first year of the program, during the academic year 2023-2024 and thereafter.

14. Maximum period for completion of the programs to qualify for a degree

A Student who for whatever reasons is not able to complete the programs within the normal period (N) or the Minimum duration prescribed for the program, may be allowed two years period beyond the normal period to clear the backlog to be qualified for the degree. (Time Span = N + 2 years for the completion of program)

15. Revision of regulations, curriculum and syllabi

The University may from time-to-time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of examinations through the Academic Council with the approval of the Board of Management.

16. Pattern of Question Paper

Part – A (30 words)

10 out of 10 questions 10 X 3marks = 30 marks

Part – B (200 words)

5 out of 8 questions 5x 8 marks = 40 marks

Part – B (500 words)

2 out of 4 questions 2 x 15 marks = 30 marks

Total 100 marks

**Learning Outcomes based Curriculum Framework
(LOCF)
for
Undergraduate Programme
B.Sc. Food Service Management and Applied Nutrition
2023**

Table of Contents

1. Introduction
2. Learning Outcomes based Curriculum Framework
 - 2.1. Nature and extent of UG program in Food Service Management and Applied Nutrition
 - 2.2 Aims of UG programs in Food Service Management and Applied Nutrition
3. Graduate Attributes in Food Service Management and Applied Nutrition
4. Qualification Descriptors for UG programs in Food Service Management and Applied Nutrition
 - 4.1 Qualification Descriptors for B.Sc. Food Service Management and Applied Nutrition,
5. Program Learning Outcomes in Food Service Management and Applied Nutrition
 - 5.1 Program Learning Outcomes in B.Sc. Food Service Management and Applied Nutrition,
6. Structure of UG Courses in Food Service Management and Applied Nutrition
 - 6.1 Structure of courses in B.Sc. Food Service Management and Applied Nutrition,
 - 6.2 List of Food Service Management and Applied Nutrition courses
 - 6.3 Course Learning Outcomes (CLO), Skills to be Learned and Broad Contents of the Courses
 - 6.4Detail Contents of various Courses, the suggested references and books
7. Teaching Learning Process (TLP)
8. Assessment and Evaluation (AE)

Learning Outcomes-Based Curriculum Framework for undergraduate education in Food Service Management and Applied Nutrition

1. Introduction

The learning outcomes-based curriculum framework (LOCF) for the undergraduate program in Food Service Management and Applied Nutrition is intended to provide a broad framework within which the undergraduate programs in Food Service Management and Applied Nutrition helps to create an academic base that responds to the need of the students to understand the basics of Food Service Management and Applied Nutrition and its ever evolving nature of applications in explaining all the observed natural phenomenon as well as predicting the future applications to the new phenomenon with a global perspective. The curriculum framework is designed and formulated in order to acquire and maintain standards of achievement in terms of knowledge, understanding and skills in Food Service Management and Applied Nutrition and their applications to the natural phenomenon as well as the development of management attitudes and values appropriate for rational reasoning, critical thinking and developing skills for problem solving and initiating research which are competitive globally and are on par in excellence with the standard Higher Education Institutions (HEI) in the advanced countries of America, Asia and Europe. The multicultural fabric of our nation requires that the institutions involved in implementing this curriculum framework also work hard towards providing an environment to create, develop and inculcate rational, ethical and moral attitudes and values to help the creation of knowledge society needed for advancement of our nation.

The learning outcome based curriculum framework in Food Service Management and Applied Nutrition also allows for the flexibility and innovation in the program design of the UG education, and its syllabi development, teaching learning process and the assessment procedures of the learning outcomes. The process of learning is defined by the following steps which forms the basis of the final assessment of the achievement at the end of the program.

- The accumulation of facts of nature and the ability to link the facts to observe and. develop an understanding and knowledge of the basic ethics in Food Service Management and Applied Nutrition .
- The ability to use this knowledge to analyze new situations and learn skills of major departments in hotels to find the solution interpret the results and make predictions for the future developments.
- The ability to synthesize the acquired knowledge, understanding and experience for a better and improved comprehension of situational problems in nature and to create new skills and decision makings for their possible solutions.

The conceptualization and formulation of the learning outcomes for an undergraduate program in Food Service Management and Applied Nutrition is aimed to acquire an excellent knowledge of the food service management and nutrition-based hospitality and allied industries.

2. Learning Outcomes based approach to Curriculum planning

2.1 Nature and extent of UG program in Food Service Management and Applied Nutrition:

The UG programs in Food Service Management and Applied Nutrition builds on acquiring the basic knowledge of standard operating practices and procedures for the nutrition based industries. Ideally, the Food Service Management and Applied Nutrition program aims to achieve a sound grounding in understanding the basic Food Service Management and Applied Nutrition with sufficient content of topics from modern Food Service Management and Applied Nutrition and contemporary areas of exciting developments in hospitality and nutrition based knowledge to ignite the young minds. The curricula and syllabi is framed and implemented in such a way that the basic connection between theory and practical and its importance in understanding Food Service Management and Applied Nutrition is apparent to the student. This is very critical in developing a scientific temperament and urge to innovate, create and actively execute practices of Food Service Management and Applied Nutrition.

The undergraduate program in Food Service Management and Applied Nutrition is presently being offered though the courses designed for granting the degree by various colleges and universities in India. The B.Sc. Food Service Management and Applied Nutrition is of three year duration spread over six semesters after the higher secondary (+2) level.

2.2 Aims of UG program in Food Service Management and Applied Nutrition

The aims and objectives of our UG educational programs in sciences in general and Food Service Management and Applied Nutrition in particular is structured to

- Create the facilities and environment to consolidate the knowledge acquired at +2 level and to motivate and inspire the students to create deep interest in Hotel Management and Catering skills, to develop broad and balanced knowledge and understanding of concepts, principles and practices and procedures in Food Service Management and Applied Nutrition.
- Learn, understand and acquire skills of hoteliers in the labs to demonstrate the concepts, operating procedures and theories learned in the classrooms.
- Develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems and executes them.
- Expose the student to the vast scope of Food Service Management and Applied Nutrition as a theoretical and experimental science with applications in decision makings and solving day to day operational problems.
- Emphasize the discipline of Food Service Management and Applied Nutrition to be the most important branch of science for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.
- To emphasize the importance of Food Service Management and Applied Nutrition as the most important discipline for sustaining the existing industries and establishing new ones to create job opportunities at all levels of employment.

In view of opening the new windows in higher education and research and opening job opportunities at all levels from low levels to higher levels of management, the undergraduate programs is offered in our department at the entry level of our higher education system.

3. Graduate attributes in Food Service Management and Applied Nutrition

Some of the characteristic attributes of a graduate in Food Service Management and Applied Nutrition are

Disciplinary knowledge and skills: Capable of demonstrating

(i) Good knowledge and understanding of major concepts, standard operating practices, in various departments at hotels like Front Office, Housekeeping, Food and beverage Service and Food Production. Record maintenance and guest handling with an apt decision-making skill. Ability to use modern equipment at various departments and understanding of updated software at hotels.

Skilled communicator: Ability to transmit communications of information relating all areas among departments in hotels. Food Service Management and Applied Nutrition course in a clear and concise manner invokes the communication standard procedures in writing and oral ability to present complex and technical concepts in a simple language for better understanding.

- **Critical thinker and problem solver:** Ability to employ critical thinking and efficient problem-solving skills in all the basic areas of hospitality, catering and nutrition based establishments.
- **Sense of inquiry:** Capability for asking relevant/appropriate questions relating to the issues and problems in the field of Food Service Management and Applied Nutrition, and planning, executing and reporting the results of a theoretical or standard operational practices.
- **Team player/worker:** Capable of working effectively in diverse teams in both classroom, laboratory, Food Service Management and Applied Nutrition workshop and in industry and field-based situations.
- **Skilled project manager:** Capable of identifying/mobilizing appropriate resources required for a project, and manage a project through to completion, while observing responsible and ethical scientific conduct; and safety and laboratory hygiene regulations and practices.
- **Digitally Efficient:** Capable of using computers for simulation studies in Food Service Management and Applied Nutrition and computation and appropriate software for day to day operations at hotels. Numerical and statistical analysis of data, and employing modern e-library search tools like Inflight, various websites of the renowned hotels sites and software in countries like the USA, Europe, Japan etc. to locate, retrieve, and evaluate information about hotel and hospitality industry.
- **Ethical awareness / reasoning:** The graduate should be capable of demonstrating ability to think and analyze rationally with modern and scientific outlook and identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights, and adopting objectives, unbiased and truthful actions in all aspects of work.
- **National and international perspective:** The graduates should be able to develop a national as well as international perspective for their career in the chosen field of the academic activities. They should prepare themselves during their most formative years for their appropriate role in contributing towards the national development and projecting our national priorities at the international level pertaining to their field of interest and future expertise.
- **Lifelong learners:** Capable of self-paced and self-directed learning aimed at personal development and for improving knowledge/skill development and reskilling in all areas of hotels and catering establishments.

4. Qualification descriptors for a UG programs in Food Service Management and Applied Nutrition

The qualification descriptors for a B.Sc. Food Service Management and Applied Nutrition program may include the following.

The graduates should be able to:

- Demonstrate
 - i. A fundamental/systematic or coherent understanding of the academic field of Food Service Management and Applied Nutrition , its different learning areas in major departments like Food and Production, Food and Beverage Service, Accommodation Operation, Front Office Operation, Facility Planning and Event Management.
 - ii. Procedural knowledge that creates different types of professionals related to different areas of study in Food Service Management and Applied Nutrition outlined above, including research and development, teaching and government and public service;
 - iii. Skills in areas related to specialization area relating the subfields and current developments in the academic field of Food Service Management and Applied Nutrition.
- Use knowledge, understanding and skills required for identifying problems and issues, collection of relevant quantitative and/or qualitative data drawing on a wide range of sources from various hospitality and nutrition based sectors of the world, and their application, analysis and evaluation using methodologies as appropriate to Principles for formulating new theories and concepts.
- Communicate the results of studies undertaken accurately in a range of different contexts using the main concepts, constructs and techniques. Develop communication abilities to present these results in technical as well as popular management meetings organized in various universities and other private organizations.
- Ability to meet one's own learning needs, drawing on a range of current research and development work and professional materials, and interaction with other delegates around the world.
- Apply one's knowledge of Food Service Management and Applied Nutrition and theoretical and operational skills to new/unfamiliar contexts to identify and analyze problems and issues and solve complex problems in hotels and related areas with well-defined solutions.

5. Programme learning outcomes relating to B.Sc. Courses in Food Service Management and Applied Nutrition

The student graduating with the Degree B.Sc. Food Service Management and Applied Nutrition should be able to

- Acquire
 - (i) A fundamental/systematic or coherent understanding of the academic field of Food Service Management and Applied Nutrition and its different learning areas and applications.
 - (ii) Procedural knowledge that creates different types of professionals related to the disciplinary/subject area of Food Service Management and Applied Nutrition, including professionals engaged in research and development, teaching ,and government/public service.
 - (iii) Skills in areas related to one’s specialization area within the disciplinary/subject area of Food Service Management and Applied Nutrition and current and emerging developments in the field of Hospitality and Nutrition based sectors.
- Demonstrate the ability to use skills in Food Service Management and Applied Nutrition and its related areas of technology for formulating and tackling nutrition-related problems and identifying and applying appropriate principles and methodologies to solve a wide range of problems.
- Recognize the importance of Management activities simulation and computing, and the role of approximation and management approaches in describing the nutrition and hospitality world.
- Demonstrate relevant generic skills and global competencies such as (i) problem-solving skills that are required to solve different types of nutrition-related problems with well-defined solutions, and tackle open-ended problems that belong to the disciplinary-area boundaries; (ii) investigative skills, including skills of independent investigation of hospitality nutrition-related issues and problems; (iii) communication skills involving the ability to listen carefully, to read texts, client problems and research papers analytically and to present complex information in a concise manner to different groups/audiences of technical or popular nature; (iv) analytical skills involving paying attention to detail and ability to construct logical arguments using correct technical language related to Food Service Management and Applied Nutrition and ability to handle situations and decision making; (v) ICT skills; (vi) personal skills such as the ability to work both independently and in a group.
- Demonstrate professional behaviour such as (i) being objective, unbiased and truthful in all aspects of work and avoiding unethical, irrational behaviour such as fabricating, falsifying or misrepresenting data or committing plagiarism; (ii)the ability to identify the potential ethical issues in work-related situations; (iii) appreciation of intellectual property, environmental and sustainability issues; and (iv) promoting safe learning and working environment.

6. Teaching Learning Processes

The teaching learning processes play the most important role in achieving the desired aims and objectives of the undergraduate programs in Food Service Management and Applied Nutrition as elaborated in detail in the learning based curriculum framework (LOCF). Food Service Management and Applied Nutrition is basically a theory cum practical based studies learning practices and procedures at the hotel industry. The ideas and concepts originated and accepted worldwide anywhere and anytime. To achieve this goal, the appropriate training of young individuals to become competent hoteliers in future has to be accomplished. For this purpose a very good undergraduate program in Food Service Management and Applied Nutrition and other sciences is the first step. We should therefore have an excellent teaching-learning procedural protocol our department. To be specific, we have:

- Necessary and sufficient infrastructural facilities for the class rooms, laboratories and libraries equipped with adequate modern and modular equipment and accessories and other requirements.
- Modern and updated laboratory equipment needed for the undergraduate laboratories and reference and text books for the libraries.
- Sufficient infrastructure for ICT and other facilities needed for technology-enabled learning like Specialty Kitchens, Demonstration rooms, computer facilities, PCs, laptops, Wi-Fi and internet facilities with all the necessary software.
- Sufficient number of teachers in permanent position to do all the class room teaching and perform and supervise the laboratory experiments to be done by the students.
- All the teachers are qualified as per the UGC norms and have good communication skills.
- Sufficient number of technical and other support staff to run the laboratories, libraries, equipment and maintain the infrastructural facilities like buildings, electricity, sanitation, cleanliness etc.

Teachers make use of all the approaches for an efficient teaching-learning process i.e.

- I. Class room teachings with lectures using traditional as well as electronic boards.
- II. Use of Smart class rooms for simulation and demonstration for conveying the difficult concepts of Food Service Management and Applied Nutrition in class room teaching and laboratories.
- III. Tutorials are an integral part of all the theory and laboratory courses. Theory courses have 1-2 tutorials every week depending upon the nature of the course.
- IV. Teaching is complimented with students seminar that is organized frequently.
- V. Guest lectures and seminars are arranged by eminent teachers who are invited by the department.
- VI. Open-ended project work is given to all students individually or in group to 2-3 students depending upon the nature of the course.
- VII. Internship : A duration of one month Internship must be completed by the students during their sixth semester.
- VIII. Special attempts are made by the institution to develop problem-solving skills and design of laboratory experiments for demonstration at the UG level. For this purpose a mentor system has been evolved where 15 to 20 students are assigned to each faculty member.
- IX. Teaching load is managed such that the teacher has enough time to interact with the students to encourage an interactive/participative learning.

7. Assessment Methods

In the undergraduate education of B. Sc with Food Service Management and Applied Nutrition the assessment and evaluation methods focus on testing the conceptual understanding of the basic ideas, development of management skills and operational techniques retention and ability to apply the knowledge acquired to explain with analysis and reason what has been learnt and to solve new problems and communicate the results and findings effectively. Since the Learning Objectives are defined clearly for each course in detail, it is easier to design methods to monitor the progress in achieving the learning Objectives during the course and test the level of achievement at the end of the course.

- The courses offered in the undergraduate Food service management and Applied Nutrition are the first courses at the college/university level; the priority is given to Formative Assessment for monitoring the progress towards achieving the Learning Objectives while keeping its weightages lower than Summative Assessments. This is to assure that the students know their strengths and weaknesses periodically through the results of Formative Assessments and make amends for the gaps in their knowledge without affecting their final grades in any significant way. In this context it is suggested that 25-30% weightage be given Formative Assessments in case of theory components while 30-40% weightage be given to the Laboratory/Field work/Projects/Case Study/Dissertation components of the various courses. Moreover use of more than one method of Assessment in each course is highly recommended.
- Some of the methods used for Theory Component with regard to Formative Assessment are i) Regular Tutorial assignments ii) seminar presentations iii).Performance in group discussions iv) Problem based longer assignments (other than tutorials) v) True/False Tests vi) Multiple Choice Tests vii) Short Answer Tests viii) viva-voce tests ix) Any other innovative tests in the context of the course.
- In the case of substantive Summative Assessment for the theory papers, can be a combination of the following i) Mid -Semester test ii) Seminar Report iii) Individual /Team Project report iv) Oral Presentations of Seminar/Projects v)Viva –Voce Examination on the above reports vi.End Semester closed book examination in the pattern of a) Multiple Choice b) Short Answer c) Long Answer vii) Peer examination by a group of experts a) Written b) Oral viii) Any other innovative method depending upon the nature of the course.

Laboratory Experiments / Field work / Projects / Case Study / Dissertation can be assessed for Formative Assessment through i) Regular evaluation of Lab. Experiments regarding a) written report of each experiment b) Viva-Voce on each experiment ii) Test through setting experiments by assembling components iii) Mid semester examination iv) Design innovative kits to test the comprehension and analysis of the experiment done by the students

- At the end, the main purpose of Food Service Management and Applied Nutrition teaching is to impart objective knowledge to students in concrete, comprehensive and effective way. Here, effectiveness implies gaining knowledge and skill which is applied to solve practical problems as well as attaining capability of logical thinking and imagination which are conducive to new knowledge and new discoveries.

Once the student learns, ‘why is it worth learning?’ and ‘how does it connect to the real world?’ The student shall embrace the curriculum in a way which would incite imagination and imbibe a spirit of enquiry in them, so that in future they will opt for further investigations or research. Needless to say, there is a continuous evaluation system for the students. This will enable the teachers not only to ascertain the overall progress of learning by the students, but also to identify the students who are slow learners and for whom special care should be taken. An appropriate grading system is the ‘relative grading system’ is also be envisaged for certain papers, introducing a competitive element among the students. All in all, the teacher acts as a facilitator and guide and not as a guardian of curriculum.

- HEI design their own ways and methods to quantify the assessment and evaluation based on the above methods. It would then be converted to the letter grades by the procedure described by the template given by the UGC.
- Once the letter grade for a course is obtained for a course, it should be done for all the courses offered by the student. Once the letter grades for all the grades are accumulated then a CGPA is calculated by quantifying the letter grades as described by the template provided by the UGC.

I YEAR – I SEMESTER

பகுதி-1, தகுதிப்புள்ளி: 3, வாரப் பாட நேரம்: 3.

தாள்-1 இக்காலக் கவிதைகள் – உரைநடை – பண்பாடு – மொழித்திறன் பாடத்திட்ட நோக்கம்: மாணவர்களின் இலக்கிய நாட்டத்தை மேம்படுத்துதல், தற்கால தமிழ் இலக்கிய வகைமைகளான மரபுக்கவிதை, புதுக்கவிதை, உரைநடை ஆகியவற்றை அறிமுகப்படுத்துதல், தமிழர்தம் வாழ்வியல் நெறிகளையும் பண்பாட்டுச் செழுமைகளையும் இன்றைய தலைமுறையினர் அறியச் செய்தல், மாணவர்களுக்குத் தமிழைத் தவறின்றி எழுதுவதற்குத் தேவையான பயிற்சி அளித்து அவர்களின் மொழித்திறனை மேம்படுத்துதல், செய்யுளின் நலத்தைப் பாராட்டும்முறைமையை அறியச் செய்து அதன்வழி சிந்தனை வளத்தைப் பெருகச் செய்தல் என்பனவும் மேற்கண்டவழி மாணவர்களை ஆளுமை மிக்கவர்களாக உருவாக்கி, போட்டித்தேர்வுகளுக்குத் தயார் செய்து அவர்களுக்கு வேலைவாய்ப்பை உருவாக்குவதும் இந்தப் பாடத்திட்டத்தின் முக்கிய நோக்கமாகும்.

அலகு 1: மரபுக்கவிதை 9 மணி நேரம்

1. பாரதியார் - பாரத தேசம் என்னும் தலைப்பில் ஆறு பாடல்கள். (பாடல் எண்கள் 1, 6, 7, 9, 12, 13)

2. பாரதிதாசன் – தமிழுக்கும் அமுதென்று பேர் என்னும் தலைப்பிலான கவிதை. 3. தேசிக விநாயகம் பிள்ளை - உடல் நலம் பேணல் என்னும் தலைப்பிலான கவிதை 4. முடியரசன் - காவியப் பாவை – “புண்படுமா” என்னும் கவிதை.

அலகு 2: புதுக்கவிதை 9 மணி நேரம் 1. நா. காமராசன் - கறுப்பு மலர்கள் தொகுப்பில் காகிதப்பூக்கள் என்னும் தலைப்பிலான கவிதை. 2. அப்துல் ரகுமான் - ஆலாபனை தொகுப்பில் போட்டி என்னும் தலைப்பிலான கவிதை 36 3. ஈரோடு தமிழன்பன் - ஒரு வண்டி சென்றியு தொகுப்பில் தேர்ந்தெடுக்கப்பட்ட சென்றியு கவிதைகள் 4. ஆண்டாள் பிரியதர்ஷினி – முத்தங்கள் தீர்ந்துவிட்டன தொகுப்பில் 'இங்கே வரும் போது' என்னும் தலைப்பிலான கவிதை

அலகு 3: உரைநடை 9 மணி நேரம் 1. மாணாக்கரும் தாய்மொழியும் - திரு.வி.க., 2. மன வலிமை வேண்டும் - மு.வரதராசனார் 3. செம்மொழித் தமிழின் சிறப்புகள் 4. பண்டைத் தமிழரின் சாதனைச் சுவடுகள்

அலகு 4: தமிழர் வாழ்வும் பண்பாடும் 9 மணி நேரம் பண்பாடு – வாழ்வியல் முறை – அகம், புறம் - உணவு முறை - விருந்தோம்பல் - நம்பிக்கைகள் – விழாவும் வழிபாடும் - கலைகள் - கட்டடம் - சிற்பம் - ஓவியம் - இசை – கூத்து – தொழிலும் வணிகமும் – அறிவியல் நோக்கு.

அலகு 5: மொழித்திறன், இலக்கிய வரலாறு, இலக்கணம் 9 மணி நேரம் 1. எழுத்துப் பிழை, தொடர்பு பிழைகள் 2. வேற்றுமை இலக்கணம் 3. செய்யுள் நலம் பாராட்டல் 4. பாடம் தழுவிய இலக்கிய வரலாறு (மரபுக் கவிதை, புதுக்கவிதை, உரைநடை)

மொத்தம்: 45 மணி நேரம்

Course Outcomes At the end of this course CO 1 Recall and recognize heritage and culture of Tamils through History of Tamil Language. CO 2 Interpret the cultural life style of Ancient Tamils. CO 3 Evaluate social and individuals moral value after studying Ethics In modern Literature 37 CO 4 Build the humanistic concept and moral life skills after studying divine and minor Literature. CO 5 Improve their own creativity and writing skills after studying history of Modern Tamil Literature.

பார்வை நூல்கள்

1. தமிழர் நாகரிகமும் பண்பாடும், டாக்டர் அ. தட்சிணாமூர்த்தி, ஐந்திணைப் பதிப்பகம், 2001
2. தவறின்றித் தமிழ் எழுதுவோம், மா. நன்னன், ஏகம் பதிப்பகம், 1999.
3. தவறின்றித் தமிழ் எழுத - மருதூர் அரங்கராசன், ஐந்திணைப் பதிப்பகம், 2003
4. தமிழ் இலக்கிய வரலாறு, வரதராசன், மு., புது தில்லி : சாகித்திய அக்காடெமி, 2002.
5. புதிய தமிழ் இலக்கிய வரலாறு, நீல. பத்மநாபன், சிற்பி பாலசுப்ரமணியம், சாகித்திய அகாடெமி, 2007.
6. செம்மொழி தமிழின் சிறப்பியல்புகள் - முனைவர் மறைமலை இலக்குவனார்; <https://www.youtube.com/watch?v=HHZnmJb4jSY>
7. பாடநூல் தேடலுக்கான இணையம் - <https://arch>

Course Objective: ● to enable students to develop their communication skills effectively. To make students familiar with usage skills in English Language. ● to enrich their vocabulary in English

- To develop communicative competency.

UNIT I

1. Dangers of Drug Abuse - Hardin B Jones
2. Tight Corners - E. V. Lucas

UNIT II 09

3. Futurology - Aldous Huxley
4. If You are Wrong, Admit it - Dale Breckenridge Carnegie

UNIT III 09

5. Industry - Dr.M.Narayana Rao & Dr.B.G.Barki
6. Turning Point of My Life - A.J Cronin

UNIT IV 09

7. Excitement - Mack R. Douglas
8. The Kanda Man Eater - Jim Corbett

UNIT V 09 9. Vocabulary and Exercises under the Lessons

Total 45 Hours

Note: Lessons prescribed are from various anthologies and respective exercises therein will be taught.

Course Outcome At the end of this course students will be able to, CO1 Examine the language of prose. CO2 Utilize instructions on fundamentals of grammar CO3 Develop their own style of writing after studying diverse prose essays. CO4 Classify different essays on the basis of their types. CO5 Critically comment on the textual content of prose

Books Prescribed:

- English for Communication Enrichment: by Jeya Santhi June 2015.
- Dr. M. Narayana Rao and Dr. B. G. Barki – Anu’s Current English for Communication (AnuChitra).2015
- Dr. Ananthan , R. Effective Communication. Ed. Chennai : Anu Chithra Pub.2010.

Course Objective: ● To enable the students to develop communication skills ● To train students in official language ● To enrich their knowledge in Hindi literature

Unit I - ' Ek atuut kadi', letter writing, Technical words. 9 Hours

Unit II 'Devi singh' , letter writing, Technical words. 9 Hours 38

Unit III ' kabiraa ki kaashi ', letter writing, Technical words. 9 Hours

Unit IV ' kabiraa ki kaashi ', letter writing, Technical words. 9 Hours

Unit V ' bharathiya vigyan ki kahaani '- 'hamne diyaa ,hamne liyaa' , letter writing 9 Hours

Total: 45 Hours

Course Outcome

At the end of this course

CO 1 Students will be familiar with official letter writing

CO 2 will be trained in writing various letters.

CO 3 students will be molded with good character understand human values

CO 4 students will gain knowledge about ancient India

CO 5 will know the equivalent Hindi words for scientific terms

Text /Reference Books :

Agyeya ki sampurna kahaniyaa - Rajpal &sons, year 2017,

Yatraye our bhi ,Kumar Ravindra Rashmi prakashan ,Lucknow Bharathiya vigyan ki kahani,
Hindi book centre ,NewDelhi Gadya Khosh

Course Objective:

To introduce French Language. To enable the students understand and to acquire the basic knowledge of the French Language with the elementary grammar.

UNIT I INTRODUCTION 9

Introduction - Alphabet – Comment prononcer, écrire et lire les mots- Base : Les prénoms personnel de 1^{er}, 2^{ème} et 3^{ème} personnes – Conjugaisons les verbes être et avoir en forme affirmative, négative et interrogative

UNIT II LEÇONS 1-3 Leçons 1. Premiers mots en français,- 2. Les hommes sont difficiles,- 3 Vive la liberté- Réponses aux questions tirés de la leçon - Grammaire : Les adjectives masculines ou féminines – Les articles définis et indéfinis - Singuliers et pluriels

UNIT 3 LEÇONS 4- 6 9 Leçons 4. L'heure, C'est 1 ;heure,- 5. Elle va revoir sa Normandie,- 6 Mettez –vous d'accord groupe de nom - Réponses aux questions tirés de la leçon - Grammaire : A placer et accorder l'adjectif en groupe de nom Préposition de lieu –A écrire les nombres et l'heure en français

UNIT IV LEÇONS 7- 9 Leçons 7. Trois visages de l'aventure,- 8. A moi, Auvergne,- 9. Recit de voyage - Réponses aux questions tirés de la leçon - Grammaire : Adjectif possessif – Les Phrases au Présent de l'indicatif - Les phrases avec les verbes pronominaux au présent

UNIT V COMPOSITION 9 A écrire une lettre à un ami l'invitant à une célébration différente ex mariage – A faire le dialogue - A lire le passage et répondre aux questions Total : 45 Hrs Text Book : 1. Jacky Girard & Jean Marie GRIDLIG, « Méthode de Français Panorama », Clé Internationale , Goyal Publication, New Delhi., Edition 2004 References: 1. Dondo Mathurin , “ Modern French Course”, Oxford University Press., New Delhi., Edition 1997 2. Nitya Vijayakumar, “Get Ready French Grammar – Elementary”, Goyal Publications, New Delhi., Edition 201

Course Objectives:

To enable students to understand the chemistry of foods - composition of food, role of each component and their interaction. To understand the functional aspects of food components and to study their role in food processing.

UNIT – I - Introduction to Food Chemistry

Definitions – Food, nutrients, principle components of foods, functions of foods, classification of foods, properties of foods, physical, chemical, functional and kinetic properties.

UNIT –II - Colloidal System in Foods

Colloidal system in foods – meaning, types, properties. Sols – meaning, types, properties: gels – meaning, type, properties, theory of gel formation, factors influencing gel formation.

UNIT – III – Emulsions

Emulsion – meaning, types, properties, emulsifying agents, natural and synthetic emulsifier, functions of emulsifying agent, common food emulsions: foams – meaning, methods of foam formation, theory of foam formation, properties – factors influencing foam formation, factors affecting stability of foam, foaming agents – natural and synthetic.

UNIT – IV - Water

Water –Types of water, hydrogen bonding in water, water and ice properties, functions of water in food. Water activity– definition, measurement and control of water activity, estimation of moisture in foods.

UNIT – V – Heat Transfer Operations in Foods

Heat transfer operations in foods – conduction, convection, radiation, gelatinization, retro gradation, dextrinization of starches, enzymatic and non-enzymatic browning reaction in foods, rancidity – types and prevention. Biochemical changes in foods.

Course Outcome:

On successful completion of this course learners will be able to:

CO1: Identify the different properties of food

CO2: Explain the various colloidal systems in food and the factors influencing gel formation

CO3: Identify the properties of emulsions and functions of emulsifying agents

CO4: Discuss the role of water its water activity

CO5: Identify the heat transfer operations and biochemical changes in food

Reference Books:

1. Food science, Chemistry and Experimental foods by M. Swaminathan.
2. Food Science by Norman.N.Potter.
3. Experimental study of Foods by Griswold R.M.
4. Food Science by Helen Charley.
5. Foundation of Food Preparation by A.G. Peckam.
6. Modern Cookery for teaching and trade, vol-I&II, Thangam Philip. Orient Longmans Ltd.
7. Food Fundamentals by MacWilliams, John Willy and son's, New York.
8. Food Facts & Principles by Shakunthala manay & Shadakhraswamy.
9. Food Science by Srilakshmi , second edition, 2002.

Course Objective:

To enable students to obtain knowledge of different food groups and their contribution to nutrition. To enable them gain knowledge of beverages and its uses with attention to the preservation of their nutritive value - oriented to Traditional Indian beverages. To help them understand the food additives and food laws and standards governing the food adulteration.

UNIT I: Introduction to Food Science**Selection, nutritional contribution and changes during cooking of the following food groups:**

- Cereals - Pulses - Fruits and vegetables - Milk & milk products - Eggs
- Meat, poultry and fish - Fats and Oils

UNIT II: Spices and Condiments

- Brief history of spices and condiments
- Uses
- Differences between spices and condiments

UNIT III: Beverages

- Changes of Nutritive Value on processing of beverages
- Storage
- Traditional Indian beverage (Garam-Chai, Lassi, Chach, Sharbat, Thandai, Shikanjami, Kanj, or even sweetened milk)

UNIT IV: Food Additives

- Leavening agents, shortenings, stabilizers, flavouring agents and food substitutes.

UNIT V: Food Adulteration

- Types of adulteration - methods of detection, food laws and standards

Total Hrs.30**Course Outcome:****On successful completion of this course learners will be able to:**

CO1: Examine the different food groups based on its selection, nutritional composition and effect of cooking

CO2: Explain origin of spices, its properties and its significance in the field of Ayurveda and medical applications.

CO3: Prepare various traditional beverages and identify its nutritional value

CO4: Discuss the additives in food and the role they play in the colours and textures of food.

CO5: Identify physical, chemical contaminants in foods and comply with current Food regulations and Food laws governing the food additives and food adulteration

References

1. Lowe, B. 1955. Experimental Cookery, John Wiley & Sons Inc., New York.
2. Hughes, O and Bennion, M. 1970. Introductory Foods, 5th ed., The Macmillan Co., New York.
3. Griswold, R.M. 1962. Experimental Study of Foods, Houghton Mifflin Company, Boston.
4. Ghose, R.L.M., Ghate, M.B. and Subramaniam, V. 1960. Rice in India. ICMR, New Delhi.
5. Eckles, G.H., Combs, W.S. and Macy, H. 1951. Milk and Milk Products, RMB Publishing Co., Ltd., New Delhi.
6. Ireson, A.G. and Limscomb, S.F. 1978. Foods for One or Two or More, Houghton Mifflin Co., Boston.
7. Fisher, P. and Bender, A. 1971. The Value of Foods. Oxford University Press, London.
8. Birch, G.C. and Cameron, A.G. and Spencer, M. Food Science, 3rd ed., Pergamon Press, Oxford.
9. Sweetman, M.D. and Mackellar, I. 1954. Food Science and Preparation. 4th ed., John Wiley & Sons Inc., New York.

Course Objectives

To enable students to understand the various properties and factors affecting various food groups

1. To study the gelatinization temperature range & percentage sag of various cereal starches.
2. To study the factors affecting gelatinization of cereal starches.
3. To study dextrinization properties of various cereals and legumes.
4. To study the development of gluten in various flours.
5. To study the effect of enzymatic browning in fruits and vegetables.
6. To study non enzymatic browning, caramelization in various sugars.
7. Determination of P^H of foods.
8. Determination of Moisture content in foods.
9. To study pasteurization of milk & fruit juices.
10. Specific gravity of fats and oils.

Course Outcome:

On successful completion of this course learners will be able to:

CO1: Identify the different properties of food

CO2: Explain the various factors affecting gelatinization and dextrinization of cereal starches

CO3: Determination of pH and moisture content of foods

CO4: Examine the effect of enzymatic and non – enzymatic browning

CO5: Determine specific gravity of fats and oils

Course Objective:

To develop the perfect basic skills in handling food stuffs and using dry and moist heat methods of cooking. To make the students learn continental cuisines in 14 application menus.

Menu – I Potage Madras, Poisson a la meunière, Pommes persillées, Haricot vert au beurre, Bread roll and Crème caramel.

Menu – II Crème de tomates, Steak au poivre, Baked Jacket potatoes, Petit pois à la française, French Bread and Bread & Butter Pudding.

Menu – III Crème de volaille princesse, Poulet à la King, Croquettes de pommes de terre, Ratatouille niçoise and Nankhatai.

Menu – IV Scotch broth, Suprême de volailles à la crème, Riz pilaf, Chou-fleur Mornay, French bread and Genoese au chocolat.

Menu – V Minestrone, Fillet de Pomfret bonne femme, Pommes duchesse, Epinards au beurre and Queen of Puddings.

Menu – VI Plain rice, Drumstick sambar, Naattu kozhi varuval, Tomato rasam, Potato masala and Semiya payasam.

Menu – VII Oeuf Farci, Poulet rôti, Beignets d'aubergines, Pommes de Terre Rôti and Jam Tarts.

Menu – VIII Consommé brunoise, Spaghetti Napolitaine, Pommes Pontneuf, Vichy carrots and Strawberry mousse.

Menu – IX Crème d'asperges, Navarin Printanier, Chou-fleur polonaise, Pommes layonnaise and Macedoine de fruits.

Menu– X

Waldorf salad, Potato & leeksoup, Poulet poché avec sauce suprêmes, Pommes allumettes, Tomates grillées and plain sponge.

Menu– XI Gazpacho, Salade russe, Fillet de pomfret grillées, Epinards à la crème, Pommes de terre Anna, and Fruit trifle.

Menu– XII Jeera pulao, Chicken butter masala, Phulka, Vegetable Jalfraizi, and Shahi thukra.

Menu– XIII Hot & sour egg drop soup, Vegetable fried rice, Chili chicken, Sweet & sour vegetables and Beijing Toffee bananas

Menu– XIV Cocktail de crevettes, Poulet sauté chasseur, Pommes hongroise, Soufflé d'épinards, Swiss roll.

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Apply the appropriate cooking methods for different constituents.

CO2. Design assorted French menus with the appropriate ingredients.

CO3. Examine practical skills and techniques to prepare stocks and soups.

CO4. Plan the menu consisting of soups, main course and desserts.

CO5. Assess the yield of various foods.

Sub code

Soft Skills

Course Objectives:

To enable students to develop oral and presentation skills and to enhance their creativity and leadership skills.

UNIT – I

Oral communication skills: Public speaking - Group presentations and discussions - Participation in meetings and interviews – Brainstorming - Designing and delivering presentations, Team Presentations-Non-Verbal communication: Forms of Non-Verbal communication, Interpreting non-verbal messages, Tips for effective use of Non-Verbal communication.

Unit-II

Skills development through practice: Listening skills and barriers; JAM sessions, Role Plays, Debates, Elocution, Mock Interviews, etc.; Persuasive Communication, Convincing Skills, Conversations.

Unit III

Spoken English skills: Vocabulary-word power; grammar-common errors and sentence building, phonetics; reading comprehension and vocabulary building psychometrics; aptitude and personality assessment and testing.

Unit IV

Presentation skills and techniques; Personal grooming and business etiquettes- corporate etiquette, social etiquette and telephone etiquette, gestures and body, language, impression management- Image Building and Self Awareness- Developing Self Awareness-Projecting a winning personality-Attending Interviews.

Unit V

Leadership and communication activities- Motivation activities, leadership activities, team building activities, assertiveness activities, time management techniques, Stress management techniques, creativity and ideation.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Enhance oral communication and public speaking skills
- CO2. Enhance skills for Mock Interview and Debate
- CO3. Apply vocabulary and understand the common grammar errors
- CO4. Develop Presentation Skills for Personal Grooming and for attending Interviews
- CO5. Develop leadership and communications activities for better personality development

Reference Books

1. Kaul, Asha (2005), Effective Business Communication, PHI, New Delhi.
2. Munter Mary (2002), Guide to Managerial Communication: Effective Writing & Speaking, PHI, New Delhi.
3. Mandal S.K. (2007), Effective Communication and Public Speaking, Jaico, Mumbai.
4. Meenakshi Raman & Prakash Singh (2012), Business Communication, Oxford University Press.
5. Bovee, Thill & Schatzman (2003), Business Communication Today, Pearson New Delhi.

I YEAR – II SEMESTER

பகுதி-1, தகுதிப்புள்ளி: 3, வாரப் பாட நேரம்: 3. தாள்-2 அற இலக்கியம் – சிற்றிலக்கியம் – சிறுகதை – பயன்பாட்டுத் தமிழ் பாடத்திட்ட நோக்கம்: மாணவர்களின் இலக்கிய நாட்டத்தை மேம்படுத்துதல், அற இலக்கியங்கள், சிற்றிலக்கியம், சிறுகதை ஆகியவற்றை அறிமுகப்படுத்துதல், தற்காலப் பேச்சுத் தமிழ் எழுத்துத்தமிழ் ஆகியவற்றின் வளர்நிலைகளை மாணவர்களை அறியச் செய்தல், அதன்வழி சிந்தனை வளத்தைப் பெருகச் செய்தல் என்பனவும் மேற்கண்டவழி மாணவர்களை ஆளுமை மிக்கவர்களாக உருவாக்கி, போட்டித்தேர்வுகளுக்குத் தயார் செய்து அவர்களின் மொழித் திறனை மேம்படுத்த அவர்களுக்குக் கடிதம் எழுதும் கலையைக் கற்றுக்கொடுத்தல், அணி 51 இலக்கணத்தை அறியச் செய்தல் என்பன இந்தப் பாடத்திட்டத்தின் முக்கிய நோக்கமாகும்.

அலகு 1: அற இலக்கியங்கள் 10 மணி நேரம் 1. திருக்குறள் - வான் சிறப்பு(அறம்), ஊக்கமுடைமை(பொருள்), குறிப்பறிதல்(இன்பம்) – மூன்று அதிகாரங்கள் முழுமையும். 2. நாலடியார் – மூன்று பாடல்கள். (2, 3, 5) 3. பழமொழி நானூறு – மூன்று பாடல்கள் (74, 75, 78) 4. திரிகடுகம் – மூன்று பாடல்கள் (10, 12, 22) 5. இனியவை நாற்பது – மூன்று பாடல்கள் (1, 12, 16)

அலகு 2: சிற்றிலக்கியம் 10 மணி நேரம் 1. முத்தொள்ளாயிரம் சேரன் – வரீம் 14, 15 பாடல்கள் சோழன் – காதல் 23, 24 பாடல்கள் பாண்டியன் – நாடு 87, 88 பாடல்கள் 2. தமிழ்விடு தூது – முதல் 20 கண்ணிகள் 3. திருக்குற்றாலக் குறவஞ்சி – மலைவளம் கூறுதல் – முதல் 5 பாடல்கள் 4. முக்கூடற்பள்ளு – மூத்த பள்ளி நாட்டு வளம் கூறுதல் 3 பாடல்கள், இளைய பள்ளி நாட்டு வளம் கூறுதல் 3 பாடல்கள். 5. கலிங்கத்துப் பரணி – பாலை பாடியது – முதல் 5 பாடல்கள்

அலகு 3: சிறுகதை 9 மணிநேரம் 1. அறிஞர் அண்ணா - செவ்வாழை 2. புதுமைப்பித்தன் - கடவுளும் கந்தசாமிப் பிள்ளையும் 3. ஜெயகாந்தன் - யுகசந்தி 4. கு.அழகிரிசாமி - காற்று 5. அம்பை - காட்டில் ஒரு மான்

அலகு 4: பேச்சுத் தமிழ் 8 மணி நேரம் பேச்சுத் திறன் – விளக்கம் – பேச்சுத்திறனின் அடிப்படைகள் – வகைகள் – மேடைப்பேச்சு – உடையாடல் - பயிற்சிகள்

அலகு 5: எழுத்துத் தமிழ், இலக்கிய வரலாறு, இலக்கணம் 8 மணி நேரம் 52 1. கலைச் சொல்லாக்கம் – தேவைகள் – கலைச்சொற்களின் பண்புகள் – அறிவியல் கலைச் சொற்கள் – கடிதம் – வகைகள் – அலுவலகக் கடிதங்கள் – உறவுமுறைக் கடிதங்கள். 2. பாடம் தழுவிய இலக்கிய வரலாறு (அற இலக்கியம், சிற்றிலக்கியம், சிறுகதை) 3. அணி இலக்கணம் 4. விண்ணப்பக் கடிதம் எழுதுதல் மொத்தம்: 45 மணி நேரம்

Course outcomes

At the end of this course CO 1 Measure human mind through the studying of Tamil charity Literature in the aspect of moral value. CO 2 Justify the contemporary social issues through studying Tamil Epics. CO 3 Build the life skills after studying of the poetry. CO 4 Develop narrative skill after reading short stories. CO 5 Improve their own style of writing after studying Terminology methods

பார்வை நூல்கள்

1. பேசும் கலை, முனைவர் கு.ஞானசம்பந்தன் விஜயா பதிப்பகம், 2000.
2. தமிழ் இலக்கிய வரலாறு, வரதராசன், மு., சாகித்திய அக்காதெமி , புது தில்லி, 2002
3. தமிழ் நடைக் கையேடு, மொழி அறக்கட்டளை, 2008
4. பயன்பாட்டுத் தமிழ், முனைவர் அரங்க இராமலிங்கம், முனைவர் ஒப்பிலா மதிவாணன், சென்னை பல்கலைக்கழகம், 2007
5. மொழிபெயர்ப்பியல் அடிப்படைகள், கா. பட்டாபிராமன், யமுனைப் பதிப்பகம், திருவண்ணாமலை, 1999

பாடநூல் தேடலுக்கான இணையம்

- <http://www.tamilvu.org/library> • <https://archive.org/>

Course Objective: • To enable students to develop their communication skills effectively. • To enrich their vocabulary in English • To develop communicative competency.

UNIT I

1. Growing Old - Winston Farewell
2. Ecology - A. K. Ramanujan

UNIT II

3. Stopping by Woods on a Snowy Evening - Robert Frost
4. Our Casuarina Tree - Toru Dutt

UNIT III

5. Goodbye Party for Miss Pushpa T.S. - Nissim Ezekiel
6. The Bull - Ralph Hodgson

UNIT IV

7. If - Rudyard Kipling
8. The Drowned Children - Louise Glück

UNIT V

9. Australia - A.D.Hope
10. A Far Cry from Africa - Derek Walcott

Total: 45 Hours

Course Outcome • Learn to employ Poetic expressions in the course of daily speech. • Prove their better communicative ability. • Prove their skill in writing sentences with poetic impact. • Develop different sensibilities in approaching life. • Solve life's problems as highlighted in the selections.

Books Prescribed:

- Selections from Caribbean Literature. Mahaam Publishers, Chennai.
- Our Casuarina Tree - Vasan Publication By Dr.A Shanmugakani

Course Objective: ● To train students in translation ● To develop reading & writing skills ● To create interest towards reading different types of literature

Unit I - ‘zaruurath’ (kahani), Translation- Definition,Types 9

Unit II ‘Pandit kouun ‘ (kahani), Translation - Anuvadak ke gun 9

Unit III - ‘Pandit kouun (kahani) , Translation Practice 9

Unit IV - Rajani (naatak), Translation Practice 9

Unit V - Rajani (naatak), Translation Practice 9

Total Hours: 45

Course Outcome At the end of this course CO 1 Students will know the importance & process of translation CO 2 They can develop the skill of translation CO 3 will know the different writing skills of authors CO 4 gain knowledge in Hindi literature CO 5 will acquire knowledge in Hindi sahithya Text book: Gadya khosh Text/Reference book : ● Adhi rath ke baad ,by Shankar shah kitabghar prakashan ,2000 ● Idgah by Premchand,Bharathiya gyan peeth ,NewDelhi ,

Objective: ● To fortify the grammar and vocabulary skills of the students. ● To enable the students have an idea of the French culture and civilization

UNIT:I LECON 10-11 9 Leçons :10 Les affaires marchent,11 un repas midi a problèmes- Réponses aux questions tires de la leçon-grammaire ;présent progressif passe récent ou future proche-complément d’Object directe-complément d’objet

UNIT II- LECON 12-13 9 Leçons 12 :tout est bien qui fini bien,-13 aux armes citoyens-réponses aux questions tires de la leçon-grammaire :les pronoms<> rapporter des paroles-Les pronoms relatifs que, qui ou ou.

UNIT III-LECON 14-15 9 Leçons 14.Qui ne risque rien n’a rien-15.la fortune sourit aux audacieux-réponses aux questions tires de la leçon-grammaire : comparaison-les phrases au passe compose.

UNIT :IV-LECON 16-18 9 Leçons 16 la publicité et nos rêves 17 la France la monde 18 campagne publicitaire réponses aux questions tires de la leçon-grammaire :les phrases a l’imparfait-les phrases au future

UNIT :V- COMPOSITION : 9 A écrire une lettre de regret//refus a un ami concernant l’invitation d’une célébration reçue-a écrire un essaie sur un sujet générale-a lire le passage et répondre aux questions.

Total Hours: 45

TEXTBOOK : 1. Jack GIRARDER & Jean Marie GRIDLIG,<>, Clé Internationale, Goyal Publication ,New Delhi Edition 2014. REFERENCE BOOKS: 2. DONDO Mathurin, “Modern French Course”, Oxford University Press, New Delhi Edition 2014

Course Objectives:

To enable the students to gain knowledge on the role of micro-organisms in health and disease. To understand the role of micro-organisms in spoilage of various foods. To gain knowledge of micro-organisms in relation to food and food preservation.

UNIT-I - INTRODUCTION TO MICROBIOLOGY

Introduction to Microbiology and its relevance to everyday life. · General Characteristics of Bacteria, Viruses, Yeast, Molds, Protozoa, Algae. a. Bacteria: Bacterial cell, Morphology, Reproduction and function b. Viruses: Morphology, Classification, Phages - Life cycle, functions. c. Yeast: Morphology - Cell structure multiplication (Budding), functions. d. Molds: Morphology, classification, reproduction of molds. e. Algae: Morphology - Structure and reproduction. f. Protozoa: Morphology, reproduction, motility and classification. g. Economic importance of Molds, Yeast and Bacteria.

UNIT-II - PRINCIPLES OF FOOD PRESERVATION

Use of high and low temperature. Canning of fruits and vegetables. Preservation of drying, use of chemicals in food preservation. Part played by antibiotics in the preservation of fleshy foods.

DESTRUCTION OF MICRO-ORGANISM

· Sterilization:

(i) Application of Dry heat, burning, flaming and hot air oven. (ii) Application of moist heat, boiling, pasteurization -Advantages involved in pasteurization, methods – holder, flash. Steam sterilizers and autoclave. (iii) Sterilization with the use of filters.

UNIT-III - MICRO ORGANISM IN HUMAN WELFARE

Importance of microbes in food biotechnology, genetically engineered organisms, probiotics and single cell proteins. Fermentation: Aerobic and Anaerobic respiration. Products of Fermentation- Brief knowledge on the preparation of Bread, Malt beverages, Wine, Distil liquor, Vinegar, Fermented Vegetables and Dairy products.

UNIT-IV - CONTAMINATION AND SPOILAGE OF FOODS

Principles of food spoilage by microbiological, physical and biological factors - Causes of spoilage – Classification of foods based on spoilage – factors affecting – kinds and numbers of micro-organism in food; Growth and chemical changes caused by microorganisms. Contamination, preservation and spoilage of cereal and cereal products, baked products, Fruits and vegetables and their products, Fleshy foods, Milk and Milk products, Egg and Egg Products, and Fats and oils.

UNIT-V - MICROBIOLOGY OF FOOD POISONING, FOOD INFECTIONS AND FOOD BORNE DISEASES

Microbial food poisoning by Staphylococci, Salmonella and clostridium botulinum (Botulism). Measures to prevent microbial food poisoning.

· Public health hazards due to contaminated foods - Food borne Infections and Food intoxication symptoms, mode of transmission and methods of prevention of Dysentery diarrhea, Typhoid, Cholera.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Identify the different characteristics and structure of microbes
- CO2. Examine the various principles of food preservation techniques
- CO3. Examine the importance of microbes in food biotechnology
- CO4. Identify the various factors affecting food spoilage and contamination
- CO5. Determine the various health hazards caused due to contaminated foods.

References

1. Adams, MR and Moss, MO (2005) Food Microbiology, New Age International (P) Ltd., New Delhi.
2. Jay M.J (2005) Modern Food Microbiology, Fourth Edition, CBS Publishers and Distributors, New Delhi.
3. Tamime, A (2005) Probiotic Dairy Products, Blackwell Publishing, USA.
4. Cappuccino G.J and Sherman, N (2008) Microbiology – A Laboratory Manual, Pearson Education Publishers, USA,.
5. Ramesh, K.V (2007) Food Microbiology, MJP Publishers, Chennai.
6. Frazier, W.C, Food Microbiology, McGraw Hill Publications, New York, 4th Edition, 1998.
7. Pelczar, H.J. And Rober. D, Microbiology, McGraw Hill Publication, New York, 10th Edition, 1999

Course Objectives

To enable the students to understand the structure and basic physiology of various organs of the body. To obtain better understanding of the principles of Nutrition through the study of physiology.

UNIT-I: CELL-TISSUES

Introduction to the cell – Structure and function of a typical cell, cell division – Mitosis and Meiosis.

Tissues - classification, structure and function of epithelial, muscular, connective and nervous tissues.

UNIT-II: BLOOD, HEART AND CIRCULATION

Blood: Blood composition and function, plasma proteins, distribution functions. Cell components - RBC - Structure, function, normal count; WBC - classification, function, normal values. Blood coagulation, Erythropoiesis, blood grouping. ABO system and RH system

Heart and circulation: Structure of the heart and blood vessels, origin and conduction of heart beat, cardiac cycle, ECG, blood pressure – definition and factors affecting it.

UNIT-III: RESPIRATORY AND EXCRETORY SYSTEM

Respiratory system: Structure of pharynx, larynx, trachea, bronchi, lung and lung cavities. Physiology of respiration- Mechanism of respiration, gaseous exchange in the lungs.

Excretory system: Structure and function of kidney and Nephron, urine formation, micturition.

UNIT-IV: DIGESTIVE SYSTEM & NERVOUS SYSTEM

Structure and function – Secretory Digestive and absorptive functions. Role of Liver, Pancreas and Gall bladder.

Neuron structure and functions, Structure of Brain and Spinal cord Autonomic nervous system – sympathetic and parasympathetic.

UNIT-V: ENDOCRINE AND REPRODUCTIVE SYSTEM

General structure of male and female reproductive organs, puberty, menstrual cycle.

Functions and Disorders of Endocrine Glands – Pituitary, Thyroid, Parathyroid, Adrenal and Islets of Langerhans.

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Identify the different cells and tissues and its classification
- CO2. Examine the blood composition and the anatomy of heart
- CO3. Determine the structure and functions of respiratory and excretory system
- CO4. Identify the structure and functions of digestive and nervous system
- CO5. Examine the structure and functions of endocrine and reproductive system

References

1. Gary.A Thibodeau and Kelvin. T.Patlon, Anthony's Text Book of Anatomy And Physiology, Seventeenth edition, Mosby Publications, Indiana Print, 2004.
2. Anne Waugh and Allison Grant Ross and Wilson Anatomy And Physiology In Health and Illness Elsevier Publication, Ninth Edition, 2005.
3. Guyton, A.C, Text Book of Medical Physiology, 4th Edition, W.B. Saunders Co. Philadelphia, 1996.

Objectives:

To enable the students

1. To gain knowledge about food laws and standards for food quality
2. To know about food additives and quality control of foods.

UNIT-I

Principles of Quality control of foods –Raw material control, processed food control and finished product inspection. Leavening agents- classification, uses and optimum levels. Food additives - Preservatives, colouring, flavouring, sequestering agents, emulsifiers, antioxidants.

UNIT-II

Standardisation systems for quality control of foods:-National and International standardization system, GMP, GHP. Different types of food grade materials. Food adulteration - Common adulterants in foods and tests to detect common adulterants.

UNIT-III

Standards for foods: Cereals and pulses, milk and milk products, Coffee, tea, sugar and sugar products.

UNIT-IV

Methods for determining quality - Subjective and objective methods. Sensory assessment of food quality-appearance, color, flavour, texture and taste, different methods of sensory analysis, preparation of score card, panel criteria, sensory evaluation room.

UNIT-V

Food safety, Risks and hazards: Food related hazards, Microbial consideration in food safety, HACCP-principles and structured approach. FSSAI

Reference Books:

1. Food science-Norman potter
2. Food Technology- Presscott.S. C.and Procter
3. Food chemistry-Meyer
4. Food science,Chemistry and experimental foods-Swaminathan
5. Food science-Srilakshmi(2001)2nd edition, New age international publishers-(2001)
6. Rerfus.K.Guthrie-Food sanitation –3rd edition –Van Nostrand Reinhold Newyork 1988.
7. Mahirdra-S.N.-Food safety –A techno-legal analysis-Tata McGrawhill publishers 2000.
8. Manoranjan Kalia-Food processing and preservation.
9. Roday-Food hygiene and sanitation.

Course Objective:

To enable students to develop life skills required for personal growth and help them develop interpersonal communication

UNIT I

Self-Awareness "Self-Image", Development -Significant Others-Personality Adler's Individual Psychology Theory-Erikson's Eight Stages of Psychosocial Development. The relationship of thoughts and environment to the development of personality Cognitive and Social Learning Theories-The Self -Finding the real self-Self-Esteem

UNIT II

Getting Acquainted with Ourselves and Others -Define Human Relations-Self Disclosure Know oneself- Need to Disclose-The Johari Window -Relationship Building Five Dominant Patterns of Relationships-Loneliness Mutual Reward Theory (MRT) - The Fear of Getting Acquainted-Shyness -Perceptual Awareness-People Perception Tolerance, Acceptance, and Appreciation of Differences-Managing one own image Developing New Relationships

UNIT III

Dealing with Emotions -Definition of emotions -Characteristics of Emotions Types of Emotions-Living with Problem Emotions-Fear -Anxiety -Anger-Guilt and Shame-Grief and Bereavement - Love -Development of Emotions-Emotional Intelligence-The Costs of Denying Emotions -Getting Out of Emotional Debt-Guidelines for Dealing with your emotions
Understanding Culture and Emotion -Benefits of Expressing one's feelings -Forgiveness The Healing Process

UNIT – IV

Interpersonal Communication -Definition of communication Communication Process? -One and Two-Way Communication -Nonverbal Communication Conscious Nonverbal Communication- Verbal Communication -Technology and Communication Gender and Communication -Listening Barriers to Listening-Styles of Responding Active Listening-Empathetic Listening -Person-to-Person Communication

UNIT-V

Life Planning -Learning to Take Risks -Motivation -Maslow's Hierarchy of Needs Plan life like a vacation -Goal setting-Contributors to Success -The time in one's life culture and the organization of time-Creating Harmony in Life-Effective Life Planning :Happiness and Well-Being -Myths and Truths about Happiness -Ways to Be Happy-Breathe Easy

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Relate to various social learning theories
- CO2. Identify the reasons of getting acquainted with ourselves and others
- CO3. Identify various methods to deal with emotions
- CO4. Relate to various communication strategies
- CO5. Identify the various reasons for happiness and planning of life in a successful manner

Text Book

Barwick & Walker (2017): *Becoming Aware: A Text/Workbook For Human Relations and Personal Adjustment*, ed. :13 .). Kendall/Hunt Publishing Company

References:

- Johnson, D. W. (1986). *Reaching Out*. New Jersey: Prentice Hall.
- Johnson, D. W. & Johnson, F. P. (1982). *Joining Together* (2 ed.). New Jersey: Prentice Hall.

Web References:

- <http://blog.trainerswarehouse.com/negotiation-and-conflict-resolution-activities/>
- <https://www.developgoodhabits.com/self-awareness-activities/>

Course Objective:

To examine the various applications of equipment's used in microbiology laboratory and to determine the quality of food products

1. Understanding the Use of Microscope
2. Identification of Various Equipment's used in Microbiology Laboratory
3. Examination of Yeast, molds, Protozoa and Bacteria.
4. Examination of wet methods and hanging drop preparations.
5. Examination of stained organisms, Simple Staining and gram method of staining
6. MPN Analysis in estimating Potable Drinking Water
7. Estimation of Quality of Milk using Resazurin Test
8. Preparation of Sauerkraut
9. Preparation of Wine
10. Preparation of Yogurt

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Identify the various applications of equipment's in microbiology laboratory
- CO2. Examination of various microbes such as bacteria, yeast and protozoa
- CO3. Examine various stained organisms using staining techniques
- CO4. Estimation of quality of milk and water
- CO5. Preparation of Fermented Products

Course Objective:

To enable students to study the anatomy of vital organs and to estimate the determination of blood grouping and count

1. Microscopic study of
 - a. Tissues - Epithelial, connective, muscular and nervous tissue
 - b. Endocrine Glands – Thyroid, Pituitary, Adrenal and Pancreas.
2. Demonstration of determination of blood count.
3. Determination of Blood Grouping.
4. Estimation of Hemoglobin.
5. Study of anatomy of Heart, Brain, Kidney and digestive system using readymade models.

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Examine the various tissues under the microscope
- CO2. Examine the various endocrine glands under the microscope
- CO3. Determine blood count and blood grouping
- CO4. Estimate Haemoglobin in blood
- CO5. Examine the anatomy of vital organs

II YEAR – III SEMESTER

Objectives

To enable the students to gain knowledge on functional foods and nutraceuticals and its therapeutic applications

UNIT I - Nutraceuticals And Functional Foods

Definition of functional and traditional foods, nutraceuticals, designer foods and pharma foods, history of functional foods, components of functional foods, foods containing nutraceuticals and classification of nutraceuticals – based on plant sources, mechanism of action and chemical nature

UNIT II - Role Of Dietary Supplements And Nutraceuticals In Health And Disease

Concept of dietary supplements, sources and functions of phytochemicals with suitable examples, FOSHU foods – concepts, regulatory aspects

UNIT III - Probiotics And Prebiotics

Definition and Characteristics of Prebiotics and Probiotics, Sources and Bioavailability, Mechanism, Potential health benefits and safety of probiotics and prebiotics, Probiotic and Prebiotic Food Products

UNIT IV-Therapeutic Application Of Functional Foods And Nutraceuticals

Use of Functional Foods and Nutraceuticals – Cardiovascular Diseases, Hypertension, Cancer, Weight Management, Diabetes Mellitus, Bone Health and Enhancing Sporting Performance

UNIT V – Safety Of Nutraceuticals

Introduction – Safety presence of trace elements in nutraceuticals, risks involved in consumption of nutraceuticals , antinutritional factors

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Identify the various sources of nutraceuticals and functional foods
- CO2. Determine the role of dietary supplements and nutraceuticals
- CO3. Identify various sources and health benefits of probiotics and prebiotics
- CO4. Analyse the various therapeutic applications of functional foods and nutraceuticals
- CO5. Identify the risks and antinutritional factors in nutraceuticals

References

1. Mahtab, S, Bamji, Kamala Krishnasamy, G.N.V. Brahmam, Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi, 2009.
2. Srilakshmi, B. Second Edition, Food Science, New Age International (P) Limited Publishers, New Delhi, 2010.
3. Simopoulus, A.P. and Ordovas, K.J.M., 2004, Nutrigenetics and Nutrigenomics, Vol. 93, Karger, Switzerland.
4. Watson, David, H., 2003, Performance Functional Foods, CRC Press, Wood Head Publishing Ltd., England
5. Tamine, A., 2005, Probiotic Dairy Products, Blackwell Publishing Ltd., UK
6. Narasinga Rao, B.S., 2005, Nutrition Research in India – A Country Report, Published by INSA, New Delhi.
7. Webb, G.P., 2006, Dietary Supplementations and Functional Foods, Blackwell Publishing Ltd., New York.

Course Objectives:

To gain knowledge with regard to the present issues and environmental problems and to know their responsibilities.

UNIT -I INTRODUCTION TO ENVIRONMENTAL STUDIES

Introduction - Definition - Types of Environment - Scope and Importance of Environmental Studies

Types of Natural Resources - Case Studies - Role of an individual in Conservation of Natural Resources - Equitable use of Resources for sustainable life style - Field study of local area

UNIT -II ECOSYSTEMS AND BIODIVERSITY

Concept of ecology and ecosystem - Types of ecosystem - Structure of ecosystem - Function of an ecosystem - Energy flowing ecosystem - Ecological succession - Food chain
Food web - Ecological pyramids -Field study of simple ecosystems

Significance of Biodiversity - Classification of biodiversity - Threats to biodiversity - Conservation of biodiversity

UNIT – III ENVIRONMENTAL POLLUTION AND DISASTER MANAGEMENT

Types of environmental pollution - Role of an individual in prevention of pollution - Solid waste management - Case studies. Management of Floods- Cyclones – Landslides – Earthquakes – Tsunami - Case Studies - Field study

UNIT – IV SOCIAL ISSUES IN THE ENVIRONMENT**5**

Urban problem related to energy - Water conservation - Method of water conservation - Resettlement and rehabilitation of people -Climate - Greenhouse effect -Acid Rain -Ozone layer depletion -Nuclear Accidents -Waste land reclamation -

UNIT – V – HUMAN HEALTH AND ENVIRONMENT

Population Growth and explosion - Family welfare programme-Environmental and human health- Human rights -Value education -HIV / AIDS-Women and child welfare -Role of information technology in environment and human health - Case studies

Course Outcome:**On successful completion of this course learners will be able to:**

CO1. Recognize the interdisciplinary nature of environment and the conservation of natural resources

CO2. Define the ecosystem, classify them and understand the ecological concepts, possible solutions and sustainable practices

CO3. Identify common pollution and adverse impact on biotic communities, soil, water, and air

CO4. Relate to social issues in the environment and understand their responsibilities.

CO5. Identify the various reasons which affect environment and human health

Reference Books:

1. Kathlyn. *Saving the environment: debating the costs*. New York, Franklin Watts, 1996.
2. Thomas R., and Robert C. Mebane. *Environmental experiments about life*. Hillside, N.J., Enslow Publishers, 1993.
3. Nick. *Atlas of environmental issues*. New York, Facts on File, 1989.
4. William G., Thomas B. Daugherty, and Carla Kirts. *Managing our natural resources*. 3rd - Albany, N.Y., Delmar Publishers, 1997.

Course Objective:

To familiarize students with fundamentals of food, nutrients and their relationship to health. To create awareness with respect to deriving maximum benefit from available food resources.

UNIT-I BASIC CONCEPTS IN FOOD AND NUTRITION

- Basic terms used in study of food and nutrition
- Understanding relationship between food, nutrition and health
- Functions of food Physiological, psychological and social

UNIT-II ENERGY

Energy units – Kilocalories, Mega joules, Basal metabolism – definition, factors affecting BMR energy requirements for various types of activities and for different use groups.

UNIT-III MACRO NUTRIENTS

- a. Functions, dietary sources and clinical manifestations of deficiency / excess of the following nutrients- Carbohydrates, lipids and proteins.

UNIT-IV MICRO NUTRIENTS

- Fat soluble vitamins – A, D, E and K
- Water soluble vitamins – thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and Vitamin C
- Minerals – calcium, iron and iodine

UNIT-V WATER

- Functions
- Water Balance
- ORS/ORT
- Water Retention

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Apply knowledge of micronutrients with their deficiencies.

CO2. Explain the functions of water with health and apply the knowledge in treating dehydration with ORS/ORT.

CO3. Identify the macronutrients and discuss their deficiencies.

CO4. Describe the basic terms related to food and nutrition and relate food, nutrition and health and their functions.

CO5. Define energy, learn energy units and associate knowledge on factors affecting BMR with their deficiencies and understand energy requirements for various types of activities and for different use groups.

REFERENCES:

1. Davidson C.H. Normal and Therapeutic Nutrition. Oxford IBH Publishing. Calcutta 1986.
2. Krause. M.V. Horsch, M.A., and Maham, F – Food Nutrition and Diet therapy W.R. Saunder. Company, Philiadepha 1986
3. Srilakshmi B. Dietetics, wiley Eastern Limited Machas, 1993
4. M. Swamination – Essentials of Food & Nutrition.

Course Objectives :

To enable students to develop entrepreneurial skills and to enhance sources of ideas and business plan

UNIT – I – INTRODUCTION TO ENTREPRENEURSHIP

Introduction to Entrepreneurship Definition of Entrepreneur, Entrepreneurial Traits, and Entrepreneur vs. Manager, Entrepreneur vs. Entrepreneur. The Entrepreneurial decision process. Role of Entrepreneurship in Economic Development, Ethics and Social responsibility of Entrepreneurs. Opportunities for Entrepreneurs in India and abroad. Woman as Entrepreneur

UNIT – II – IDEA GENERATION

Creating and Starting the Venture Sources of new Ideas, Methods of generating ideas, creating problem solving, product planning and development process

UNIT – III – BUSINESS PLAN

The Business Plan Nature and scope of Business plan, Writing Business Plan, Evaluating Business plans, Using and implementing business plans. Marketing plan, financial plan and the organizational plan, Launching formalities.

UNIT – IV – FINANCIAL MANAGEMENT

Financing and Managing the new venture Sources of capital, Record keeping, recruitment, motivating and leading teams, financial controls. Marketing and sales controls. E-commerce and Entrepreneurship, Internet advertising

New venture Expansion Strategies and Issues Features and evaluation of joint ventures, acquisitions, merges, franchising. Public issues, rights issues, bonus issues and stock splits.

UNIT -V – INSTITUTIONAL SUPPORT TO ENTREPRENEURSHIP

Institutional support to Entrepreneurship Role of Directorate of Industries, District Industries, Centers (DICs), Industrial Development Corporation (IDC), State Financial corporation (SFCs), Commercial banks Small Scale Industries Development Corporations (SSIDCs), Khadi and village Industries Commission (KVIC), National Small Industries Corporation (NSIC), Small Industries Development Bank of India (SIDBI)

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Identify various entrepreneurial skills and role of entrepreneurship
- CO2. Identify the various sources of ideas
- CO3. Determine the scope and business plan and implementation of business plan
- CO4. Describe the basic terms related to financial management
- CO5. Analyze the various institutional support for Entrepreneurship

Reference books

1. Entrepreneurial Development - S.S. Khanka
2. Entrepreneurial Development - Satish Taneja & Dr.S.L. Gupta
3. Entrepreneurial Development - P.C. Shejwalkar
4. Dynamics of Entrepreneurial Development - Vasant Desai.
5. Fundamental of Entrepreneurship – Dr. A.K. Gavai The world of business
6. General Commercial Knowledge - P.K. Ghosh & Y.K. Bhushan
7. Modern Business Organization & Management - S.A. Sherlekar

Course Objective:

To provide a strong foundation of managerial concepts and to address the behaviour of people as individual and as groups.

UNIT –I INTRODUCTION

Meaning, definition of Management, Features of Management, importance of management, difference between administration & management, role of managers, GROUP CONCEPT, levels of management, managerial Skills.

UNIT –II**PLANNING AND ORGANIZING**

Decision making, introduction, meaning, definition, characteristics, steps in planning process, methods of planning limitation, essential of good planning, process of organizing, departmentalization, types of decision, steps.

UNIT –III STAFFING

Training of development, introduction, definition, elements, functions of staffing advantages, recruitment, need for training, on the job training, off the job training, characteristics of good training

UNIT -IV COMMUNICATION

Introduction, meaning, definition, importance, effects of communication objective, barriers, overcoming barriers, characteristics of effective communication

UNIT –V COORDINATION

Need and importance steps in effective coordination , motivation, Maslow's hierarchy of needs, Hertzberg two factor theory- leadership- styles management grid theory of leadership

Course Outcome:**On successful completion of this course learners will be able to:**

CO1. Demonstrate the ability to communicate well.

CO2. Apply effective management strategies for productive coordination. CO3. Determine the effective strategies for recruiting, selecting qualified job applicants and training approaches.

CO4. Determine what management is and explain the primary functions of management.

CO5. Demonstrate the stages of the planning cycle

Reference Books:

1. B.S. Moshal, Principles of Management, Ane Books Pvt. Ltd., 2009
2. K. Ravichandran, S. Nakkiran, Principles of Management, Avinash Paper Backs, 2009
3. Gupta C.B., Management Theory and Practice, 14th Edition, Sultan Chand & Sons, 2009.
4. HeroltKoontez, Principles of Management, 1st Edition, Tata Mcgraw Hill, 2004

Course Objective

To enable students to study the basics in hospitality industry and to examine the functions of every department in the hospitality industry

UNIT – 1 INTRODUCTION TO THE HOSPITALITY INDUSTRY

The Nature of the Hospitality Industry ; Characteristics of the Hospitality Industry ; Relationship between the Hospitality Industry and Tourism ; Career Prospect of the Hospitality Industry

UNIT -2 INTRODUCTION TO THE ACCOMMODATION SECTOR

Classification of Accommodation Establishment; Hotels and Their Classifications; Types of Accommodation; Common Types of Hotels ; Special Hotels Worldwide; Hotel Rating Systems
Types of Hotel Guests; Types of Guest Requests

UNIT -3 -INTRODUCTION TO THE HOTEL OPERATIONS

Hotel Departments ; Organogram; Rooms Division; Front Office Department ; Housekeeping Department; Food and Beverage Department; Non Operational Departments; Coordination between Departments

UNIT-4 FOOD AND BEVERAGE PRINCIPLES

Basic Knowledge of Menus; Basic Knowledge of Food and Beverage Services ; Restaurant Design and Layout ; Kitchen Layout for Different Food and Beverage Services

UNIT-5 - FRONT OFFICE AND HOUSEKEEPING OPERATIONS

Front office operations - Organization chart, staffing, scheduling, work shifts, job specifications & job descriptions of Front office personnel; Types of guest rooms and suites, executive floors or club floor concept
Types of room rates, basis for charging room rates

Meal plans - Types, needs and use of such plans
Types of guests - FIT, Business travelers, GIT, Special Interest Tours, domestic, foreign; Meaning and definition- Importance of Housekeeping; Responsibility of the Housekeeping department; Organizational framework of the Department(large/Medium/Small Hotel); • Role of Key Personnel in Housekeeping.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Identify the Nature and Characteristics of Hospitality Industry
- CO2. Determine the classification and types of accommodation
- CO3. Examine the introduction to hotel operations
- CO4. Examine the basic knowledge of food and beverage operations
- CO5. Determine the operations of Front Office and Housekeeping

References:

1. Food & Beverage Service: Dennis Lillicrap • John Cousins
2. Professional Management of Hotel Operations: Thomas J.A. Jones

Course objective: To examine and understand the basic principles in baking and confectionery

Unit - 1

- Introduction to key ingredients, tools, and equipment
- Understanding baking principles and techniques
- Different types of flours and their uses
- The role of yeast, baking powder, and baking soda in baking
- Proper measuring and scaling techniques
- Temperature control and oven usage

Unit -2

Bread Making

- Classic bread recipes (e.g., white bread, whole wheat bread)
- Specialty breads (e.g., baguettes, sourdough bread)
- Gluten-free bread alternatives
- Bread shaping and scoring techniques
- Bread troubleshooting and problem-solving

Unit – 3 Pastry and Pie Making

- Puff pastry preparation and techniques
- Sweet and savory pie crusts
- Tarts and tartlets
- Danish pastries and croissants
- Fruit-filled turnovers and hand pies

Unit – 4 Cake Decoration and Design

- Cake baking and assembly techniques
- Buttercream frosting and fondant usage
- Decorative piping and icing techniques
- Gum paste and sugar flower making
- Cake sculpting and 3D designs

Unit – 5 Presentation Techniques

- Candy making techniques (e.g., fudge, caramels, truffles)
- Chocolate tempering and molding
- Ice cream and sorbet production
- Dessert plating and presentation
- International desserts and specialties
- Advanced bread techniques (e.g., artisan bread, laminated dough)
- Entremets and layered cakes
- Chocolate showpieces and sculptures
- Sugar work and pulled sugar techniques

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Identify the Basic Principles and Equipment's used in Baking

CO2. Examine the basic bread making techniques

CO3. Examine the various types of pastries

CO4. Identify the basics in baking and cake mixing

CO5. Identify the various processing techniques in cookies and desserts

References:

1. WAYNE GISSLEN – Professional Baking, 5th Edition, John Wiley USA. HANEMAN L.J. Bakery: Flour Confectionery HEINMAN

2. MERMAID BOOKS The Book Of Ingredients DOWELL PHILIP JOHN WILEY Understanding Baking AMENDOLA JOSEPH

3. NEW AGE INTERNATIONAL, A Professional Text to Bakery And Confectionery, KINGSLEEJOHN

4. VIRTUE AND COMPANY LTD., The New International Confectioner: WILFRED J. FRANCE CHARRETTE JACQUES, Great Cakes and Pastries, TEUBNER CHRISTIAN

5. JOSEPH AMENDOLA ,Baker's Manual, 5th Edition, NICOLE REES

II YEAR – IV SEMESTER

Course Objectives

To enable students to gain knowledge about basic biochemical components of foods and their metabolism and to understand Biological role of vitamins and minerals.

UNIT 1 - INTRODUCTION TO BIOCHEMISTRY

Introduction to Biochemistry: Definition, objectives, scope and inter-relationship between biochemistry and other biological sciences.

Carbohydrates; Definition, Structure and general properties of: Monosaccharides- glucose, fructose, galactose, ribose. Disaccharides – maltose, lactose, sucrose. Polysaccharides – dextrin, starch, glycogen.

UNIT 2 - PROTEINS AND AMINO ACIDS

Proteins: Definition, classification, elementary knowledge of structure of proteins, biomedical importance.

Amino acids; Definition, classification, Essential and non-essential amino acids, structure of important amino acids.

Introduction to Enzymes; Co-enzymes, Enzyme Inhibition

UNIT 3 - LIPIDS

Lipids: Definitions and classification of lipids , Types and properties of fatty acids , Composition and properties of fats , Significance of acid value, iodine value and saponification value

UNIT 4 - Vitamins: Structure and biochemical role:

Fat soluble vitamins – A, D

Water soluble vitamins – B1, B2, niacin, pyridoxine, folic acid, B12 and C

UNIT 5 - Minerals

Biological role and occurrence of inorganic elements – iron, calcium, phosphorous, iodine, selenium and zinc

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Analyze the structure and properties of Carbohydrates

CO2. Identify the classification of proteins and amino acids

CO3. Examine the classification and properties of lipids

CO4. Determine the structure and biochemical role of vitamins

CO5. Determine the structure and biochemical role of minerals

References

1. Lehninger A L, Nelson D L and Cox M M (2009). Principles of Biochemistry, 6th Ed. CBS Publishers and Distributors.
2. Murray R.K, Granner D K, Mayes P A and Rodwell V W (2009). Harper's Biochemistry, 28th Ed, Lange Medical Book.
3. Hawk PB, Oser BL and Summerson WH (1954). Practical Physiological Chemistry, Mcgraw Hill, New York.
4. Sundararaj P and Siddhu A (2006). Qualitative Tests and Quantitative Procedures in Biochemistry. Elite Publishing House Pvt. Ltd., New Delhi.

Objectives

To enable the students to understand the principles of preservation. To understand the type of spoilages and the various methods of preventing spoilage and to learn about the methods of preservation.

UNIT-I PRINCIPLES OF FOOD PRESERVATION

Importance and principles of food preservation, Need for preservation, types of spoilage, role of microorganism in food spoilage, prevention of food spoilage, shelf life of food products, Factors affecting shelf life.

UNIT-II - PRESERVATION TECHNIQUES**PRESERVATION BY HIGH OSMOTIC PRESSURE**

High concentration of sugar, Procedure for fruit jelly and jam, fruit preserves, failure to jelly and jam to set.

HIGH CONCENTRATION OF SALT

Pickling and Curing of meat.

FERMENTATION

Types, advantages and factors affecting fermentation.

UNIT-III – PRESERVATION BY USE OF TEMPERATURE**PRESERVATION BY USE OF HIGH TEMPERATURE**

Factors affecting heat resistance, canning procedures, spoilage of canned foods, heat sterilization, pasteurization.

PRESERVATION BY USE OF LOW TEMPERATURE:-

Refrigeration – Advantages, factors to be considered, common spoilage.

FREEZING

Difference between refrigeration and freezing, methods of freezing, steps involved in freezing, common food spoilage. Basic concepts about hurdle technology and membrane technology.

UNIT-IV – PRESERVATION BY USING CHEMICALS**PRESERVATION BY USING CHEMICALS**

Definition, classification, mode of action, mechanism.

FOOD IRRADIATION

Properties and safety of irradiation, advantages, mechanism permitted doses.

UNIT-V - DRYING AND DEHYDRATION

Home drying, methods of dehydration, factors in the control of drying, treatment of foods before drying, procedures after drying, intermediate moisture foods, merits and demerits, factors affecting drying.

Course Outcome:**On successful completion of this course learners will be able to:**

CO1. Analyze the principles of preservation

CO2. Identify the various preservation techniques

CO3. Examine the various factors affecting preservation techniques by use of temperature

CO4. Determine the properties and safety of food irradiation

CO5. Analyze the different methods and factors of dehydration and drying

References

1. Srilakshmi. B; Food Science, 6th edition, New Age International (P) Limited Publishers, 2015.
2. Shakunthala Manay. N; Shadakshara Swamy.M; Foods Facts and Principles, 3rd edition, New Age International (P) Limited Publishers, 2014.
3. Lillian Hoagland Meyer, Food chemistry, CBS Publishers and Distributors, 2004.
4. Subbulakshmi. G and Shobha. A.U; Food processing and preservation, New Age International (P) Limited Publishers, 2014.
5. Norman. N Potter, Joseph H. Hotchkiss, Food Science, 5th edition, CBS Publishers and Distributors, 1996.
6. Sivasankar. B; Food Processing and Preservation, PHI Learning Private Limited, 2011.

Objectives

To enable the students to develop new marketable, nutritionally and economically viable food products · To develop entrepreneurship skills for setting up small scale food industries · Understand packaging of different food products

Unit I - FOOD CONSUMPTION PATTERN

Trends in Food Consumption pattern. Economical, Psychological and Sociological Dimensions of Food Consumption patterns. Trends in Social Change as a Base for New Product Development

Unit II - INTRODUCTION TO FOOD PROCESSING AND PRODUCT DEVELOPMENT

Food Components, Types of Food Processing, Status of Food Processing Industry in India and Scope of Growth in Future ,Principles and Purpose of New Product Development, Product Design and Specifications.

Unit III - RECIPE DEVELOPMENT

Traditional Foods, Weaning Foods, Convenience Foods, RTE, RTS, Extruded foods, IMF Foods, Specialty Products, Health foods, Nutritional Supplements, Functional Foods, Nutraceuticals and Designer Foods, Sports Foods, Foods for Defence Services, Space foods.

Unit IV - TESTING, EVALUATION AND PACKAGING OF PRODUCTS

Standardization, Portion size, Portion Control, Quantity Cooking, Shelf Life Evaluation- Sensory and Microbial Testing of Processed Foods, Nutrient Analysis. Suitable Packaging Materials for Different Foods, SWOT Analysis

Unit V - FINANCIAL MANAGEMENT AND MARKETING OF FOOD PRODUCTS

Institutional Support (Training and Finance) for Entrepreneurship Development. Financial Institutions (Central and State Government) banks/Funding Agencies, Financial Accounting Procedures, Book Keeping, Market Research, Marketing Strategies, Cost Calculation , Advertising Methods, Product sales, Product License, Legal specifications, Consumer Behaviour and Food Acceptance.

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Analyze the basics and trends in food consumption pattern

CO2. Examine the types of food processing

CO3. Formulation of recipes and supplements

CO4. Evaluate the various packaging standards

CO5. Determine the financial and marketing management of food products

References

1. Sudhir Gupta (2007) Handbook of Packaging Technology, Engineers India Research Institute, New Delhi
2. Khanaka, S.S., Entrepreneurial Development, S. Chand and Company Ltd, New Delhi, 2006.
3. Suja, R. Nair (2004) Consumer Behaviour and Marketing Research, 1st Edition, Himalaya Publishers.
4. Hmacfie,(2007) Consumer led Food Product Development, Weedhead Publishing Ltd., UK
5. Fuller, Gordon, W(2005) New Food Product Development, 2nd Edition, CRC Press, Boca Raton, Florida.
6. Schaffner .D,J, Schroder , W.R.(2000)Food Marketing and International Perspectives, Web/McGraw Hill Publication

Objectives

To introduce the students to the principle of Human Nutrition and to gain knowledge about the role of micro and macro nutrients for promoting human health

UNIT-I - INTRODUCTION TO HUMAN NUTRITION

1. Introduction to Nutrition - Development of Nutrition as a Science - Definition of Nutrition.
2. Carbohydrates – Definition, composition, classification, Sources, requirements, Digestion and absorption. Dietary fibre - definition soluble and insoluble fibres, sources of fibre, components, physiological effects of dietary fibre, Role of fibre in human nutrition, sources and requirements. Water - water balance, water compartment, regulation and disorders of water balance.

UNIT-II - ENERGY

1. Energy units - Calories, Joules, determination of energy value of foods, using Bomb calorimeter, gross calorific values, Physiological energy, value of foods, relation between oxygen used and calorific value, determination of direct calorimetry. Relation between Respiratory quotient and energy output - Specific dynamic action of food, indirect calorimetry - Basal metabolism - definition, factors affecting BMR - determination of energy metabolism during work - energy requirements for various types of activities,

UNIT-III - LIPIDS AND PROTEINS

1. Lipids – Definition, Classification, Composition, sources, requirements, functions. Essential Fatty Acids (EFA) – definition, functions, sources and effects of deficiency. Characteristics of animal and vegetable fats, sterols - cholesterol - function, food sources, phospholipids - function, ketone bodies - fat requirements - food sources, dietary lipids and their relation to the causation of Atherosclerosis and Ischaemic heart disease.
2. Protein – Definition, classification, Composition, sources, requirements and functions of protein. Amino acids - Indispensable and dispensable amino acids - special function of amino acids - protein deficiency

UNIT-IV - FAT SOLUBLE AND WATER SOLUBLE VITAMINS

1. Fat soluble vitamins - Vitamin A, D, E and K – functions, deficiency, sources, requirements and hyper-vitaminosis.
2. Water soluble vitamins - ascorbic acid, thiamine, riboflavin, Niacin, folic acid, Vit B-12, pyridoxine, Biotin and Pantothenic acid - Functions, deficiency, sources and requirements.

UNIT-V - MINERALS

1. Macro, Micro and Trace elements - calcium, sodium, potassium, phosphorous, Iron, copper, fluorine, zinc and Iodine – classification, distribution in the body, functions, sources, requirements and deficiency.
2. Selenium and Vitamin E relationship.

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Analyze the composition and classification of carbohydrates

CO2. Determine of Energy Value of foods

CO3. Determine the composition and sources of lipids and proteins

CO4. Identify the sources and requirements of fat soluble and water soluble vitamins

CO5. Determine the distribution of micro and macro minerals

References

1. Michael. J. Gibney etal; clinical nutrition Blackwell science , 2005.
2. Shubhangini. A. Joshi; Nutrition and Dietetics III edition, McGraw Hill Education (India) private limited
3. Srilakshmi.B; Nutrition Science, 15th edition, New Age International (P) Limited, Publishers, 2016.
4. Swaminathan. M; Advanced Text-Book on Food and Nutrition, Volume I 2nd edition. The Bangalore Printing and Publishing Co., LTD, Reprint 2015.
5. Sunetra Roday; Food Science and Nutrition, 2nd edition, Oxford University Press, 2013
6. Carol Byrd – Bredbenner; Wardlaw’s perspectives in Nutrition, 9th edition MCGraw – Hill International Edition 2013

Career Objective

To enable the student to impart comprehensive overview of the scientific and technical aspects of food packaging. To instill knowledge on packaging machinery, systems, testing and regulations of packaging and to gain knowledge on food packaging and applications during transportation.

UNIT I – INTRODUCTION TO FOOD PACKAGING

Food packaging: Definition, functions of packaging materials for different foods, characteristics of packaging material. Food packages – bags, pouches, wrappers, tetra packs-applications.

UNIT II - PACKAGING MATERIALS

Packaging materials Introduction, purpose, requirements, types of containers. Modern packaging materials and forms-Glass containers, metal cans, composite containers, aerosol containers, rigid plastic packages, semi rigid packaging, flexible packaging.

UNIT – III – PACKAGING OF IRRADIATION STABILIZED FOODS**Packages of radiation stabilized foods:**

Introduction, rigid containers, flexible containers, general methods for establishing radiation stabilization. Radiation- measurement of radiations. Biodegradable packaging material – biopolymer based edible firm.

UNIT - IV – PACKAGING OF DEHYDRATED PRODUCTS

Orientation, metallization, co-extrusion of multilayer films, stretch, package forms and techniques. Aseptic packaging, retortable containers, modified and controlled atmosphere packaging, skin, shrink and cling film packaging, micro-ovenable containers, other package forms and components of plastics.

UNIT - V - PACKAGING OF FINISHED GOODS

Packaging of finished goods: Weighing, filling, scaling, wrapping, cartooning, labeling, marking and trapping. Labelling: Standards, purpose, description types of labels, labeling regulation barcode, nutrition labeling, health claims, and mandatory labeling provision.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Analyze the characteristics of packaging materials
- CO2. Determine the requirements and forms of containers
- CO3. Determine the various biodegradable packaging materials
- CO4. Examine the packaging of various dehydrated products
- CO5. Analyze nutrition labeling and labeling regulations

References

1. Vijaya Khader, Text book of food science and technology, Indian council of Agricultural research New Delhi, 2001.
2. Stanley Sacharous. Roger C Griffin. Principles of food packaging 2nd Ed. Avi pub Co. Westport.
3. F.A. & Paine. H.Y. Leonard hill. A hand book of food packaging. Blackie Sons Ltd London.
4. Sacharows. S. Handbook of packaging materials. Avi Pub Co. Westport. 5. Croshy N.T. Food packaging materials. Applied Science pub Ltd. London. 6. Paine F.A. The packaging media. Blackie & Sons Ltd. London. 7. NIIR. Food packaging technology Hand book, Delhi.

Course Objectives:

The objective of the course is to provide students with the knowledge, skills, and competencies necessary to effectively manage the room division department in a hospitality establishment.

Introduction

- Overview of the role and responsibilities of room division manager
- Understanding the significance of room division in the overall guest experience
- Interaction and coordination with other departments within the establishment

Front Office Operations

- Managing the front desk and reception area
- Reservation and booking management
- Guest check-in and check-out procedures
- Handling guest inquiries, complaints, and special requests
- Concierge services and guest assistance

Housekeeping Operations

- Organization and management of housekeeping department
- Cleaning and maintenance standards for guest rooms, public areas, and back-of-house
- Linen and laundry management
- Room inspection procedures
- Inventory control and procurement of housekeeping supplies

Sales and Marketing

- Developing room division marketing plans
- Collaborating with the sales team to promote room sales
- Implementing promotional campaigns and packages
- Managing online presence and reputation management
- Maximizing revenue through upselling and cross-selling techniques
- Reservation Systems and Technology
- Familiarization with property management systems (PMS) and reservation software
- Managing online booking platforms and channel management
- Utilizing technology for efficient room division operations
- Training staff on system usage and troubleshooting

Staff Training and Development

- Identifying staffing needs and creating job descriptions
- Recruiting, selecting, and hiring room division personnel
- Conducting staff training programs for various roles (front desk, housekeeping, concierge)
- Performance evaluation and feedback
- Career development and succession planning
- Quality Assurance and Guest Satisfaction

Course Outcome :

CO1: Understand the role and responsibilities of a room division manager within the hospitality industry.

CO:2 Demonstrate proficiency in front office operations, including reservation management, guest check-in/out procedures, and concierge services.

CO:3 Develop a comprehensive understanding of housekeeping operations, including cleaning standards, inventory control, and maintenance procedures.

CO:4 Apply revenue management principles to optimize room rates, pricing strategies, and maximize revenue for the establishment.

CO:5 Comprehend the fundamentals of sales and marketing within the room division context and develop effective marketing plans.

References

1. "Managing Front Office Operations" by Michael Kasavana and Richard M. Brooks - This comprehensive textbook provides an in-depth understanding of front office operations, including reservation systems, guest services, and front desk management.
2. "Hotel Front Office Management" by James A. Bardi - This textbook covers various aspects of front office management, including front desk operations, revenue management, guest services, and communication skills.
3. "Managing Housekeeping Operations" by Margaret M. Kappa and John E. Lane - This book focuses on the management and operations of the housekeeping department, including cleaning procedures, inventory control, staffing, and quality assurance.
4. "Hospitality Facilities Management and Design" by David M. Stipanuk - This reference book provides insights into the design and management of hospitality facilities, including guestrooms, public areas, and back-of-the-house spaces.

III YEAR – V SEMESTER

Course Objective:

To make the students understand the importance of the facility planning in the various departments of a hotel. To develop their knowledge in the designing, planning and executing the projects in the hotels. To create an awareness among the students about the eco-friendly procedures in the building operations.

UNIT - I DESIGN CONSIDERATION

Guest room, suites, physically challenged - The lobby, portico, business centers, car parking Administration Offices - Back of the house areas -The project planning team – planning, organizing, & executing.

UNIT – II PROJECT PLANNING AND DEVELOPMENT

The systematic layout - Planning consideration - Flow process and flow diagram - Procedure for determining space relationship - Architectural consideration - Difference between carpet area and plinth area - Approximate cost of construction estimation - Approximate operation areas in budget - Approximate budget for other operating areas per guest room - Approximate water - electrical power consumption requirement – estimation

UNIT –III F&B OUTLET DESIGN

Physical layout - Objectives of a good layout - Planning a restaurant, banquet hall, lounge, coffee shop etc., - Decision prior to planning - Steps in planning – Location - Space allocation - Staffing - Equipment and erecting – Furniture – Linen - Cutlery and Crockery requirement - Types of seating - Table arrangement – Assistants - Restaurant Costing – Performance measure

UNIT – IV KITCHEN DESIGN

Physical layout - Objectives of a good layout - Layout of commercial kitchen - Sample layout Space requirements - Work area requirement - Equipment requirement for commercial kitchen - Specification of kitchen equipment - Planning of various supporting service - Kitchen safety - Stores, stewarding, receiving and ancillary area, planning and design

UNIT - V DESIGNING AN ECO FRIENDLY HOTEL

Evolution of an eco-friendly hotel. - Steps involved saving environment – in project stage. - Waste management in the entire department - Energy Efficiency Measures. -Waste conservation. - Safe environment & public awareness.

Course Outcome:

On successful completion of this course learners will be able to:

CO1: Develop and design Eco Friendly concepts in Hotel Facility Planning

CO2: Plan and design a Food and Beverage outlets at start property.

CO3: Estimate the project cost

CO4: Determine the space requirement for 100 to 1000 rooms' hotel property.

CO5: Interpret the blueprint of various facilities with their features.

Reference Books:

1. Tarun Bansal , Hotel Facility Planning- Oxford university Press Oxford university press YMCA library building Jaisingh road New Delhi 110001
2. David M.Stipnauk , Hospitality Facilities Management Design -American Hotel And lodging association,2113 North high street Lansing, Michigan 48906-4221
3. Joseph Ransley - Butterworth Heinemann Developing Hospitality Properties And Facilities Butterworth Heinemann Hadyn Ingram
4. Raphael R.Kava / Naugh /Jack D.Ninemer, Supervision in the hospitality industry - - Educational Institute American Hotel and Location association

Online Materials & Weblinks:

1. <https://www.yumpu.com/en/document/view/63707815/download-in-pdf-the-complete-guide-to-facility-management-txtpdfepub>
2. <https://thebookee.net/fa/facilities-planning-james-a-tompkins-4th-edition-ebook-free-download>
3. <https://www.slideshare.net/manjunathnr00/facility-planning-60377253>
4. <https://www.ihmnotes.in/assets/Docs/Sem2/Food%20Production/Unit%2010%20Kitchen%20Organization%20and%20layout.pdf>
5. <https://www.uou.ac.in/sites/default/files/slm/HM-403.pdf>

Objectives:**To enable the students to:**

1. Understand the malnutrition problems and its prevalence in India
2. Gain knowledge on the national effort in combating malnutrition
3. Appreciate the national and International contributor towards national improvement in alleviating nutrition problems.

UNIT-I

Nutrition and Health in National Development. Concept of Community, Types of Community, Factors affecting the health of community. Malnutrition - Etiology, symptoms, Prevalence of malnutrition, factors contributing to malnutrition - Under nutrition and Over nutrition, balance between food and population growth.

UNIT-II

Nutritional problems confronting our country - PEM - Prevalence, classification - Kwashiorkor and Marasmus - etiology, symptoms, pathological changes, biochemical changes, Anaemia - Prevalence, etiology, symptoms, prophylaxis programmes.

IDD - Etiology, Prevalence, symptoms, prophylaxis Fluorosis - Etiology, prevalence, symptoms, prophylaxis. Vitamin A deficiency - Etiology, prevalence, symptoms, prophylaxis.

UNIT-III

Methods of assessment of Nutritional status – sampling techniques – identification of risk group. Direct assessment – anthropometry, biochemical estimation, clinical, and diet survey. Indirect assessment - Food balance sheet, Agricultural data, Ecological parameter and vital statistics, use of growth chart.

UNIT-IV

Nutrition policy and programmes – National Nutrition policy – need for nutrition policy, policy strategies and their implementation - ICDS, Noon Meal Programme, FAO, WHO, UNICEF, CARE, ICMR, ICAR, CSIR, NIN, CFTRI, National Nutrition Policy, National Nutrition surveillance system, National Anaemia prevention, Prevention of Night Blindness, National Iodine prophylaxis programme, NGO.

UNIT-V

Strategies to combat Nutritional problems – fortification, enrichment, supplementation and Immunization programmes. Nutrition Education - Meaning, Scope, Methods - Planning, conduct of evaluation of Nutrition education Programme.

Course Outcome:

On successful completion of this course learners will be able to:

CO1:

CO2:

CO3:

CO4: Determine the space requirement for 100 to 1000 rooms' hotel property.

CO5: Interpret the blueprint of various facilities with their features.

References

1. Agarwal A.N, Indian Economy, Problems of development and planning, Publications, 1981.
2. Park J.E. and park K. Text book of preventive and social medicine, Publications, 1994.
3. B. Srilakshmi, Nutrition Science New Age International (CP) Ltd, New Delhi, 2002.
4. Mahtab, S. Bamji, N. Pralhad rao, Vinodini Reddy, Text book of Human Nutrition, Oxford and IBIT Publishing co Pvt. Ltd, New Delhi, reprint 1999.
5. Shukla,P.K., Nutritional problems of India,1982.
6. Dietary guidelines for Indians, ICMR, NIN, Hyderabad 2010.
7. Bamji, M.S, Prahalad Rao N, Reddy V, Textbook of Human Nutrition II Edition, Oxford and PBH publishing Co. Pvt. Ltd, New Delhi 2004.
8. Jelliffe, D.B: Assessment of Nutritional Status of the community. World Health Organization.

Objectives

To enable students to

1. Understand the basic concepts of nutrition.
2. Understand the nutritional demands in various stages of life cycle.
3. Acquire skills in planning adequate meals in different stages of life cycle.

UNIT I

Food groups- basic five, nutritional classification of foods - energy yielding, body building and protective foods - Basic principles of Meal planning – balanced diet meaning, food guide pyramid.

UNIT II

Nutritional needs during Pregnancy and Lactation– dietary guidelines; general dietary problems, Common Nutritional related problems and complications. Nutrition during Lactation - Dietary guidelines for lactating women, Composition of Breast Milk.

UNIT III

Nutrition during Infancy and Preschool age - dietary guidelines for infants, advantages of breast feeding, disadvantages of bottle feeding; Weaning foods (definition) and types of supplementary food. Nutritional needs of Pre-school children, factors to be considered while planning meals for pre-school children. Food habits of Pre School Children.

UNIT IV

Nutrition for School children and Adolescence - dietary guidelines, factors considered in planning packed lunch. School lunch feeding problems. Nutrition during Adolescence – general dietary guidelines; Dietary Problems (Eating Disorders)

UNIT V

Nutritional needs of Adults and Old Age - dietary guidelines for adults. Nutrition during Old age - physiological changes in ageing, psycho-social factors affecting food intake. Nutrition modification in Diet.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1: Apply basic principles of meal planning
- CO2: Identify nutritional needs during pregnancy and lactation
- CO3: Determine the nutritional needs during Infancy and Pre School age
- CO4: Identify the nutritional needs for school children and adolescence
- CO5: Analyse the dietary guidelines for adults and physiological changes in ageing

References

1. Mahan,L.K &Arlin.M.T, “Krause’s Food,Nutrition and Diet Therapy”, 11th Edition, W.B. Saunder Company, London, (2000).
2. Seelstein. S. & Sharlin.J, “Life Cycle Nutrition”, Jones & Bartlett publications,(2008).
3. Begum. M. R, “A Textbook of Food, Nutrition & Dietetics”, 3rd edition, Sterling publications Pvt. Ltd., (2008).
4. Srilakshmi. B, “Nutrition Science”, 5th edition, New Age International Pvt.Ltd., (2008).
5. Mudambi S.R and Rajagopal M.V, “Fundamentals of foods and Nutrition”, 3rd edition, New Age International Pvt. Ltd., (1997).
6. Pasricha.S, “Some Therapeutic Diets”, 5th edition, National Institute of Nutrition,(2004).
7. ICMR-Nutritive value of Indian Foods, National Institute of Nutrition, Hyderabad, (1989).
8. Mudambi. S.R, Rao. S.M, & Rajagopal.M.V, “Food Science”, New Age International Pvt. Ltd. Publishers, New Delhi, (2007).

Objectives

To enable students:

1. To obtain knowledge on the role of diet in disease conditions.
2. To gain experience in planning, preparing and serving therapeutic diets.

UNIT – I

DIET THERAPY : - Definition, purpose and principles of a therapeutic diet, factors to be considered in the modification of normal diet into therapeutic diets. Types of hospital diet – Clear fluid, full fluid, soft, light, bland and regular diet. Special feeding methods – tube feeding, parenteral nutrition. Role of dietitian in managing hospital dietary.

UNIT – II

DIET IN INFECTIONS AND FEVERS:- Host defense mechanisms causes and general dietary conditions of fevers – Symptoms and signs of Typhoid, Influenza, Malaria, Tuberculosis and pneumonia.

UNIT – III

OBESITY AND UNDERWEIGHT – Etiology, Assessment of Obesity and modification of diet in Obesity and Underweight.

DIABETES MELLITUS:- Prevalence, Types – Type-I, Type-II, Malnutrition Related Diabetes Mellitus, Gestational Diabetes Mellitus, Etiology, symptoms, nutritional requirements and dietary management of Diabetes Mellitus – (Glycemic Index, Food exchange list) and complications.

CARDIOVASCULAR DISEASE:- Prevalence, Pathogenesis, Symptoms, risk factors and modification of diet in cardiovascular disease – Atherosclerosis, Hypertension and Hypercholesterolemia .

UNIT – IV

DISEASES OF THE GASTRO INTESTINAL TRACT:- Causes, Symptoms and Dietary management of Gastritis, Peptic ulcer, diarrhea, constipation.

DISEASES OF THE KIDNEY DISEASES - Etiological factors, Etiology and modification of diet in disease of the Kidney-Glomerulo Nephritis, Nephrosis ,Acute and Chronic Renal Failure ,Dialysis ,Urinary Calculi

UNIT – V

FOOD ALLERGIES AND INTOLERANCES – Type of food intolerances, Dietary management and strategies for reducing symptoms of food intolerances

Course Outcome:

On successful completion of this course learners will be able to:

CO1: Analyse the different types of hospital diets

CO2: Plan and prepare diets during infections fever

CO3: Identify the etiological factors for obesity, diabetes and CVD and prepare diets

CO4: Plan and prepare diets for diseases of gastrointestinal tract and kidney diseases.

CO5: Identify the different types of food intolerances and allergies

References

1. Michael. J. Gibney etal; Clinical Nutrition Black well Science,2005.
2. Shubhangini. A. Joshi; Nutrition and Dietetics, 3rd edition, McGraw Hill Education (India) Private Limited.
3. Srilakshmi . B; Nutrition Science, 15th edition, New Age International (p) Limited, publishers, 2016.
4. Swaminathan. M; Advanced Text-Book on Food and Nutrition, Volume I and 11 2nd Edition, The Bangalore printing and publishing co., LTD, Reprint 2015.
5. Sunetra Roday; Food Science and Nutrition, 2nd edition, Oxford University press, 2013.
6. Carol Byrd – Bredbenner; Wardlaw’s perspectives in Nutrition, 9th edition McGraw – Hill International Edition, 2013.

Journals

1. Journal of American Dietetics Association, American Dietetic Association, U.S.A.
2. Indian Journal of Nutrition and Dietetics – Avinashilingam Institute for Home Science and Higher Education Coimbatore.

Course objective: To provide students with a comprehensive understanding of the principles and practical applications of nutrition in the context of sports and exercise.

Unit 1: Introduction to Sports Nutrition

Understanding the importance of nutrition in sports performance; Basic macronutrients and their role in energy production; Key micronutrients and their impact on athletic performance. Digestion, absorption, and metabolism of nutrients

Unit 2: Energy Systems and Fuel Sources

Overview of energy systems used during different types of physical activity. Carbohydrates: glycogen storage, utilization, and timing of consumption; Fats: role in energy production and optimizing fat metabolism; Protein: importance for muscle repair and recovery

Unit 3: Hydration and Fluid Balance

The role of water in maintaining optimal performance, Factors affecting hydration status and fluid requirements, Electrolytes and their significance in sports hydration. Strategies for pre, during, and post-exercise fluid intake

Unit 4: Nutritional Strategies for Training and Competition

Pre-training/competition nutrition: timing, macronutrient balance, and portion sizes, Intra-training/competition fueling: quick energy sources and hydration strategies. Recovery nutrition: optimal nutrient timing and the importance of post-exercise meals. Weight management and body composition considerations for athletes

Unit 5: Supplements and Ergogenic Aids

Overview of popular sports supplements and their potential benefits and risks. The role of vitamins, minerals, and antioxidants in sports nutrition. Evidence-based ergogenic aids and their impact on performance. Critical evaluation of supplement claims and regulations

Course Outcome:

On successful completion of this course learners will be able to:

CO1. Demonstrate a solid understanding of the basic principles of sports nutrition, including macronutrients, micronutrients, and their impact on energy production and recovery.

CO2. Analyze the different energy systems utilized during physical activity and apply appropriate nutritional strategies to support each energy system.

CO3. Evaluate the importance of hydration and fluid balance in athletic performance and develop strategies to optimize hydration status before, during, and after exercise.

CO4. Apply evidence-based nutritional strategies for training and competition, including pre-exercise fueling, intra-exercise fueling, and post-exercise recovery nutrition.

CO5. Critically assess the use of supplements and ergogenic aids in sports nutrition, understanding their potential benefits, risks, and limitations

Textbook References

1. "Nutrition for Sport and Exercise" by Marie Dunford and J. Andrew Doyle (2015)
2. "Advanced Sports Nutrition" by Dan Benardot (2012)
3. "The Complete Guide to Sports Nutrition" by Anita Bean (2017)
4. "Practical Sports Nutrition" by Louise Burke and Vicki Deakin (2007)
5. "Essentials of Sports Nutrition and Supplements" by Jose Antonio and Douglas Kalman (2008)
6. "Sports Nutrition: A Practice Manual for Professionals" by Marie Dunford (2015)
7. "The Performance Zone: Your Nutrition Action Plan for Greater Endurance & Sports Performance" by John Ivy and Robert Portman (2004)
8. "Food for Fitness: How to Eat for Maximum Performance" by Chris Carmichael and Jim Rutberg (2015)

Course Objective: To be acquainted with and to develop skill in advanced continental and international cuisines.

<p>MENU – 1 :</p> <p>Consomme Carmen Poulet Saute Chasseur Pommes Lorette Haricots Verts Salade de Betterave Brioche Baba au Rhum</p>	<p>MENU – 2 :</p> <p>Bisque D’ Crevisse Escalope De Veau Viennoise Pommes Bataille Courge Provencale Epinard au Gratin Croissants Gateau D’ Anana</p>
<p>MENU – 3 :</p> <p>Crème Dubarry Darne De Saumon Grille Sauce Poloise Pommes Fondant Petits Pois A la Flammande French Bread Banana Tart</p>	<p>MENU – 4 :</p> <p>Veloute Dame Blanc Cote De Porc Charcuterie Pommes De Terre A La Crème Carottes Glace Au Gingembre Salade Verte Harlequin Bread Chocolate Cream Puffs</p>
<p>MENU – 5 :</p> <p>Cabbage Chowder Poulet A La Rex Pommes Marquise Ratatouille Salade De Carottées Et Celeri Clover Leaf Bread Savarin Des Fruits</p>	<p>MENU – 6 :</p> <p>Barquettes Assortis Stroganoff De Boeuf Pommes Persilles Salade De Concombre Garlic Rolls Crepe Suzette</p>
<p>NU – 7:</p> <p>Duchesse Nantua Poulet Maryland Croquette Potatoes Salade Nicoise Brown Bread Pate Des Pommes</p>	<p>MENU – 8 :</p> <p>Kromeskies Filet De Sole Walweska Pommes Lyonnaise Champignon au beurre Bread Sticks SouffleMilanaise</p>

<p>MENU – 9:</p> <p>Vol-Au-Vent De Volaille St. Jambon Crab Thermidor Salade Waldorf Vienna Rolls Mousse Au Chocolat</p>	<p>MENU – 10 :</p> <p>Crabe En Coquille Quiche Lorraine Salade de Viande Pommes Parisienne Foccacia Crème Brulee</p>
<p>PLUS 4 BUFFETS:</p> <p>Cold Buffet Hot Continental Indian Regional</p>	
<p>CHINESE MENUS :</p> <p>MENU – 1 :</p> <p>Prawn Ball Soup Fried Wantons Sweet & Sour Pork Hakka Noodles Apple Toffee</p>	<p>MENU – 2 :</p> <p>Hot & Sour Soup Beans Szechwan Stir Fried Chicken & Peppers Chinese Fried Rice Bananas Cooked in coconut milk</p>
<p>MENU – 3 :</p> <p>Sweet corn soup Shao Mai Tung-Po Mutton Yangchow Fried Rice Fried Ice cream</p>	<p>MENU – 4 :</p> <p>Wonton Soup Spring Rolls Stir Fried Beef & Celery Chow Mein Lychees with Ice cream</p>
<p>MENU – 5 :</p> <p>Prawns in Garlic Sauce Fish Szechwan Hot & Sour Cabbage Steamed Noodles Sweet peanut Dumplings</p>	

INTERNATIONAL MENUS: SPAIN : Gazpacho Pollo En Pepitoria Paella Fritata De patata Pastel De Mazana	ITALY: Minestrone Ravioli Arabeata FettucineCarbonara PolloAlla Cacciatore MedanzaneParmigiane Grissini Tiramsu
GERMANY: Linsensuppe Sauerbraten Spatzlle Kartoffel Potato Salad Pumpenickel Apfel Strudel	U.K. Scotch Broth Roast Beef Yorkshire Pudding Glazed Carrots & Turnips Roast Potato Yorkshire Curd Tart Crusty Bread
GREECE: Soupe Avogolemeno Moussaka A La Greque Dolmas Tzaziki Baklava Harlequin Bread	

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Prepare global cuisine dishes.
- CO2. Show the skills and demonstrate the techniques in International cuisines.
- CO3. Display the techniques involved in continental & International cuisines.
- CO4. Prepare, display and store force meats.
- CO5. Carry out Garde manger duties

III YEAR – VI SEMESTER

Course Objective:

To make the students to gain knowledge with regard to research and apply in terms of doing the research.

UNIT- I INTRODUCTION

Meaning of research - Objective of research - Motivation of research -Types of research - Research approaches - Significance of research - Research methodology - Research process - Criteria of good research

UNIT -II RESEARCH PROBLEM

Defining the research problems - meaning - importance of selecting a research problem

UNIT-III RESEARCH DESIGN

Meaning - need for research design - Sampling design - Census and sample survey - implications of a sample design - Steps in sampling design

UNIT- IV DATA COLLECTION

Methods of data collection - primary & secondary data - Observation method- other methods.

UNIT-V REPORT WRITING

Analysis of Data Preparation of Report – Rough Draft and Final Report – Types of Report – Bibliography.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Define research and develop an understanding on various types of research objectives of doing research, research process, and criteria of good research.
- CO2. Identify the research problem and specific research problem.
- CO3. Select the appropriate research design and sampling design.
- CO4. Plan on data collection methods.
- CO5. Express the purpose of different sections of a report and write in an appropriate style for an academic or scientific report.

Reference Book:

- 1. K.N. Krishnaswamy , Research methodology, Darling Kindersley 2009.
- 2. Uma sekaran, Research methodology, John wiley 2012.
- 3. Roger Bougle, Research methodology, John wiley 2012.

Objectives:

1. To create an awareness on the organizational aspect and functioning of different types of food service institutions.
2. To develop managerial skills among the students.
3. To understand the space allocation and arrangement of food service units .

UNIT- I

- a) **FOOD SERVICE INDUSTRY:** Definition – types of catering- Hotel, Motel, Restaurant, Cafeteria and chain hotels.
- b) **WELFARE** – Hospital, School lunch, Residential establishment and Industrial catering.
- c) **TRANSPORT** – Air, Rail, Sea and Space, Miscellaneous – Contract and outdoor.

UNIT – II: PHYSICAL PLANT AND FOOD PURCHASE

- a) Layout of kitchens, types of kitchens – Planning of Receiving preparation, storage and service area with relevant too spacing.
- b) **FOOD PURCHASE-** Procedures and Factors involved in the selection of food.

UNIT – III: QUANTITY FOOD SERVICE AND EQUIPMENTS

- a) **QUANTITY FOOD SERVICE:** Definition, objectives, styles of service waiter service, self – service, vending. Mechanics of waiter service.
- b) **EQUIPMENT:** Classification, factors involved in selection, use and care of major equipments, traditional and modern equipment.
- c) **Menu planning:** Origin of menu, importance of menu planning. Types of menu- table d’hote menu, a la carte, Dujour, theme, static, cycle. French classical menu. Use of menus, construction of menus, Menu Design, Factors affecting menu planning. Standardisation of Recipes and portion control.

UNIT – IV

- a) **MANAGEMENT-** Definition, principles, Functions and tools of management, qualities of a good leader, styles of leadership.
- b) **RESOURCE MANAGEMENT** – Money, Time, Energy, Computer applications in menu planning.

UNIT – V

PERSONNEL MANAGEMENT- Recruitment, selection and induction. Financial management- Cost control- methods of food cost control, Book- keeping; advantages of the double entry system.

SANITATION AND SAFETY – Sanitation of Plant and Kitchen Hygiene, Personal Hygiene, First aid principles and practice, Health and Safety at at work. Use of fire extinguishers.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Analyse the types of food service industries
- CO2. Design layouts of kitchens and understand various types of kitchens
- CO3. Design menus and identification of various equipments.
- CO4. Understand the functions and tools of management
- CO5. Demonstrate various safety and sanitation practices

References

1. Kaufman,R. Mega planning- Practical tools for Organisational Success, Sage Publications Inc, 2000.
2. Shring Y, P. Effective Food Service Management, Anmol publications Pvt Ltd,New Delhi, 2001. 3. Stephen, B, , Williams, S, R, “Bill Jardine, and Richard, J, N, Introduction to Catering,
3. Ingredients for Success, Delmar- Thomson learning, 2001.
4. Yadav, C, P. Management of Hotel and Catering Industry, Anmol, publications Pvt
5. Mohini Sethi and Surjeet Malham, “ Catering Management – an integrated approach”, 2nd edition, Wiley Eastern Limited, New Delhi, Reprint 2007.

Objectives:

1. To understand development aspects (both normal and exceptional) from conception to old age as they can be guided effectively.
2. To have complete knowledge about the behavior pattern of the individual and various factors influencing them.

UNIT-I

1. The concept of development and growth - principles governing growth and development, developmental tasks of different stages.
2. Stages of Life span - conception, infancy, early childhood, late childhood, adolescence, adulthood, middle age and old age.

UNIT-II

1. Prenatal Development - Conception, test tube baby, Periods of prenatal development - signs of pregnancy.
2. Prenatal care - Management of normal pregnancy - hygiene, diet and medical supervision and hazards during pregnancy.
3. Labor - signs of labor, stages of labor - types of birth, multiple pregnancy.
4. Post-natal care, prevention of gynecological complications.
5. Adjustment of the newborn to temperature, breathing, feeding and elimination.

UNIT-III

1. Infancy (Birth to 2 years) - Development - physical and motor, social, emotional, cognitive and language, Minor ailments.
2. Effect of stimulation - care of infants, feeding, toilet training, bathing, clothing, sleeping and immunization, prevention of accidents, importance of mothering and emotional growth. Importance of psychological needs.

UNIT- IV

1. Early childhood (preschool stage 2 - 6 years) - Physical and motor development, emotional, social, cognitive and language development, creativity, importance of play, importance of family relationship, behavior problems - causes and treatment.
2. Importance of preschool education.
3. Late childhood (Elementary school period 6 - 12 years) - Developments - physical, social, emotional, cognitive and language. Sex Education.

UNIT-V

1. Adolescence (12 - 18 years) Physical, emotional, intellectual and motor development, personal adjustment and maladjustment. Delinquency - causes, prevention and rehabilitation. Drug addiction and alcoholism - rehabilitation.
2. Adulthood (18 - 60 years) - Characteristics and developmental tasks. All aspects of development and vocational development.
3. Old age (60 years and above) - Physical and psychological changes, problems of the aged, family attitude towards the aged, place of the aged in Indian society.

Course Outcome:

On successful completion of this course learners will be able to:

- CO1. Understand the concept of development and growth
- CO2. Analyse prenatal development and prenatal care
- CO3. Analyse and identify the effect of stimulation and care of infants
- CO4. Understand the stages of development during early childhood and late childhood
- CO5. . Understand the stages of development during adolescence and adulthood

References

1. Devadass, R.P; Jaya, N. A Text Book on Child Development, Macmillan Indian Ltd., Delhi, 1996.
2. Parikh, S; Sudarshan, R. Human Development and Structural Adjustment, UNPP, Delhi, 1993.
3. Mussen etal. Child Development and personality, Harper and Row publishers, New York, 1990.
4. Suriakanthi. A. Child Development, Swagath Fine Auto, Sivakasi, 1991.
5. Papalia, D.E. Human Development, Tata McGraw Hill Publishing company Ltd, New Delhi, 1997.
6. Suriakanthi, A. A Handbook on Human Development, Gandhigram Rural University, Gandhi gram, 1992.
7. Hurlock, E.B., (1995): Developmental Psychology-A life span approach, 5th Edition, McGraw Hill Book Co., New York.
8. Nanda V.K., (1998): Principles of Child Development, Anmol Publications Pvt. Ltd., New Delhi.
9. Berk L.E., (2004): Child Development, Pearson Longman New Delhi.

Objectives:

To enable students to

1. Gain knowledge in hospital functions and administration
2. Acquire skills in maintaining medical records
3. Understand the management of resources in hospitals

UNIT I

Hospital based health care and its changing scenario, Effects of globalization on health care, concepts of corporate hospitals in developing countries, infrastructure and lay out of an ideal corporate hospital, functioning of modern, hospital and changing needs of patients, hospitality in hospital care

UNIT II

Patient Care Services Patient Admission / discharge, cafeteria and dietary services, front office services, housekeeping services, blood bank, diagnostic services, lab, physiotherapy, pharmacy operation theatre, outpatient and inpatient ward –admission

UNIT III

Principles of Hospital management Managerial activities for effective hospital functioning duties and responsibilities of hospital managers, qualities of office managers, effective inter and intra departmental co-ordination, understanding functioning of corporate multi specialty hospital

UNIT IV

Marketing and Material management, Human resource management, managerial accounting and financial management, importance of material management, principles of material management, inventory management. Types of computer systems used for reservation systems, point of sale systems (POS) and property management systems.(PMS)

UNIT V

Hospitality in hospital care Management of dietary department, diet planning for hospital diets, purchasing, storage and quantity food production, patient compliance, food production, serving to patient- tray and trolley service, plate waste management, washing and garbage disposal.

Course Outcome:**On successful completion of this course learners will be able to:**

- CO1. Understand the concept of hospital based health care
- CO2. Analyse patient care services and administration
- CO3. Analyse the principles of hospital management
- CO4. Apply the basic concepts of marketing and material management.
- CO5. Analyze the hospitality in hospital care management.

References:

1. Sudhir Andrews, Front Office Management and Operations, 2008, Tata Mc Graw – Hill Publishing Company Ltd.
2. Sakharka B M, Principles of Hospital Administration and Planning, 2009, 2nd Edition, Jaypee Brothers Medical Publishers (p) Ltd.
3. Sherry Glied and Peter Smith, The Oxford Handbook of Health Economics, 2011
4. Jan Abel Olsen, Principles in Health Economics and Policy, 2009, Oxford University Press.
5. Mohinder Chand, Managing Hospitality Operations, 2009, 1st Edition, Anmol Publications Pvt. Ltd. New Delhi.
6. Goel S.L, Health Care System and Hospital Administration, 2009, Vol.7, Deep and Deep Publications Pvt. Ltd.
7. Kalkar S.A, Hospital Information Systems, 2010, Published by Asoke K.Ghosh, PHI Learning Pvt. Ltd.
8. <http://eurpub.oxfordjournals.org/content>.