Sri Meenakshi Government Arts College for Women
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
Re-Accredited with 'A' Grade by NAAC (3rd Cycle)
Madurai - 625 002.

B.Sc. Home Science
(Nutrition, Food Service Management & Dietetics)

CHOICE-BASED CREDIT SYSTEM

OUTCOME-BASED EDUCATION

SYLLABUS

(For those who joined in 2022 - 2023)

SRI MEENAKSHI GOVT ARTS COLLEGE FOR WOMEN (Autonomous)
Madurai – 2

Syllabus for
B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)

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SRI MEENAKSHI GOVERNMENT ARTS COLLEGE FOR WOMEN (A)

DEPARTMENT OF HOME SCIENCE

SCOPE OF HOME SCIENCE

The study of Home Science helps the pupil to lead a more satisfying personal, family and community life because of the knowledge, understanding, skills and appreciation of cultural and spiritual values a pupil acquires through Home Science education. Unlike other subjects, Home Science is a practical science that applies to everyday life. As a skill oriented subject it offers maximum opportunity to express one's ability to achieve one's potential in diverse fields, as an individual and a team player and develop leadership qualities.

Home Science education develops qualities needed for responsible citizenship. Home Science helps pupils to recognize the importance of food in healthy living, teaches how to prepare food by retaining its nutrients and the importance of a balanced diet. It also enables one to achieve healthy family relationships and manage household resources. Home Science education lays the foundation for entrepreneurship, a sustainable path towards today's youth empowerment. The student becomes efficient to nurture and take care of the young, to foster their healthy growth and development. Moreover one gains technical knowledge and information from various branches of Home Science for both personal and professional capabilities.

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: **1979-1980**

COURSES OFFERED: **CBCS** Course Structure; Outcome Based Education (**OBE**)

- UG COURSE offered since 2000-2001:
  B.Sc. Home Science (Nutrition, Food Service Management & Dietetics)
- PG COURSE offered since 2018-2019: **M.Sc. Home Science**

VISION: ***To uplift the socially backward and economically poor young women of the society through value-based education in health & nutrition***

MISSION

Equip students to become messengers of nutrition to the community at large
Impart skills and techniques to find placement in food & health sector
Revise syllabus constantly for social relevance & employability
Provide flexibility & academic freedom through Choice Based Credit System
Identify strengths & eliminate weaknesses
Provide accountability & accreditation

NAME OF THE PROGRAMME: B.Sc. HOME SCIENCE
(Nutrition, Food Service Management & Dietetics)

ELIGIBILITY FOR ADMISSION: As per DCE norms (Pass in +2 or equivalent exam)

PROGRAMME OUTCOMES

1. Inculcate a sustained interest to learn new concepts, techniques and acquire discipline based knowledge
2. Relate their knowledge to design problem solving strategies addressing the demands in the society
3. Involve themselves in capacity building and hone their skills for technical , conceptual and creative excellence
4. Perceive a plan to take up Postgraduate programmes leading to research within and outside their disciplines
5. Contribute to the ecological space and be sensitive to the multi-dimensional aspects of our country and strive for harmonious existence through environment –friendly academic involvement.

PROGRAMME SPECIFIC OUTCOMES

1. Exhibit efficient use of resources and potentials at home and work
2. Demonstrate skills in organisation and management of food service institutions
3. Apply the role of food and nutrition for personal and public health
4. Develop entrepreneurial skills in all the fields of Home Science
5. Relate the principles of human development with self, family and society
6. Get sensitized on the issues of society and plan relevant extension programmes
7. Build capacities to become dieticians/nutritionists, housekeeping supervisors, HR officers, counselors and medical social workers, project managers and coordinators in NGOs.

Mapping of COs with POs and PSOs

Mapping	1-20%	21-40%	41-60%	61-80%	81-100%
Scale	1	2	3	4	5
Relation	0.0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0
Quality	Very Poor	Poor	Moderate	High	Very High
Mean Score of COs = $\frac{\text{Total Value}}{\text{Total No. of POs \&PSOs}}$			Mean Overall Score of COs = $\frac{\text{Total of Mean Score}}{\text{Total No. of COs}}$		

CO: COURSE OUTCOMES

PO: PROGRAMME OUTCOMES

PSO: PROGRAMME SPECIFIC OUTCOMES

SCHEME FOR INTERNAL ASSESSMENT

Theory: Internal: 25 marks;

Practical: Internal: 40 marks;

The pattern of internal assessment will be as follows:

Test average of two tests	10 marks
Model Exam	10 marks
Assignments/Group Discussion/ Seminar /Quiz	5 marks
Total	**25 marks**

EXTERNAL ASSESSMENT

Theory: External Exam: Maximum 75 marks

Practical: External Exam: Maximum 60 marks

PASSING MINIMUM

Assessment	Internal	External	Aggregate
Theory	No minimum	35% of 75 (27/75)	40/100
Practical	No minimum	35% of 60 (21/60)	40/100

QUESTION PAPER PATTERN

Title of the paper		
Sub code:	**Time : 3 Hours**	**Max Marks: 75**
	Section - A	**(5x2=10 marks)**
	Question No. 1 to 5 (One question from each unit) Answer ALL Questions Answers not exceeding two sentences	
	Section - B	**(5x5=25 marks)**
	Question No. 6 to 10 (Two questions from each unit) Answer ALL Questions **(Internal Choice)** Answers not exceeding two pages	
	Section – C	**(5 x 8 = 40 marks)**
	Question No. 11 to 15 (Two questions from each unit) Answer ALL Questions **(Internal Choice)** Answers not exceeding four pages	

BLUE PRINT

UNIT	SECTION			TOTAL Questions
	A 2 MARKS EACH 5 questions	B 5 MARKS EACH 5 questions INTERNAL CHOICE	C 8 MARKS EACH 5 questions INTERNAL CHOICE	
I	1	2	2	5
II	1	2	2	5
III	1	2	2	5
IV	1	2	2	5
V	1	2	2	5
Total Marks	10	25	40	75

PATTERN OF EVALUATION

Level	Scale of Assessment (BLOOM'S TAXONOMY)	INTERNAL	EXTERNAL
K1	KNOWLEDGE	50%	50%
K2	UNDERSTANDING	30%	30%
K3	APPLY	20%	20%

Levels of Mapping for Undergraduate Programme

Bloom's classification system that is used to define and distinguish different levels of student's cognition has been incorporated into the evaluation process. It is based on the following:

K1 - Remembering/Recalling

Keywords: Define, Identify, Mention, List out, Find, Select, Quote, State, Choose, Trace, etc.

K2 - Understanding/Comprehension

Keywords: Classify, Explain, Demonstrate, Translate, Infer, Show, Differentiate, Distinguish, Illustrate, Draw, Examine, etc.

K3 - Application and Analysis

Keywords: Apply, Derive, Justify, Explain, Solve, Analyse, Describe, Sketch, Draw, Evaluate, Discuss, Explore, Compare and contrast, Appreciate, Elucidate, Review, etc.

Year	K1	K2	K3
I	40%	30%	30%
II	30%	40%	30%
III	30%	30%	40%

Question Pattern

Year	K1	K2	K3
I	Part-A (3 questions) Part-B (3 questions) Part-C (3 questions)	Part-A (1 questions) Part-B (1 questions) Part-C (1 questions)	Part-A (1 questions) Part-B (1 questions) Part-C (1 questions)
II	Part-A (1 questions) Part-B (2 questions) Part-C (2 questions)	Part-A (3 questions) Part-B (2 questions) Part-C (2 questions)	Part-A (1 questions) Part-B (1 questions) Part-C (1 questions)
III	Part-A (1 questions) Part-B (1 questions) Part-C (1 questions)	Part-A (1 questions) Part-B (1 questions) Part-C (1 questions)	Part-A (3 questions) Part-B (3 questions) Part-C (3 questions)

SCHEME FOR VALUE ADDED COURSE

Theory or Practical : 50 marks
The pattern of internal assessment will be as follows:

Test average of two tests	10 marks
Assignment/Group Discussion/Seminar/Quiz/Demo	10 marks
Total	20 marks

EXTERNAL ASSESSMENT

Theory or Practical: External Exam: Maximum 30 marks

PASSING MINIMUM - 11/30 (35%)

Assessment	Internal	External	Aggregate
Theory/Practical	No minimum	(11/30) 35% of 30	20/50

QUESTION PAPER PATTERN

Title of the paper		
Sub code:	**Duration: 2 Hours**	**Max Marks: 30**
THEORY / PRACTICAL		**(5x6=30)**
Question No. 1 to 5 (One question from each unit) Answer ALL Questions (Internal choice) Answers not exceeding two sentences		

No of students restricted to 30 per class
Exam fee as per MKU guidelines

CREDITS & MARKS

Part	Course		No.of Courses	Hours	Credits	Marks
I	Language Course (LC)		4	24	12	400
II	English Language Course (ELC)		4	24	12	400
III	Core Course (CC)		15	73	64	1500
III	Allied Course (AC)		6	28	20	600
III	Discipline Specific Elective Course (DSEC)		3	13	13	300
III	Generic Elective Course (GEC)		1	2	2	100
IV	Non Major Elective Course (NMEC)		2	4	4	200
IV	Skill Enhancement Course (SEC)		3	6	6	300
IV	Ability Enhancement Course (AEC)	Value Education	1	2	2	100
IV		Environmental Studies	1	2	2	100
IV		General Knowledge	1	2	2	100
V	NCC / NSS / Extension Activities / P.Ed.				1	100
TOTAL			**41**	**180**	**140**	**4200**
Value Added Courses			2	4	4	100
TOTAL			**43**		**144**	**4300**

VALUE ADDED COURSES	CREDITS	MARKS
Flower Arrangement - (Open to all UG students)	2	50
Diet Counselling Skills - (Open to UG students of HSc)	2	50

SRI MEENAKSHI GOVT. ARTS COLLEGE FOR WOMEN (AUTONOMOUS), MADURAI-2									
DEPARTMENT OF HOME SCIENCE									
Programme Code: UHSE 1		**B.Sc. HOME SCIENCE (NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS)**							
SEMESTER I									
Part	Course Type	**Course Code**	**Title of the Course**	Hrs/ Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	Language Core-I (LC-I)	U221A1 / U221H1	**Tamil/Hindi**	6	3	3	25	75	100
II	English Language Core-I (ELC-I)	U222A1	**English**	6	3	3	25	75	100
III	Core Course -I (CC–I)	U22CN1	**Basics of Food Science and Nutrition**	6	6	3	25	75	100
III	Core Course -II (CC–II) Practical	U22CN2P	**Food Science and Nutrition Practical**	3	-	-	-	-	-
III	Allied Course-I (AC-I) First Allied Paper I (T)	U22ANN1	**Nutritional Biochemistry-I**	4	3	3	25	75	100
III	Allied Course-II (AC-II) First Allied Practical	U22ANN2P	**Nutritional Biochemistry Practical**	3	--	--	--	--	---
IV	Ability Enhancement Course-I (AEC-I)	U22AE1	**Value Education**	2	2	3	25	75	100
Total				**30**	**17**				**500**
SEMESTER–II									
Part	Course Type	**Course Code**	Title of the Course	Hrs / Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	Language Core-II (LC-II)	U221A2/ U221H2	**Tamil/Hindi**	6	3	3	25	75	100
II	English Language Core-II (ELC-II)	U222A2	**English**	6	3	3	25	75	100
III	Core Course -II (CC–II)	U22CN2P	**Food Science and Nutrition Practical**	3	3	3	**40**	**60**	100
III	Core Course -III (CC–III)	U22CN3	**Human Physiology**	3	3	3	25	75	100
III	Core Course -IV (CC–IV)	U22CN4	**Food Standards and Quality Control**	3	3	3	25	75	100
III	Allied Course-II (AC-II)	U22ANN2P	**Nutritional Biochemistry Practical**	3	3	3	**40**	**60**	100
III	Allied Course-III (AC-III)	U22ANN3	**Nutritional Biochemistry-II**	4	4	3	25	75	100
IV	Ability Enhancement Course-II (AEC-II)	U22AE2	**Environmental Studies**	2	2	3	25	75	100
Total				**30**	**24**				**800**

SEMESTER–III

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	Language Core-III (LC-III)	U221A3/ U221H3	**Tamil/Hindi**	6	3	3	25	75	100
II	English Language Core-III (ELC-III)	U222A3	**English**	6	3	3	25	75	100
III	Core Course -V (CC–V)	U22CN5	**Food Production and Service**	6	5	3	25	75	100
III	Core Course -VI Practical (CC–VI)	U22CN6P	**Food Production and Preservation Practical**	3	--	--	--	--	--
III	Allied Course-IV (AC-III)	U22ACT1	**Chemistry Paper I (T)**	4	3	3	25	75	100
III	Allied Course-V (AC-V)	U22ACP	**Chemistry Allied Practical**	3	--	--	--	--	--
IV	Non Major Elective (NMEC–I)	U22NMN1	**Food Preservation**	2	2	3	25	75	100
V			**Extension Activity**		1		100	-	100
Total				**30**	**17**				**600**

SEMESTER–IV

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	Language Core-IV (LC-IV)	U221A4/ U221H4	**Tamil/Hindi**	6	3	3	25	75	100
II	English Language Core-IV (ELC-IV)	U222A4	**English**	6	3	3	25	75	100
III	Core Course -VI (CC–VI)	U22CN6P	**Food Production and Preservation Practical**	3	3	3	**40**	**60**	100
III	Core Course -VII (CC–VII)	U22CN7	**Food Preservation**	4	4	3	25	75	100
III	Allied Course-V (AC-V)	U22ACP	**Chemistry Allied Practical**	3	3	3	**40**	**60**	100
III	Allied Course-VI (AC-VI)	U22ACT2	**Chemistry Allied Paper II (T)**	4	4	3	25	75	100
IV	NON MAJOR ELECTIVE (NMEC–II)	U22NMN2	**Health and Hygiene**	2	2	3	25	75	100
IV	Skill Enhancement Course-I (SEC–I)(**T**)	U22SEN1	**Interior Decoration**	2	2	3	25	75	100
Total				**30**	**24**				**800**

SEMESTER–V									
Part	Course Type	**Course Code**	Title of the Course	Hrs / Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
III	Core Course–VIII (CC-VIII)	U22CN8	**LifeSpan Development**	5	5	3	25	75	100
III	Core Course-IX (CC-IX)	U22CN9	**Nutrition Through Life cycle**	5	5	3	25	75	100
III	Core Course-X (CC–X)	U22CN10	**Therapeutic Nutrition**	5	5	3	25	75	100
III	Core-XI Practical (CC–XI)	U22CN11P	**Dietetics Practical**	6	5	3	**40**	**60**	100
III	Discipline Specific Elective (DSEC–I)	U22DSN1A	**Community Nutrition**	5	5	3	25	75	100
		U22DSN1B	**Family Dynamics**						
IV	Skill Enhancement Course-II (SEC–II) (**T**)	U22SEN1	**Entrepreneurship Development**	2	2	3	25	75	100
IV	Skill Enhancement Course-III (SEC–III) (**P**)	U22SEN2P	**Bakery**	2	2	3	**40**	**60**	100
Total				**30**	**29**				**700**
	SEMESTER–VI								
Part	Course Type	**Course Code**	Title of the Course	Hrs/Wk	Credits	Exam Hrs	Marks		
							Int	Ext	Total
III	Core Course-XII (CC–XII)	U22CN12	**Food Service Management**	4	4	3	25	75	100
III	Core Course-XIII (CC–XIII)	U22CN13	**Extension Education**	4	4	3	25	75	100
III	Core Course XIV (CC–XIV)	U22CN14	**Family Resource Management**	4	4	3	25	75	100
III	Core Course -XV Practical (CC–XV)	U22CN15P	**Dietetics Internship & Project**	6	5	3	**80**	**20**	100
III	Discipline Specific Elective II	U22DSN2A	**Fundamentals of Textiles and Clothing**	4	4	3	25	75	100
		U22DSN2B	**Development and Welfare Programmes in India**						
III	Discipline Specific Elective III	U22DSN3A	**Food Packaging**	4	4	3	25	75	100
		U22DSN3B	**Food Microbiology**						
III	Generic Elective Course-I (GEC-I)	U22GE1A	**Housekeeping**	2	2	3	25	75	100
		U22GE1B	**Front Office & Personnel Management**						
IV	Ability Enhancement Course-III (AEC-III)	U22AE3	**General Knowledge**	2	2	3	25	75	100
Total				**30**	**29**				**800**
			TOTAL	**180**	**140**				**4200**
Value Added Courses offered by Dept of Home Science									
Sem	Course Type	**Course Code**	Title of the Course	Hrs/ Wk	Credits	Exam Hrs	Marks		
							Int	Ext	Total
III	For other major students	VAN1	**Flower Arrangement**	**2**	**2**	**2**	**20**	**30**	**50**
IV	For HSc students	VAN2	**Diet Counselling**	**2**	**2**	**2**	**20**	**30**	**50**

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course I**
Semester : **I** **Hours per week: 6** **90 hrs/Semester**
Sub. Code : **U22CN1** **Credits: 6**

Title of the Course: Basics of Food Science and Nutrition

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	90	50	-	10	10	20	-

PREAMBLE

This course will enable the student to

1. Understand the classification of foods based on their occurrence.
2. Learn about the structure, composition, selection of different foodstuffs and changes in them due to cooking.
3. Gain knowledge in the role of foods in cookery.
4. Understand the functions & sources of nutrients.
5. Apply the knowledge in maintenance of good health for the individual and the community.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/ sem
CO1: Understand the concepts of food, nutrition and functional foods in relation to health	I	18
CO2: Relate knowledge of macro and micro nutrients with health status and to identify deficiencies	II	18
CO3: Apply the acquired knowledge on composition and classification of foods in cookery	III	18
CO4: Identify the concept of processing and cooking method to conserve nutrients	IV	18
CO5: Predict the role of foods in cookery	V	18

SYLLABUS

Unit-I. Introduction of Food Groups, Food Pyramid and Cooking Methods

1. Food, Nutrition and Health - Definition- Health, Food, Nutrients, Food Science, Nutrition and Malnutrition

2. Functions of Foods and Food Groups (ICMR)

3. Methods of cooking

- Moist heat methods like Boiling, Simmering, Poaching, Steaming, Pressure cooking
- Dry heat methods: Air as medium of cooking: Grilling, broiling, roasting, Baking.
- Fat as medium of cooking: Sautéing, Shallow fat frying, Deep fat frying
- Combined (Moist and dry) Methods: Braising, Stewing
- Other cooking methods:-Microwave cooking, and Solar cooking.
- Advantages and Disadvantages of Cooking methods

Unit-II. Nutritional Significance of different Food Groups

Classification, Composition, nutritive value and Role in Cookery

1. Cereals - Structure, Processing methods- Parboiling, Germination (Amylase Rich Foods-ARF), Fermentation, changes during cooking - Gelatinization, Dextrinization, Gluten formation
2. Pulses and Legumes - Germination
3. Fruits, and Vegetables,
4. Sugar and Jaggery
5. Nuts, and Oil seeds
6. Milk and Milk Products- Fermented and non Fermented
7. Eggs-Basic structure of egg
8. Meat, poultry and fish
9. Spices & Condiments

Unit-III. Macronutrients

Classification, Dietary Sources, Functions, Recommended Dietary Allowances and Deficiency diseases : Carbohydrates, Proteins, Lipids and Water

Unit-IV. Minerals

Classification, Dietary Sources, Functions, Recommended Dietary Allowances and Deficiency diseases of minerals: Calcium, Phosphorus, Magnesium, Sodium, Potassium, Selenium, Iron, Zinc, Iodine, Copper and Fluorine

Unit-V. Vitamins

Classifications, Dietary Sources, Functions, Recommended Dietary Allowances and Deficiency diseases of vitamins

1. Fat Soluble Vitamins - A, D, E and K
2. Water Soluble Vitamins- B Complex Vitamins - Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin and Vitamin C.

TEXTBOOK

1. Srilakshmi, B. (2017) Nutrition Science, 5th Edition, New Age International (P) Ltd., Chennai.

REFERENCES

1. Bamji, M.S., Rao, P., Reddy, V. (1998) Textbook of Human Nutrition, Oxford & IBH Pub., New Delhi
2. Gopalan,C. et.al (2010) Nutritive value of Indian Foods, ICMR.
3. Guthrie, A.H. (1986) Introductory Nutrition, 6thed, The C.V. Mosby Company.
4. Williams, S.R. (2001) Basic Nutrition & Diet Therapy, 11th ed., Mosby, Inc., St. Louis.
5. Manay, S.M. & Shadaksharaswamy, M. (1987) Food Facts & Principles, The Bangalore Printing & Pub. Co.
6. Mathew, S. (2001) Practical manual of Introductory foods, Agrobios India, Jodhpur.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE(Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course II
Semester : I & II Hours per week: 3+3 45 hrs /Semester
Sub Code : U22CN2P Credits: 3

Title of the Course: Food Science and Nutrition Practical

Pedagogy	Hours	Lecture	Peer Group teaching	Practical/ Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended learning	IV/DI
	90	4	-	80	-	-	6

PREAMBLE

To enable the students to :

1. Develop skills to prepare acceptable foods with regard to appearance, palatability and nutritive value.
2. Understand basic rules for laying a table for various meal patterns.

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs. P/S
CO1: Understand safe handling, cleaning, care and use of kitchen, equipments / instruments and dining utensils	I	18
CO2: Demonstrate skill in different methods of food measures	II	18
CO3: Perform market survey of locally available food items	III	18
CO4: Classify food groups and perform basic nutritional assessment	IV	18
CO5: Display knowledge and skill in Experimental cookery - Cereals, Pulses, Vegetables, Milk, Egg, Meat and Sugar, styles of table settings and napkin folds.	V	18

SYLLABUS

Unit I

Rules and regulations to be followed for working in the food lab. Care, safe handling and cleaning of kitchen, equipments / instruments and dining utensils

Unit II

Pre preparation of food ingredients. Methods of measuring ingredients (Solids, Fats and Oils, Flour, Liquid and Syrup)

Unit III

Market survey of locally available food items like cereals, pulses, fruits and vegetables, milk and milk products, fats and oils, nuts and oilseeds, sugar and jaggery, meat, fish, and poultry and miscellaneous food items like biscuits, jams, jellies, ketchup etc. and their cost.

Unit IV

Assessment of nutritional status. Grouping of foods - Classify foods on the basis of nutrients, Basic five food groups, basic four food groups and functional foods.

Unit V

Experimental cookery - Cereals, Pulses, Vegetables, Milk, Egg, Meat and Sugar. Demonstration - styles of table setting and napkin folds.

Textbook

1. Margaret, Mc Williams, Experimental Foods Laboratory Manual, California, USA, 1994.
2. M. Swaminathan, Food Science, Chemistry and Experimental Foods, Bangalore, 1987.
3. S. Mathew, Practical Manual of Introductory Foods, 1997.

References

1. Maney S (2008). *Foods, Facts and Principles,* 3rd Edition Published by Wiley Eastern, New Delhi.
2. Usha Chandrasekhar (2002) *Food Science and Application in Indian Cookery*, Phoenix Publishing House P. Ltd., New Delhi.
3. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010*) Basic Food Preparation: A Complete Manual*, 4th Edition, Orient Black Swan Ltd, Mumbai.
4. Srilakshmi, B. (2017) *Nutrition Science,* New Age International (P) Ltd., New Delhi,
5. Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) *Text Book of Human Nutrition,* Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
6. SunetraRoday (2017). *Food Science and Nutrition*, Oxford University Press, New Delhi.
7. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). *Indian Food Composition Tables (IFCT),* Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course III
Semester : II Hours per week: 3 45 hrs. /Semester
Sub. Code : U22CN3 Credits: 3

Title of the Course: HUMAN PHYSIOLOGY

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER /Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/DI
	45	40	-	5	-	-	-

PREAMBLE

To enable the student to understand the:

1. Different systems of the body and their functions with special reference to digestion, absorption, transport and uptake of nutrients and elimination of waste products.
2. Physiological changes at different stages of life and
3. Importance of hormonal and nervous regulation of the body functions.

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs/Sem
CO1: Comprehend anatomy of various organs in the human system.	I	9
CO2: Acquire knowledge on functions of organ systems.	II	9
CO3: Describe the physiological processes of organ systems.	III	9
CO4: Appraise the functions of the reproductive system.	IV	9
CO5: Define hormonal and nervous regulation of body functions.	V	9

SYLLABUS

UNIT I

Digestive system:

Brief study of the anatomical organisation of the digestive tract - functions of mouth, pharynx, oesophagus, stomach, small intestine, large intestine.

Urinary system:

Structure and functions of kidney, ureters, urethra, urinary bladder), physiology and formation of urine, physiology of micturition.

UNIT II

Circulatory system:

Heart - structure and functions. Blood – composition and their functions (plasma, plasma protein, RBC, WBC, platelets), circulations (systemic, pulmonary, coronary, portal, cerebral), coagulation, blood grouping, cardiac cycle and heart rate. Lymph – composition and function of the lymphatic system.

UNIT III

Respiratory system:

Lung -parts and functions, process of respiration (inspiration, expiration).

Endocrine glands:

Structure and functions - pituitary, thyroid, adrenal and gonads, reproduction and lactation.

UNIT IV

Reproductive system:

Anatomy of the male reproductive organs - external genital organs – penis; internal genital organs – testes, vas deferens, seminal vesicles and prostate gland.

Female reproductive organs - external genital organ – mons veneris. Internal genital organ labia majora, labia minora. (vagina, uterus, ovaries and fallopian tube), menstrual cycle, conception, contraception, parturition.

UNIT V

Sense organs:

Structure and functions: eye – light transmitting structures, mechanism of vision (sight), ear – parts (external, middle, internal) mechanism of hearing. Nose – structure, sensation of smell. Tongue – structure, sensation of taste. Skin – layers of skin, functions.

Nervous system:

Physiology of the nerve cell: structure and functions - sympathetic nervous system, parasympathetic nervous system. Parts and functions of - central nervous system and autonomic nervous system.

DEMONSTRATIONS

- Details of the various tissues – identification of slides
- Blood cells – fresh mount and stained.
- RBC and WBC count using Neubauer's counting chamber.
- Determination of haemoglobin Sahli's method.
- Demonstration of coagulation of blood and blood grouping.
- Recording pulse rate and measurement of blood pressure.

TEXTBOOK

1. Uma Maheshwari, B & Sampath, K. (2007) A Textbook of Human Anatomy & Physiology, Birla Publications Pvt. Ltd.

REFERENCES

1. Chatterjee, C. C. (1998) Human Physiology, Medical Allied Agency, Calcutta.
2. Joshi, D.V. (1995) Preparatory Manual for Undergraduate Physiology, B.I. Churchill LivingStone, New Delhi.
3. Subramaniam Kutty, S.M. (2001) TextBook of Human Physiology, S. Chand & Company Ltd., New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course IV
Semester : II Hours per week: 3 45 hrs/Semester
Sub. Code : U22CN4 Credits: 3

Title of the Course: FOOD STANDARDS AND QUALITY CONTROL

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/Seminar	ICT/Blended Learning	IV/DI
	45	40	-	2	-	3	

PREAMBLE

To enable the student to

1. Gain knowledge in food standards and quality control in food preparation
2. Understand the food laws and regulations in national and international trade

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs/ Sem
CO1: State the role of quality in food production	I	9
CO2: Classify different types of food adulterants	II	9
CO3: Distinguish food safety regulations in India and other countries	III	9
CO4: Describe the process involved in safe handling of food and production of quality food products	IV	9
CO5: Explain the national and international standards involved in food quality control	V	9

SYLLABUS

Unit-I

Food quality- Introduction, importance, FDA; indicators of quality in different foods- specification for cereals, pulses, oil seeds, fruits and vegetables.

Factors affecting food quality- Pre harvest factors- production, storage, transport and trade conditions; post harvest handling- processing, storage, humidity, temperature and transportation.

Unit-II

Food hazards, toxicants and contaminants - Physical, chemical and microbiological. Food toxicants- inherent toxicants, contaminants: biological and non biological.

Food adulterants and allergens - Definition, classification, PFA Act, simple tests for food adulterants. Effects of allergens on human health

Unit-III

Food Safety and Quality Standards in India- Public standard, private standard, industry standard, consumer standard.

Food laws and regulations- National and international agencies involved in food quality control: APEDA, BIS, EIC, MPEDA, Spice Board, Codex Alimentarius, JECFA, JEMRA, JMPR

Unit-IV

Food Safety in India-Food safety and Standards Act, 2006, The Food Safety and Standards Regulations (FSSR) 2011, Licensing and registration, Schedule 4 requirements, Regulations related to Nutraceuticals and Foods for Special Dietary Uses, Provisions on Organic Food and Non- Specified Food/Food ingredients, Central Advisory Committee and Scientific Committee/ Panels

Initiatives of FSSAI: Eat Right India, FoSTaC, Food Fortification, Detect Adulteration with Rapid test (DART) and Clean Street Food

Unit-V

HACCP- Concept, definition, principles, planning, implementing and managing HACCP system.

WTO- Introduction, benefits, importance of food quality in international trade, national food control systems, Sanitary and Phytosanitary agreement (SPS), Technical Barriers to Trade (TBT)

TEXT BOOK

1. Swaminathan, M., Advanced Textbook on Food and Nutrition, Vol. 1, Second Edition, Bangalore Printing and Publishing Co.Ltd., Bangalore, 2012.
2. Manay, S & Shanaksharaswami, M. (2014), Food: Facts and Principles, New Age Publishers, New Delhi.

REFERENCE:

1. RadomirLasztity, Marta Petro-Turza, TamasFoldesi, (2004), History of food quality standards, in Food Quality and Standards, [Ed. RadomirLasztity], in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford ,UK, [http://www.eolss.net]
2. Importance of food safety for developing countries http://www.fao.org/trade/docs/LDC-foodqual_en.htm
3. Food Toxicants, Naturally Occurring" in *ECT* 3rd ed., Vol. 11, pp. 208– 220, by F. H. Hoskins, Louisiana State University.
4. The microbiological safety and quality of food, Volume 2 By Barbara M. Lund, Tony C. Baird-Parker, Grahame Warwick Gould.
5. http://foodsafety.unl.edu/haccp/start/physical.html
6. Quality standards and Regulatory acts for food safety in India, WTO cell, July 2007 Angrau,Hyderabad.
7. www.codexalimentarius.net .Official site of codex Alimentarius,
8. www.fssai.gov.in. Official site of Food Safety and Standards India.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course V
Semester : III Hours per week: 6 90 hrs /semester
Sub Code : U22CN5 Credits: 5

Title of the Course: FOOD PRODUCTION AND SERVICE

Pedagogy	Hours	Lecture	Peer Group learning	Demo/OER/ Tutorial	GD/Seminar	ICT/ Blended Learning	IV/DI
	90	65	5	10	5	5	-

PREAMBLE

To enable students to :

1. Gain knowledge in preparation of ingredients and standardizing recipes
2. Be familiar with the different methods of cooking, their advantages and disadvantages
3. Gain knowledge of equipments in food preparation and service

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs/Sem
CO1: Apply skills in pre-preparation and standardization of recipes.	I	18
CO2: Compare the methods of cooking related to Indian cookery.	II	18
CO3: Demonstrate soups, sauces and salad preparations.	III	18
CO4: Calculate Food Cost And Minimise Food Loss.	IV	18
CO5: Apply Knowledge Of Equipment In Food Preparation And Service.	V	18

Syllabus

Unit I

History and evaluation of cookery - Personal and Kitchen hygiene - Aims & objectives of cooking food, presentation of food, Classification of raw materials Preparation of ingredients - Classical cuts of vegetables - *Mise-en- place*.

Storage of Food -Principles of dry, wet, refrigerated storage, Danger Zone and Cross contamination.

Unit II

Kitchen Brigade -Classical Brigade & Modern staffing in various category hotels - Role of Executive Chef, Duties & responsibilities of various chefs , Layout of a kitchen – factors to be considered.

Unit III

Food Operation Controlling - Food measures, Market survey, Standardization of recipes, Convenience foods. Food costing methods - Calculation Of Food Cooked And Portion Control. Utilization Of Leftover Foods.

Unit IV

Equipment & Tools In Food Service: Classification Of Equipment, Factors For Selection Of Equipment, Electrical And Non Electrical Equipment For Food Storage, Preparation, Food Serving, Dish Washing.

Unit V

Stocks: Definition, Types, Classification, Preparation (Recipes) - Stocks storage , uses, care in preparing in thickening agents, Salads and salad dressing, Sauce (mother sauces, miscellaneous sauces and butter sauces), Soups. Garnishes & Accompaniments**.**

TextBook

1. Mohini Sethi, Surjeet Mathan,(1997) Catering Management, 2nd Ed., New Age International Pvt. Ltd., New Delhi.

References

1. Khan, M.A. (1980) Food Service Operations, Avi Publishing Company, Inc, USA
2. Srilakshmi, B (2003) Food Science – Laboratory Manual, Scitech Pub. Pvt. Ltd., Chennai.
3. West, B.B., Wood – L Hoglet. F and Shukart G (1977) Food Service in Institutions, John Wiley And Sons.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course VI
Semester : III & IV Hours per week: 3+3 45 hrs /Semester
Sub Code : U22CN6P Credits: 3

Title of the Course: FOOD PRODUCTION AND PRESERVATION PRACTICAL

Pedagogy	Hours	Lecture	Peer Group teaching	Practical/ Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended learning	IV/DI
	90	5	-	75	5	-	5

PREAMBLE

To enable the students to :

1. Develop skills to prepare acceptable foods with regard to appearance, palatability and nutritive value.
2. Understand basic rules for laying a table for various meal patterns.

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs/ Sem
CO1: Apply principles of cooking to various food groups and Preservation techniques.	I	18
CO2: Develop skills techniques in Continental dishes and Indian dishes	II	18
CO3: Display the acquired skills in food preparation and service.	III	18
CO4: Develop skills and techniques in Preparation of Tandoor and its related products	IV	18
CO5: Develop skills and techniques in Preparation of International cuisine.	V	18

Syllabus

Unit I

Preparation of Cereal, Pulse, Vegetables, Fruits, Egg, Milk, Sweets, Beverages, Meat, Poultry and Fish cookery.

Unit II

Preparation of menu from Regions of India: North and South Indian cooking.

Unit III

Develop Techniques in Tandoor and its related products.

Unit IV

Preparation of menu from International Cuisine.

Unit V

Develop knowledge on Food costing for their prepared recipes.

TextBooks:

1. Bali, Parvinder S., Quantity food production operations and Indian cuisine, Oxford University Press, New Delhi, 2011.
2. Mohini Sethi, Institutional Food Management, New Age International Publishers, New Delhi, Third edition, 2016.
3. Krishna Arora, Theory of cookery, Published by Frank Brothers & Company, 2008.

Reference Books:

1. Philip E Thangam (2008) Modern Cookery for teaching and Trade Part I & II or Longmam.
2. Taneja S and Gupta SL (2001) Entrepreneurship development, Galgotia Publishing.
3. Knight J B & Kotschevar LH, Quantity Food Production Planning & Management 3rd edition John Wiley & Sons.2000.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO2	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO3	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO4	5	3	4	3	5	4	2	3	2	3	4	4	3.5
CO5	5	3	4	3	5	4	2	3	2	3	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course VII
Semester : IV Hours per week: 4 60 hrs. /Semester
Sub. Code : U22CN7 Credits: 4

Title of the Course: FOOD PRESERVATION

Pedagogy	Hours	Lecture	Peer Teaching	Demo/OER/ Tutorial	GD/Seminar	ICT/Blended Learning	IV/DI
	60	42	3	10	3	2	-

PREAMBLE

To enable the students to:

1. Understand the scientific principle underlying food preservation.
2. Develop skills and techniques in food preservation ensuring safety, conservation of nutrients and palatability
3. Understand the basic principles underlying food preservation as an income generating activity.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Relate the need, principles and method of preserving foods.	I	12
CO2: Differentiate the various physical methods of preservation using temperature variations and irradiation.	II	12
CO3: Identify and describe the chemical methods of food preservation.	III	12
CO4: Associate the use of food additives with food preservation.	IV	12
CO5: Demonstrate skills in the subjective and objective methods of sensory evaluation of foods.	V	12

SYLLABUS

UNIT I

Methods and principles involved in preserving foods. Preservation using high temperatures – Canning, bottling, methods of drying and dehydrations, different types of driers. Pasteurisation and its types.

UNIT II

Preservation using low temperatures – types of storage at low temperatures, types of freezing, changes during freezing.

Irradiation – sources of ionizing radiations, units of measurements, Scope and application of irradiation to different foods.

UNIT III

Preservation using salt – pickling – types of pickle. Preservation using sugar - jams, jellies, marmalades and preserves. Methods of determination of pectin, problems in jelly making.

UNIT IV

Food additives- Definition, types and functions, Permissible limits and safety aspects, fortification and enrichment – advantages and disadvantages, Bio preservatives.

UNIT V

Evaluation of food quality – Objective Method: Instrumental, Physical, Chemical, Physico Chemical and Microscopic. Subjective methods, merits and demerits. Types of sensory Evaluation

TEXTBOOK

1. Sivasankar, B. (2002) Food Processing and Preservation, Prentice – Hall of India Pvt. Ltd., New Delhi.
2. Vennila, P. and Kanchana, S. (2003) Principles on Preservation of foods and vegetables, Ratna Publications, Madurai.

REFERENCES

1. Sandeep Sareen (1999) Food Preservation, Sarup and Sons, New Delhi.
2. Subbulakshmi, G. and Udupi, A.S. (2001) Food Processing and Preservation New Age International Publishers, New Delhi.
3. Tandon, G.L. and Siddappa, G.S. (1998) Preservation of Fruits and Vegetables, ICAR.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF Cos
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	5	4	5	5	4	5	4	0	3	4	4	4
CO2	5	5	4	5	5	4	5	4	0	3	4	4	4
CO3	5	5	4	5	5	4	5	4	0	3	4	4	4
CO4	5	5	4	5	5	4	5	4	0	3	4	4	4
CO5	5	5	4	5	5	4	5	4	0	3	4	4	4
MEAN OVERALL SCORE													4

Result: The score for this course is 4 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course VIII**
Semester : **V** **Hours per week: 5** **75 hrs/Semester**
Sub. Code : **U22CN8** **Credits: 5**

Title of the Paper: LIFE SPAN DEVELOPMENT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	75	55	5	5	5	5	--

PREAMBLE

To develop in students:

1. An understanding of the physical, psychological and social development of the individual from infancy to adulthood, so that they can be guided effectively.
2. Develop skills in achieving positive human relationships.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/ Sem
CO1: Apply the acquired knowledge on pregnancy in real life situations.	I	15
CO2: Explain the intricacies of raising a child.	II	15
CO3: Summarize the turbulent stage of adolescence.	III	15
CO4: Identify the physical and psychological changes in elderly persons.	IV	15
CO5: Discuss the relevance of inclusive education for children with special needs.	V	15

SYLLABUS

UNIT I

Definition, growth and development. Principles of Growth and Development.

Pregnancy, care of the expectant woman, stages of pregnancy, discomforts, complications during pregnancy. Process and Types of birth.

UNIT II

Infancy – Physical and motor development, intellectual, language, social development. Infant care – feeding (Supplementary and weaning foods). Bathing, Clothing, Toilet training, Common ailments, Immunization.

Early Childhood – Physical and motor development, intellectual, language, social and emotional development. Behavioural problems – causes, prevention, - temper tantrum, thumb sucking, bedwetting and masturbation.

UNIT III

Late childhood – Physical and motor development, intellectual, language, social and emotional development.

Adolescence – Physical, intellectual, social and emotional development.

UNIT IV

Early and Middle Adulthood – Characteristics, developmental tasks. Old age – Physical and psychological changes during old age, problems of old age, beneficial measures available for the old age group.

UNIT V

A brief study on exceptional children, educational provisions for visually challenged, hearing impaired, mentally challenged and Gifted children.

TEXTBOOK

1. Hurlock,E.B. (2000) Development Psychology – a Life span Approach, Tata McGraw Hill Pub. Company Ltd., New Delhi

REFERENCES

1. Craig, G. (1999) Human Development, Prentice Hall, New Jersey.
2. Devadas, R.P. and Jaya, N. (1981) Textbook on child development, Macmillan and Co.,
3. Hurlock, E.B. (1972) Child development, McGraw Hill, New York.
4. Santrock, J.W. (1997) LifeSpan Development, Brown & Benchmark, New York.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	3	4	3	5	4	1	3	3	5	4	4	3.7
CO2	5	3	4	3	5	4	1	3	3	5	4	4	3.7
CO3	5	3	4	3	5	4	1	3	3	5	4	4	3.7
CO4	5	3	4	3	5	4	1	3	3	5	4	4	3.7
CO5	5	3	4	3	5	4	1	3	3	5	4	4	3.7
MEAN OVERALL SCORE													3.7

Result: The score for this course is 3.7 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course IX**
Semester : **V** **Hours per week: 5** **75hrs/Semester**
Sub. Code : **U22CN9** **Credits: 5**

Title of the Course: NUTRITION THROUGH LIFE CYCLE

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	75	55	5	5	5	5	-

PREAMBLE

To enable the students to :

1. Learn the principles of meal planning.
2. Plan meals for the family at different income levels.
3. Plan meals for special groups – infants, pre – schoolers, pregnant and nursing mothers and the aged.
4. Become aware of the meal patterns of families in the Indian context.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Interpret the principles of meal planning to suit different income levels	I	15
CO2: Associate nutritional requirements with various stages of pregnancy and lactation	II	15
CO3: Analyze the advantages and disadvantages of breastfeeding over bottle feeding; Discuss about supplementary foods for infants and preschoolers	III	15
CO4: Identify nutritional requirements for school-going children and adolescents based on growth, development and deficiencies	IV	15
CO5: Predict the special nutritional needs and nutritional deficiencies in geriatrics	V	15

SYLLABUS

UNIT I

Basic principles of meal planning. Basic meal pattern and its modification to suit different income levels, age and physiological states.

Nutrition during Adulthood – Recommended Daily Allowance.

UNIT II

Nutrition during pregnancy – normal growth, nutritional requirements and complications during various stages of pregnancy.

Nutrition during lactation – milk output and factors affecting the nutritional needs for the same.

UNIT III

Nutrition during infancy – growth and development influencing feeding pattern during infancy, advantages of breastfeeding over bottle feeding, supplementary foods, nutritional requirements.

Nutrition for preschoolers – growth and development, nutritional requirements, food acceptance. PEM and vitamin A deficiency – causes, symptoms and treatment.

UNIT IV

Nutrition for school children – growth and development, nutritional requirements, school lunch programmes

Nutrition for adolescents – growth and development, nutritional requirements, eating disorders; anaemia – causes, symptoms, prevention and treatment.

UNIT V

Geriatric nutrition – special needs and care of the old, nutritional requirement during old age; calcium deficiency disorders – types, causes, prevention and care.

TEXTBOOK

1. Srilakshmi, B. (2018) Nutrition Science, 6th edition, New Age International (P) Ltd., Chennai.

REFERENCES

1. Antia, F.P. (2015) Clinical Dietetics and Nutrition, 4th edition, Oxford University Press, New Delhi.
2. Brown, J.E. (2008) Nutrition Now, 5th edition, Wordsworth Thomson Learning, Inc., Canada.
3. Srilakshmi, B. (2014) Dietetics, 7th edition, New Age International (P) Ltd., Chennai.
4. Williams, S.R. (2009) Basic Nutrition & Diet Therapy, 12th ed., Mosby, Inc., St. Louis.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	4	5	2	3	5	5	4
CO2	5	3	4	3	5	4	4	5	2	3	5	5	4
CO3	5	3	4	3	5	4	4	5	2	3	5	5	4
CO4	5	3	4	3	5	4	4	5	2	3	5	5	4
CO5	5	3	4	3	5	4	4	5	2	3	5	5	4
MEAN OVERALL SCORE													4

Result: The score for this course is 4 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course X**
Semester : **V** **Hours per week: 5** **75hrs/Semester**
Sub. Code : **U22CN10** **Credits: 5**

Title of the Paper: THERAPEUTIC NUTRITION

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	75	55	5	5	5	5	-

PREAMBLE

To enable the students to:

1. Gain knowledge and develop skills and techniques in the planning and preparation of therapeutic diets and diets for nutritional deficiencies.
2. Understand the role of a dietitian.
3. Acquire skills in diet counseling and educating patients.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs /Semester
CO1: Summarize the concepts and principles of diet therapy and the role of a dietitian.	I	15
CO2: Apply the principles of dietetics to plan therapeutic diets for febrile conditions and gastrointestinal disorders.	II	15
CO3: Assess the grades of obesity, underweight and food allergies; Recommend customized dietary modifications.	III	15
CO4: Describe the symptoms, diagnostic tests and complications for dietary management of diabetes mellitus, cardiovascular diseases and hypertension using diet planning tools.	IV	15
CO5: Classify the diseases of liver and urinary system based on causes and symptoms and plan diet therapy.	V	15

SYLLABUS

UNIT I

Therapeutic Diets – concepts and principles of diet therapy, modification of diet – routine hospital diet, pre – operative diet, post – operative diet, clear fluid diet, full fluid diet, soft diet, bland diet and restrictive diet. Enteral and Parenteral Feeding, Role of dietitian, diet counselling.

UNIT II

Diet in febrile conditions: acute– typhoid, influenza; recurrent –malaria; chronic – tuberculosis.

Diet in gastrointestinal disorders – indigestion, diarrhoea, dysentery, constipation, peptic ulcer, gastritis, Celiac diseases. Role of prebiotics & probiotics in gut health.

UNIT III

Diet in obesity and underweight. Dietary management of PolyCystic Ovary Disorder.

Diet in allergic conditions – types of allergy, common food allergies, test for allergy, food intolerance – lactose intolerance, gluten intolerance – causes, symptoms and dietary management.

UNIT IV

Diabetes Mellitus – types, causes, symptoms, dietary management, food exchange list, importance of dietary fibre, glycemic index, GTT, hormonal control of blood glucose levels, complications of diabetes. Clinical techniques in diabetes management – Self-Monitoring of Blood Glucose (SMBG), Insulin pump, Continuous Glucose Monitoring System (CGMS).

Cardiovascular Diseases – causes, symptoms, dietary management of hypertension, atherosclerosis. Sodium restricted diet.

UNIT V

Diseases of the liver – jaundice, hepatitis and cirrhosis – causes, symptoms and dietary management.

Diseases of the kidney and urinary tract – nephritis, nephrotic syndrome, kidney stone, gout, urinary calculi – causes, symptoms & dietary management. Dietary influence on cancer.

TEXTBOOK

1. Srilakshmi, B.(2014) Dietetics, Seventh Edition, New Age International (P) Ltd., Chennai.

REFERENCES

1. Antia, F.P. (2015) Clinical Dietetics and Nutrition, 4th edition, Oxford University Press, New Delhi.
2. Mahan, K.L. & Escott-Stump, S. (2008) Krause's Food & Nutrition Therapy, 12th ed., Saunders' Pub.
3. Sharma, R.(2011) Diet management, 4th edition, Elsevier Publications.
4. Williams, S.R. (2001) Basic Nutrition & Diet Therapy, 11th ed., Mosby, Inc., St. Louis.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	5	5	3	5	5	5	5	2	5	4	5	4.5
CO2	5	5	5	3	5	5	5	5	2	5	4	5	4.5
CO3	5	5	5	3	5	5	5	5	2	5	4	5	4.5
CO4	5	5	5	3	5	5	5	5	2	5	4	5	4.5
CO5	5	5	5	3	5	5	5	5	2	5	4	5	4.5
MEAN OVERALL SCORE													4.5

Result: The score for this course is 4 (Very High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course XI
Semester : V Hours per week: 6 90 hrs/Semester
Sub. Code : U22CN11P Credits: 5

Title of the Course: DIETETICS PRACTICAL

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Practical	GD/ Seminar	ICT/ Blended Learning	DI/IV
	90	-	20	60	10	-	-

PREAMBLE

To enable the students to :

1. Plan and prepare meals for members of the family with different nutritional requirements.
2. Plan and prepare meals for special nutritional needs.
3. Develop skills in preparing, serving and evaluation of therapeutic diets.
4. Gain practical experience in preparing market lists for different portions of therapeutic diets.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/ Sem
CO1: Apply knowledge to plan and construct a menu for a balanced meal for families in different income levels.	I	18
CO2: Apply knowledge to plan, calculate, prepare, serve and evaluate diets for different age groups.	II	18
CO3: Demonstrate skills in planning, preparing, serving and evaluation of modified diets.	III	18
CO4: Demonstrate skills in planning, preparing, serving and evaluation of diets for deficiency conditions.	IV	18
CO5: Demonstrate skills in planning, preparing, serving and evaluation of diets for different therapeutic conditions.	V	18

SYLLABUS

PRACTICAL EXERCISE

1. Planning and preparation of adequate meals for families with different per capita income levels (small and large family size).
2. Planning, preparation and service of diets and computation of nutritive value for members of the family with different nutritional requirements.
3. Planning, preparation and service of diets and computation of nutritive value for fever, peptic ulcer, constipation, diarrhoea, obesity and underweight.
4. Planning, preparation and service of diets and computation of nutritive value for protein energy malnutrition, anaemia, vitamin A deficiency.
5. Planning, preparation and service of diets and computation of nutritive value for metabolic disorders such as
   Diabetes mellitus and cardiovascular disorders, liver and kidney disorders.

TEXTBOOK

1. Vimala V. Advances in Diet Therapy Practical Manual, 2009, New Age International Pvt. Ltd. Publishers, New Delhi. ISBN 9788122426779.
2. Suganthi,V and Anitha,V. Manual on Diet Therapy, 2017, Dipti Press Pvt. Ltd., Chennai. ISBN 9788193103173

REFERENCES

Antia, F.P. (2015) Clinical Dietetics and Nutrition, 4th edition, Oxford University Press, New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO2	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO3	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO4	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO5	5	3	5	4	5	5	5	5	3	5	4	5	4.5
MEAN OVERALL SCORE													4.5

Result: The score for this course is 4.5 (Very High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course XII**
Semester : **VI** **Hours per week: 4** **60hrs/Semester**
Sub. Code : **U22CN12** **Credits: 4**

Title of the Course: FOOD SERVICE MANAGEMENT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	60	50	2	2	3	3	-

PREAMBLE

To enable the student to:

1. Understand the management aspects of food service and
2. Gain knowledge about various types of food service.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs P/S
CO1: Distinguish the types of catering institutions, food service and comprehend the menu planning techniques.	I	12
CO2: Summarize the types of organizations and leadership techniques for effective food service management.	II	12
CO3: Describe the process and factors involved in personnel management.	III	12
CO4: Identify the order of food procurement, storage and issue; understand the maintenance of food inventory.	IV	12
CO5: Explain the concepts of food cost in pricing of foods.	V	12

SYLLABUS

UNIT I

Institutional Food Service

Commercial, Transport, Welfare, Industrial, Institutional – objectives and scope.
Types of outlets – restaurants, coffee shop, banquet, cafeteria, canteen
Types of Service – formal and informal service.
Types of menu – Table d'hote, Ala carte, buffet, banquet, menu for transport, institutional and industrial catering.
Menu Planning – Principles functions and factors affecting menu planning.

UNIT II

Organisation and Management

Types of organisation, administrative leadership techniques of effective management; Tools of management-Tangible: organisation chart, job description, job specification, work schedule, job analysis, budget. Intangible: personality, trust, experience, social skills, self-confidence, knowledge, leadership quality, styles of leadership, training and decision making.

UNIT III

Personnel Management

Food service & front office personnel duties and qualities. Selection, training and supervision of personal, labour policies and legislation

UNIT IV

Food Purchase, Storage and Issue

Food Purchase – definition, concepts, steps in control of food purchase, specifications for food purchase. Types of market – primary, Secondary & tertiary, Buying methods and mechanism – formal and informal, advantages and disadvantages. Food receiving methods and mechanisms. Food storage areas – dry, refrigerated, frozen. Issue of food supplies, Maintenance of Food Inventories – physical, perpetual.

UNIT V

Financial Management

Cost concepts – Components of cost, behaviour of costs; cost control: Food cost, Labour cost, Overhead cost, Hidden cost. Cost calculations, Budgeting – definition and types. Pricing – definition, factors affecting, methods of pricing – informal and formal, advantages and disadvantages.

TEXTBOOK

1. Sethi, M. and Malhan, S. (2015) Catering Management An Integrated Approach, 3r^{d} edition, New Age International Pvt. Ltd., New Delhi.

REFERENCES:

1. Khan, M.A. (1980) Food Service Operations, AVI Publishing Company, Inc. USA.
2. West, B.B., Wood-L Hoglet F.&Shukart,G.(1977) Food Service in Institution John Wiley & Sons.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO 3	PO 4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	3	4	4	5	4	5	3	4	2	4	4	3.9
CO2	5	3	4	4	5	4	5	3	4	2	4	4	3.9
CO3	5	3	4	4	5	4	5	3	4	2	4	4	3.9
CO4	5	3	4	4	5	4	5	3	4	2	4	4	3.9
CO5	5	3	4	4	5	4	5	3	4	2	4	4	3.9
MEAN OVERALL SCORE													3.9

Result: The score for this course is 3.9 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course XIII
Semester : VI Hours per week: 4 60hrs/Semester
Sub. Code : U22CN13 Credits: 4

Title of the Course: EXTENSION EDUCATION

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	60	48	3	3	3	3	-

PREAMBLE

To enable students to

1. Understand the principles, philosophy and programme of Community Development.
2. Be aware of methods of approaching people and to become partners in development programmes.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs P/S
CO1: Summarize the objectives and principles of Home Science Extension	I	12
CO2: Demonstrate the principles of democratic decentralization in local governance	II	12
CO3: Classify extension teaching methods	III	12
CO4: Analyze the pros and cons of traditional and modern media of communication	IV	12
CO5: Formulate a plan of work for the execution of an extension programme	V	12

SYLLABUS

UNIT I

Concept of Extension

Concept, meaning, principles, philosophy and objectives of extension education. Home Science Extension- Meaning & Characteristics.

UNIT II

Community Development Programme

Community Development Programme: History, Principles, Objectives. Panchayat Raj: meaning, Three tier system - village, block and district level; Principles of democratic decentralization.

UNIT III

Extension Teaching Methods

Teaching and learning, Steps in Extension teaching, Classification of extension teaching methods: according to use –individual, group and mass; according to form – written, spoken and visual; scope, advantages, limitations, factors guiding the selection and use of teaching methods.

UNIT IV

Communication and Audio Visual Aids

Communication – Definition, Means - oral, written, signs; Types- Verbal and non-verbal, Elements of communication; SMCRE Barriers to communication. Traditional and modern media of communication. Classification of audio visual aids in extension work – Cone of Experience – advantages and limitations. Factors limiting the selection and use of audio visual aids.

UNIT V

Programme Planning

Definition, meaning, principles, steps in programme planning or program development cycle Plan of work – objectives, calendar of activities. Program implementation, role of officials & non-officials; Evaluation – types, uses and tools of evaluation.

PRACTICAL EXPERIENCE

1. Visit a Block to learn the set up and functions.
2. Visit to the village to see the functioning of Gram Sabha.

TEXTBOOK

1. Reddy, A.A. (1971) Extension Education, Sri Lakshmi Press, Bapatla.

REFERENCES

1. Chandra A., Shah A. & Joshi U. (1989) Fundamentals of teaching Home Science, South Asia Books.
2. Dhama, O.P. and Bhatnagar, O.P. (1980) Education and communication for Development, Oxford & IBM Publishing Co.
3. Dubey, V.K. & Bishnoi, I. (2008), Extension Education and Communication, New Age International Publishers, Chennai.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	3	3	5	4	2	4	3	2	5	4	3.6
CO2	5	3	3	3	5	4	2	4	3	2	5	4	3.6
CO3	5	3	3	3	5	4	2	4	3	2	5	4	3.6
CO4	5	3	3	3	5	4	2	4	3	2	5	4	3.6
CO5	5	3	3	3	5	4	2	4	3	2	5	4	3.6
MEAN OVERALL SCORE													3.6

Result: The score for this course is 3.6 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Core Course XIV
Semester : VI Hours per week:4 60 hrs/Semester
Sub Code : U22CN14 Credits: 4

Title of the Course: FAMILY RESOURCE MANAGEMENT

Pedagogy	Hours	Lecture	Peer Group Teaching	Demo/OER/ Tutorial	GD/Seminar	ICT/ Blended Learning	IV/DI
	60	48	3	3	3	3	-

PREAMBLE

To enable students to :

1. Attain an understanding of the importance, concepts and principles of resource management in family and personal living.
2. Develop an ability to apply resource management concepts in living situations to improve the quality of family life.
3. Increase their ability to make wise use of money.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs. P/S
CO1: Understand the concepts and principles of family resource management.	I	12
CO2: Interpret time and energy management for work simplification.	II	12
CO3: Analyze sources of family income and budgeting.	III	12
CO4: Develop skills in family savings and investments.	IV	12
CO5: Promote positive consumer behaviour among students.	V	12

SYLLABUS

UNIT I

Home Management – Definition and Scope. Process of Management. Resource- Human and Non-Human resources. Goals, Values & Standards Characteristic of resources, Decision making: Types of decisions, steps in decision making.

UNIT II

Energy management- process, Importance of energy management. Fatigue-Types of fatigue.

Time management - Steps in time management; Importance of time management –Guidelines in planning time schedule.

Work simplification – definition, Meaning, Techniques, Purpose, Mundel's classes of changes.

UNIT III

Income – Money income and real income, sources of income, factors influencing family income - Family income management: Family budget and steps in making budget – Engel's law of consumption – Financial records of the household.

UNIT IV

Savings and Investments, Saving in the family and its reasons– Saving Institutions – Banks – Different kinds of Bank Accounts and use of cheques, Insurance – Mutual fund – Share market – Family Investment and Building family Capital – Criteria for Judging a family Investment.

UNIT V

Human wants – classification and nature – concept of marginal utility – law of diminishing marginal utility - Principle of equi-marginal utility. Consumerism – Consumer Rights and Protection; Consumer courts and consumer education.

TEXTBOOK

1. Varghese, M.A., Ogale,N.N. & Srinivasan,K (2011) Home Management, New Age International Pvt. Ltd., New Delhi.

REFERENCES

1. Deacon, R and Firebaugh, F.M.(1975) Home Management context and concepts, Houghton Mifflin Company
2. Gross, I.H.Crandall, E. N. and Knoll(1976) M. Management for Modern Families, Appleton Century Crafts Inc.
3. Gupta,S. Garg,N & Agarwal,A (1998) Textbook of Home Management, Hygiene & Physiology, Kalyani Publishers, New Delhi.
4. Nickell P. and Dorsey, J.M.(1978) Management in Family Living, John Wiley and Sons.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	5	4	2	2	2	4	4	3.6
CO2	5	3	4	3	5	5	4	2	2	2	4	4	3.6
CO3	5	3	4	3	5	5	4	2	2	2	4	4	3.6
CO4	5	3	4	3	5	5	4	2	2	2	4	4	3.6
CO5	5	3	4	3	5	5	4	2	2	2	4	4	3.6
MEAN OVERALL SCORE													3.6

Result: The score for this course is 3.6 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Core Course XV Practical**
Semester : **VI** **Hours per week: 6** **90hrs/Semester**
Sub. Code : **U22CN15P** **Credits: 5**

Title of the Course: DIETETICS INTERNSHIP & PROJECT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Practical	GD/ Semina/ Project	ICT/ Blended Learning	DI/IV
	90	-	10	-	40	-	40

PREAMBLE

To enable the students to :

1. Assess the nutritional status of hospitalised patients.
2. Plan daily menus and supervise food plating for therapeutic conditions.
3. Develop skills in managing the diet kitchen and dietary department in multispeciality hospitals.
4. Gain practical experience in evaluating patients nutritional needs.

COURSE OUTCOMES At the end of the Semester, the students will be able to	Unit	Hrs/Sem
CO1: Apply knowledge to plan and construct a menu for a balanced meal.	I	15
CO2: Demonstrate skills in planning, calculating nutritive value and evaluation of therapeutic diets.	II	15
CO3: Exhibit skills in management of a dietary department.	III	15
CO4: Apply computer skills to plan standard therapeutic diets for hospital kitchens.	IV	15
CO5: Interpret nutritional status of patients, plan customized diets and conduct diet counseling.	V	15

SYLLABUS

DIETETIC INTERNSHIP AND CASE STUDY IN HOSPITAL

1. Observation and study of organisation and management of the dietary department. Layout of dietary department. Food service management in the hospital kitchen
2. Understanding the medical history of the patients, study of case sheets, diagnostic tests used, nutritional assessment – anthropometric measurements.
3. Participation in diet counseling units, experience in imparting diet counseling, understanding the records maintained in diet counseling units and conduct of awareness programs and patient education through charts, seminars, AV aids.
4. Application of computers in quantifying foods, calorie counting and calculation of nutritional adequacy.
5. Case study of an individual patient for their nutritional status, diet planning, counseling, evaluation and report submission.

TEXTBOOK

1. Rekha Sharma (2008) Diet Management, 3rd edition, Elsevier India, Noida.
2. Rema M, Saroja R & Mohan V (2009) Dr.Mohan's Diet Manual for Diabetes, Elsevier India, Noida. ISBN 978-8131216774
3. Antia FP (2015) Clinical Dietetics and Nutrition, 4th edition, Oxford University Press, New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO2	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO3	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO4	5	3	5	4	5	5	5	5	3	5	4	5	4.5
CO5	5	3	5	4	5	5	5	5	3	5	4	5	4.5
MEAN OVERALL SCORE													4.5

Result: The score for this course is 4.5 (Very High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Allied Course I**
Semester : **I** **Hours per week: 4** **60 hrs/Semester**
Sub. Code : **U22ANN1** **Credits: 3**

Title of the Course: NUTRITIONAL BIOCHEMISTRY – I

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	60	43	2	-	5	10	-

PREAMBLE

To enable the students to

1. Develop an understanding on the principles of biochemistry (nutrients in relation of health)
2. Obtain an insight into chemistry of major nutrients and their physiological role.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Recall the structure and properties of carbohydrates.	I	12
CO2: Differentiate amino acids and proteins based on structure and properties.	II	12
CO3: Summarize the types and physiological role of lipids.	III	12
CO4: Explain the activity of enzymes and co-enzymes of metabolism.	IV	12
CO5: Discuss the interrelationship between nutrients.	V	12

SYLLABUS

UNIT I

Carbohydrates – Definition, Classification – Monosaccharides, Disaccharides, Oligosaccharides, Polysaccharides; structure, Glycosidic linkage, general properties, functions and biological importance.

UNIT II

Proteins – Definition, classification, structure, properties and biological functions. Amino acids – Classification, peptide linkage, properties and nutritional classification.

UNIT III

Lipids – Definition, classification, properties and biological functions. Fatty acids – types and physiological role. Lipoproteins – Types, composition and role in health and diseases.

UNIT IV

Enzymes – Definition, classification, Nomenclature, Properties, Mechanism of enzyme action, factors affecting enzyme activity, enzyme inhibition, specificity of enzymes, Prosthetic groups. Coenzymes – role of vitamins as coenzymes and mechanism of coenzyme action

UNIT V

Interrelationship between nutrients: Protein – Energy, Vitamin - Vitamin, Vitamin -Mineral and Mineral - Mineral. Nucleic acids: DNA, RNA - structure & biological function, Types of RNA, Comparison of DNA and RNA.

TEXTBOOK

1. Fatima et al., (2015) Biochemistry, Saras Publication, Nagercoil.

REFERENCES

1. Agarwal, G.R., Agarwal, K. & Agarwal, O.P. (1995) TextBook of Biochemistry, Goel Publishing House, Meerut.
2. Deb, A.C. (2006) Fundamentals of Biochemistry, New Central Book Agency (P) Ltd., Kolkata.
3. Shanmugam, A. (2012) Fundamentals of Biochemistry for Medical Students; 7th edition, Lippincott Williams & Wilkins.
4. West, E.S., Todd, W.R., e.al. (1974) Textbook of BioChemistry, 4th edition, Oxford and IBH Publishing Co., New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO 3	PO 4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO2	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO3	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO4	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO5	5	3	4	3	5	4	3	3	2	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Allied Course II Practical**
Semester : **I &II** **Hours per week: 3+3** **45hrs/Semester**
Sub. Code : **U22ANN2P** **Credits: 3**

Title of the Paper: NUTRITIONAL BIOCHEMISTRY PRACTICAL

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	Practical Experience	ICT/ Blended Learning	IV/ DI
	90	6	10	-	74	-	-

PREAMBLE

To enable the students to

1. Be familiar with qualitative tests and quantitative determination.
2. Develop skills in analysing bio molecules and in basic diagnostic procedures.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/ Sem
CO1: Demonstrate the skills in qualitative testing of sugars	I	18
CO2: Exhibit skills in performing qualitative tests of protein, amino acids and minerals	II	18
CO3: Show dexterity in estimating the quantity of reducing sugar	III	18
CO4: Display skill in estimation of vitamin C in different foods using Colorimeter	IV	18
CO5: Estimate the quantity of iron and phosphorus in foods	V	18

SYLLABUS

UNIT I

Qualitative tests for sugars: Monosaccharide – Glucose, Galactose and Fructose Disaccharides – Maltose, Lactose and Sucrose

UNIT II

Qualitative tests for proteins – Peptide linkage, Tryptophan, Tyrosine, Aromatic amino acids and Alpha group of amino acids; Qualitative tests for minerals: Ferrous and Ferric ion, Calcium, Magnesium, Phosphorus and Sulphur

UNIT III

Quantitative estimation of reducing sugar

UNIT IV

Quantitative estimation of vitamin C in lime juice and green chillies

UNIT V

Estimation of iron and Phosphorus in drumstick leaves

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO 3	PO 4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	3	4	3	5	4	2	4	2	2	4	4	3.5
CO2	5	3	4	3	5	4	2	4	2	2	4	4	3.5
CO3	5	3	4	3	5	4	2	4	2	2	4	4	3.5
CO4	5	3	4	3	5	4	2	4	2	2	4	4	3.5
CO5	5	3	4	3	5	4	2	4	2	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Allied Course III**
Semester : **II** **Hours per week: 4** **60 hrs/Semester**
Sub. Code : **U22ANN3** **Credits: 4**

Title of the Course: NUTRITIONAL BIOCHEMISTRY – II

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	60	40	-	8	2	10	-

PREAMBLE

To enable the students to

1. Understand biological processes and systems
2. Apply the knowledge acquired to human health and nutrition.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs / Sem
CO1: Describe the various metabolic pathways of carbohydrates.	I	12
CO2: Differentiate the types of metabolic reactions of amino acids.	II	12
CO3: Define the metabolic end products of lipids.	III	12
CO4: Explain the biological oxidation process.	IV	12
CO5: Summarize the metabolic pathways of different nutrients.	V	12

SYLLABUS

UNIT I

Carbohydrate Metabolism – Types and pathways – glycolysis, pentose phosphate pathway, citric acid cycle, gluconeogenesis, glycogenesis, glycogenolysis. Energetics of glucose metabolism, Enzymes, Coenzymes and cofactors involved in carbohydrate metabolism

UNIT II

Protein Metabolism – oxidative deamination, transamination, decarboxylation; Urea cycle. Amino acid pool, Enzymes and coenzymes involved in protein metabolism.

UNIT III

Lipid Metabolism - β oxidation of fatty acids. Ketone bodies – significance in health – ketosis, ketonuria, ketonemia. Fatty liver - Fats of end products of fatty acid metabolism. Ketogenesis-formation of ketone bodies.

UNIT IV

Biological Oxidation – definition, Redox potential, free energy, high energy compounds – ATP synthesis, oxidative and substrate level phosphorylation; electron transport chain – process, site, enzymes involved.

UNIT V

Overview of intermediary metabolism – Biological importance, Interconversion of major food stuff – Carbohydrate, protein and lipid metabolism, summary of the major regulators of metabolic pathways.

TEXTBOOK

1. Shanmugam, A. (2012) Fundamentals of Biochemistry for Medical Students; 7th edition, Lippincott Williams & Wilkins.

REFERENCES

1. Agarwal, G.R., Agarwal, K. & Agarwal, O.P. (1995) TextBook of Biochemistry, Goel Publishing House, Meerut.
2. Ahuja,L.(2008) Quick Review in Biochemistry, CBS Publishers & Distributors, New Delhi.
3. Deb, A.C. (2006) Fundamentals of Biochemistry, New Central Book Agency (P) Ltd., Kolkata.
4. Fatima et al., (2015) Biochemistry, Saras Publication, Nagercoil.
5. Ramakrishnan S. and Rao, S.V. (1995) Nutritional Biochemistry, T.R. Publications, Chennai.
6. Weil, J.H. (1996) General Biochemistry, 6th edition, New Age International Ltd., New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO 3	PO 4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	
CO1	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO2	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO3	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO4	5	3	4	3	5	4	3	3	2	2	4	4	3.5
CO5	5	3	4	3	5	4	3	3	2	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Discipline Specific Elective I (a)**
Semester : **V** **Hours per week: 5** **75 hrs/Semester**
Sub. Code : **U22DSN1A** **Credits: 5**

Title of the Paper: COMMUNITY NUTRITION

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	75	55	5	5	5	5	-

PREAMBLE

This course will enable the students to:

1. Be familiar with the common nutritional problems of the community, their causes, symptoms, treatment and prevention.
2. Get exposed to the schemes, programmes and policies of Government of India to combat malnutrition.
3. Be aware of the health hazards related to food and water.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Assess the nutritional status of individuals of different age groups.	I	15
CO2: Summarize the nutritional problems of the Indian Community – causes, prevention and treatment.	II	15
CO3: Describe the National schemes and programmes to combat malnutrition.	III	15
CO4: Explain the hazards of food adulteration and water pollution and suggest methods to alleviate the hazards.	IV	15
CO5: Discuss the aims of National Policies, Plan of Action and implementation of welfare schemes.	V	15

SYLLABUS

UNIT I

Assessment of nutritional status of individual and community - Anthropometry, Biochemical & Biophysical methods, Clinical examination, Diet survey,

UNIT II

Nutritional Problems of the Indian Community – Causes (nutritional and non – nutritional). Incidence of nutritional problems, signs and symptoms, treatment – PEM, Micronutrient deficiencies (Vitamin A, Iron, Iodine), Fluorosis. Non-communicable diseases – diabetes mellitus, hypertension, heart attack – preventive diet and lifestyle modification.

UNIT III

Schemes and programmes to combat nutritional problems in India. Prophylaxis programmes. Mid day meal programme, ICDS. Nutrition Program for Adolescent Girls (NPAG), National Program for Prevention & Control of Diabetes, Cardiovascular Diseases & Stroke(NPDCS, 2008), National Program for Prevention & Control of Cancer, Diabetes, Cardiovascular diseases & Stroke (NPCDCS, 2010).

UNIT IV

Nutrition Education – Definition, Importance & process; Phases – conceptualization, formulation, implementation and evaluation, Methods – face to face, mass media, traditional media and criteria for selection.

UNIT V

National Nutrition Policy – aims, nutrition policy instruments and its implementation, Nutrition surveillance system – definition, objectives, uses, infrastructure, key indicators for successful nutrition surveillance programme.

TEXT BOOKS

1. Srilakshmi, B. (2018) Nutrition Science, 6th Edition, New Age International (P) Ltd., Chennai.

REFERENCES

1. Park, J.E. and Park, K. (2013) Textbook of preventive and social medicine, 21st edition, M/s Banarsidas Bhanot, Jabalpur.
2. Prevention of Food Adulteration Act (1994) Govt. of India.
3. Thankamma Jacob (1976) Food Adulteration.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	5	3	5	4	4	5	2	4	4	4	4
CO2	5	3	5	3	5	4	4	5	2	4	4	4	4
CO3	5	3	5	3	5	4	4	5	2	4	4	4	4
CO4	5	3	5	3	5	4	4	5	2	4	4	4	4
CO5	5	3	5	3	5	4	4	5	2	4	4	4	4
MEAN OVERALL SCORE													4

Result: The score for this course is 4 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Discipline Specific Elective I (b)**
Semester : **V** **Hours per week: 5** **75 hrs/Semester**
Sub. Code : **U22DSN1B** **Credits: 5**

Title of the Course: FAMILY DYNAMICS

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	75	55	5	5	5	5	-

PREAMBLE

The student will -

1. Acquire knowledge and insights about the dynamics of contemporary marriage and family systems in India.
2. Become acquainted with the concept, goals and areas of adjustment in marital relationship and within the family.
3. Understand the dynamics of families in distress and crisis
4. Become aware of the family welfare measures.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Summarize the types of families and different stages of family life cycle	I	15
CO2: Discuss the challenges faced in marital life	II	15
CO3: Develop positive human relationship	III	15
CO4: Describe the causative factors of marital disharmony	IV	15
CO5: Define the need of premarital and marital counselling	V	15

SYLLABUS

UNIT I

Family - Definitions, functions, types (with reference to India) – Family life cycle – Stages and Sub – Stages (beginning, expanding, contracting) – Changing trends in India and factors influencing (social change, family values and ideologies, family structures).

UNIT II

Marriage as an institution : goals, rituals, functions, changes and challenges – Mate selection : factors influencing, considerations of exogamy and endogamy, changing trends, arranged and personal choice of mates – Marital adjustment, planned parenthood.

UNIT III

Internal relationship within the family, Individual roles, rights and responsibilities within the family – family interaction and communication – Importance, types and methods of improvement – areas of adjustment within the family at different stages of family life cycle.

UNIT IV

Families with marital disharmony and disruption, causal factors – Families in distress, violence and abuse, dowry victimization, violence against women.

UNIT V

Interventions for families in trouble - scope, needs and assessment –Counseling : premarital and marital – welfare and rehabilitation policies and programmes – public awareness and education programmes.

TEXTBOOK

1. Devadas R.P. and Jaya (1991) Text Book of Child Development Macmillan India Ltd., Madras

REFERENCES

1. Augustine, J.N. (Ed.) (1982) : The Family in Transition, New Delhi : Vikas Publishing House.
2. Guppy, G.R. (1976) : Family and Social Change in Modern India, New Delhi : Vikas Publishing Co.
3. Gore, M.S. (1968) : Urbanization and Family Change in India, Bombay : Popular Prakashan.
4. Lal, A.K. (1990) : The Urban Family : A Study of Hindu Social System, New Delhi : Vikas Publications.
5. Rao, P. and Rao, V.N. (1982) : Marriage, The Family and Women in India, New Delhi : Vikas Publications.
6. Srinivasan, K. and Mukerji, S. (Eds.) (1987) : Dynamics of Population and Family Welfare, Bombay : Himalaya Publishing House.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	5	3	5	4	2	2	2	2	4	4	3.4
CO2	5	3	5	3	5	4	2	2	2	2	4	4	3.4
CO3	5	3	5	3	5	4	2	2	2	2	4	4	3.4
CO4	5	3	5	3	5	4	2	2	2	2	4	4	3.4
CO5	5	3	5	3	5	4	2	2	2	2	4	4	3.4
MEAN OVERALL SCORE													3.4

Result: The score for this course is 3.4 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Discipline Specific Elective II
Semester : VI Hours per week: 4 60 hrs. /semester
Sub. Code : U22DSN2A Credits: 4

Title of the Course: FUNDAMENTALS OF TEXTILES AND CLOTHING

Pedagogy	Hours	Lecture	Peer teaching	Demo/OER/ Tutorial	GD/Seminar	ICT/Blended Learning	IV/DI
	60	40	-	10	5	5	-

PREAMBLE

To help the student to
1. Understand and identify the types of textile fibres, yarns and their properties
2. Acquaint with some of the weaves and finishes, their characteristics and usage
3. Familiarize with common dyeing and printing methods; principles of clothing

COURSE OUTCOMES At the end of the semester, the students will be able to	Unit	Hrs/ Sem
CO1: Identify the types of textile fibres based on their properties.	I	12
CO2: Define and classify weaves.	II	12
CO3: Associate the types of finishes with functional properties of fabric.	III	12
CO4: Identify the common types of dyeing and printing of textiles.	IV	12
CO5: Apply the principles of clothing for various age groups; solve the problem of stains in fabric.	V	12

SYLLABUS

UNIT I

Textile fibres and their properties

Fibre - definition, identification (visual, burning, microscopic, and solubility), classification –natural fibres (cotton, linen, wool, jute and silk) man made fibre (rayon, polyester). Yarn- definition, types- simple and fancy, count and twist (basic concepts only).

UNIT II
Weaving

Definition of weaving, looms, parts of loom, weaving process, function of weaves; classification of weaves - plain, twill, satin and sateen. Fancy weaves - pile, dobby and jacquard, non-woven - felted and bonded; knitting.

UNIT III
Finishes

Definition and purpose. Type- basic finishes (bleaching, mercerizing, desizing, calendaring); functional finishes (water proofing, fire profit proofing and moth proofing).

UNIT IV

Dyeing and printing

Dye – classification (example of natural and artificial dyes). Printing - hand printing (block, stencil, tie and dye and batik). Machine printing (screen and roller).

UNIT V

Family clothing

Introduction of family clothing; principles of clothing, factors influencing selection of clothing for various age groups, stain removal- washable and non-washable fabrics.

PRACTICAL EXPERIENCE

1. Fibre identification tests - visual, burning microscopic and chemical

2. Thread count and balance

TEXTBOOK

1. Dantayagi, S. (2015) Fundamentals of Textiles and their care, Orient Black Swan Private Limited. New Delhi.

REFERENCES

1. Corbman, P.B. (1985) Textiles - Fibre to Fabric (6th edition), McGraw Hill Book Co., UK.
2. Deulkar, D. (2011) Household textiles and laundry work, Atma Ram & Sons.
3. Joseph, M. L. (1988) Essentials of textiles (6th edition), Holt Rinehart and Winstoninc., Florida.
4. Sekhri S. (2016) Textbook of Fabric science: Fundamentals to finishing, Phi learning, Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	2	5	2	4	4	3.6
CO2	5	3	4	3	5	4	2	2	5	2	4	4	3.6
CO3	5	3	4	3	5	4	2	2	5	2	4	4	3.6
CO4	5	3	4	3	5	4	2	2	5	2	4	4	3.6
CO5	5	3	4	3	5	4	2	2	5	2	4	4	3.6
MEAN OVERALL SCORE													3.6

Result: The score for this course is 3.6 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Discipline Specific Elective II**
Semester : **VI** **Hours per week: 4** **60hrs/Semester**
Sub. Code : **U22DSN2B** **Credits: 4**

Title of the Paper: DEVELOPMENT AND WELFARE PROGRAMMES IN INDIA

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	60	50	2	2	4	2	-

PREAMBLE

To enable the students to

1. Familiarize with different development programmes
2. Learn about the functioning of development programmes.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/sem
CO1: Discuss the ongoing rural development programmes	I	12
CO2: Describe the programmes implemented to improve the infrastructure in cities	II	12
CO3: Distinguish the national programmes being implemented to combat various communicable and non-communicable disease	III	12
CO4: Interpret programmes aimed to stabilize population growth and to reduce maternal, infant and child mortality	IV	12
CO5: Examine the implementation procedure of schemes pertaining to women welfare	V	12

SYLLABUS

UNIT I

Rural Development Programmes

Pradhanmantri Gram Sadak Yojana, Sabki Yojana Sabka Vikas, Swachh Bharat Mission, Swajaldhara, Central Rural Sanitation Programme, Swachh Bharat Mission, National Rural Livelihood Mission (NRLM), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

UNIT II

Urban Development Programmes

Capacity building scheme for urban local bodies, Jawaharlal Nehru National Urban Renewal Mission, Urban Infrastructure Development Scheme for Small & Medium towns, Integrated Development of small & medium towns, Infrastructure Development in mega cities, accelerated urban water supply programme

UNIT III

National Health Programmes

National Vector Borne Disease Control Programme, National Filaria Control Programme, National Leprosy Eradication Programme, Revised National TB Control Programme, National Mental Health Programme, National AIDS Control Programme, National Cancer Control Programme, Universal ImmunisationProgramme, National Programme for Prevention and Control of Deafness, Programme on prevention & Control of Diabetes, CVD & stroke, National Tobacco Control Programme, School Health Programme.

UNIT IV

Family Welfare Schemes

National Family Welfare Programme, National Population Policy, National Rural Health Mission, Urban Family Welfare Schemes, Reproductive & Child Health Programme.State Level Welfare Programmes-Maternity, Marriage, Disabled and Social Assistance Programmes

UNIT V

Women & Child Welfare Schemes

Swayamsiddha, Swadhar, Support to Training & Employment Programme for Women (STEP), Integrated Child Protection Scheme (ICPS), Integrated Child Development Service (ICDS), BalikaSamridhiYojana (BSY), Kishori Shakti Yojana, Nutrition Programme for Adolescent Girls.

REFERENCES

1. All official reports related to the programmes mentioned in the syllabus.
2. Documents from respective ministries implementing various schemes, programmes.
3. Government of India websites of Ministry of Rural Development, Ministry of Urban Development, Ministry of Women and Child Welfare and Ministry of Family Welfare.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	1	4	3	2	4	4	3.5
CO2	5	3	4	3	5	4	1	4	3	2	4	4	3.5
CO3	5	3	4	3	5	4	1	4	3	2	4	4	3.5
CO4	5	3	4	3	5	4	1	4	3	2	4	4	3.5
CO5	5	3	4	3	5	4	1	4	3	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Discipline Specific Elective III**
Semester : **VI** **Hours per week: 4** **60hrs/Semester**
Sub. Code : **U22DSN3A** **Credits: 4**

Title of the Course: FOOD PACKAGING

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	60	48	2	2	4	4	-

PREAMBLE

This course will enable the student to

1) Know different food packaging materials available in the market.
2) Select appropriate packaging materials for varied food products.
3) Promote positive consumer behaviour among students.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Summarize the functions and properties of food packaging	I	12
CO2: Compare and assess different food packaging materials	II	12
CO3: Distinguish various food packaging methods and performances	III	12
CO4: Identify suitable packaging methods and materials for different foods	IV	12
CO5: Integrate knowledge on food laws and standards with consumer behaviour	V	12

SYLLABUS

UNIT I

Introduction of Packaging – Origin of food packaging, prehistoric package materials and methods; functions of packaging, primary elements of package forms, material and decoration. Various package forms – tubes, tetra packs, cans, bottles.

UNIT II

Packaging materials – Classification – Flexible and Rigid - properties, advantages and limitations – aluminium, glass, tinned steel plate, carton board, paper, flexible films, bio films, laminates and others

UNIT III

Recent packaging technology : Edible packaging, retort packaging, aseptic packaging, vacuum packaging, modified atmosphere packaging, controlled atmosphere packaging, shrink packaging.

UNIT IV

Application of packaging technology to dairy products, sea foods, flesh foods, convenience foods , fruit products.

UNIT V

Food and nutrition labeling. Food laws and standards for Nutrition labeling; Acceptable Daily Intake Percent Daily Value, National: FSSAI, BSI, AGMARK, International: Codex, FAO/WHO, GRAS, ISO.

PRACTICAL EXPERIENCE

1. Visit to food packaging industries.
2. Identifying different packaging materials and forms in day – to – day life.

TEXTBOOK

1. Manay, N.S. and Shadakshara Swamy, M (2001) Foods, Facts and Principles, 2nd edition, New Age International Publishers, Chennai.

REFERENCES

1. Potter, N.N. and Hotchkiss, J.H. (1996) Food Science, 5th ed., CBS Publishers and Distributors, New Delhi.
2. Sacharow, S. and Griffin, R (1970) Food Packaging – A Guide for the supplier, processor and distributor, The AVI Publishing Company, Inc.
3. Subbulakshmi, G. and Udupi, A.S. (2001) Food Processing and Preservation, New Age International Publishers, New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	3	3	2	4	4	3.5
CO2	5	3	4	3	5	4	2	3	3	2	4	4	3.5
CO3	5	3	4	3	5	4	2	3	3	2	4	4	3.5
CO4	5	3	4	3	5	4	2	3	3	2	4	4	3.5
CO5	5	3	4	3	5	4	2	3	3	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part III Discipline Specific Elective III
Semester : VI Hours per week: 4 60 hrs/ Semester
Sub Code : U22DSN3B Credits: 4

Title of the Course: FOOD MICROBIOLOGY

Pedagogy	Hours	Lecture	Peer Teaching	Demo/OER/ Tutorial	GD/Seminar	ICT/ Blended Learning	IV/DI
	60	52	2	2	2	2	-

PREAMBLE

To enable students to :

1. Gain knowledge of the role of microorganisms in health and disease.
2. Understand the role of microbes in relation to food spoilage & food borne diseases.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Summarize the general characteristics of microorganisms.	I	12
CO2: Identify and apply techniques to control microbes.	II	12
CO3: Recognize microbial spoilage in various foods.	III	12
CO4: Distinguish food borne infections and intoxication and apply quality control measures.	IV	12
CO5: Explain the beneficial role of microbes in foods.	V	12

SYLLABUS

UNIT I

General characteristics of microorganisms - bacteria, viruses, yeasts, molds and protozoa. A brief study of their morphology and diseases produced by them.

UNIT II

Control of microbes: Introduction of control measures - Sterilisation, Disinfection, Pasteurisation. Physical agents – desiccation, electricity, irradiation and heat.

Removal of microbes – filtration, sedimentation. Chemical agents – preservatives & antibiotics.

UNIT III

Food spoilage and prevention. Spoilage of cereals & cereal products, vegetables & fruits, sea foods, meat, egg, poultry and canned foods, milk & milk products.

UNIT IV

Food borne infections and intoxications - symptoms, mode & sources of transmission, methods of prevention. Importance of sanitation and hygiene in foods. HACCP – concept, principles & application in food safety.

UNIT V

Importance of microbes in foods. Fermented foods and fermenting agents. Cereal - pulse mixtures, wheat products, milk products, soy products, alcoholic beverages

PRACTICAL EXPERIENCE

Examination of yeasts, moulds, protozoa and pathogenic

1) Bacteria under the microscope.
2) Visit to a milk processing plant. Demonstration of phosphatase test.
3) Demonstration of certain types of food fermentations.

TEXTBOOK

1. Joshua, A.K. (1988) Microbiology: III Edition, Popular Book Depot, Madras.

REFERENCES

1. Frazier, W.C. & Westhoff D.C (2013) Food Microbiology, 5th ed. Tata McGraw hill Book Company, New Delhi.
2. Jay, J.M., (1986) Modern Food Microbiology, 3rd ed. Van Nostrand Reinhold Co. Inc.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	3	3	5	4	4	4	2	3	4	4	3.7
CO2	5	3	3	3	5	4	4	4	2	3	4	4	3.7
CO3	5	3	3	3	5	4	4	4	2	3	4	4	3.7
CO4	5	3	3	3	5	4	4	4	2	3	4	4	3.7
CO5	5	3	3	3	5	4	4	4	2	3	4	4	3.7
MEAN OVERALL SCORE													3.7

Result: The score for this course is 3.7 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Generic Elective Course I (a)**
Semester : **VI** **Hours per week: 2** **30 hrs/ Semester**
Sub. Code : **U22GE1** **Credits: 2**

Title of the Course: HOUSEKEEPING

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	30	16	2	2	5	2	3

PREAMBLE

To enable students to :

1. Become aware of the different areas and functions of the Housekeeping department.
2. Acquire knowledge regarding maintenance of rooms.
3. Understand the organizational procedures of the front office.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Discuss the role of housekeeping in the hotel industry.	I	6
CO2: Identify types of room layout and bed making procedures.	II	6
CO3: Demonstrate skills in cleaning techniques in housekeeping.	III	6
CO4: Distinguish types of linen, linen maintenance and laundry procedure.	IV	6
CO5: Compare different soft furnishings and window treatment.	V	6

SYLLABUS

UNIT I

Introduction to hotels as a service industry – Organisation of housekeeping department; duties, qualities and responsibilities of housekeeping staff. Coordination of the housekeeping department with other departments.

UNIT II

Rooms: Types of hotel rooms, room layout, types of beds, bed making. Routine room cleaning procedures – guest room cleaning, area cleaning.

UNIT III

Cleaning Activity: Cleaning agents & equipment – selection and use; Types of cleaning – daily, weekly, yearly; cleaning techniques. Pest Control.

UNIT IV

Linen and Laundry: Types of linen, selection, control & distribution, record keeping, linen room staff & their duties, storage procedure. Layout & physical features of a laundry, laundry procedure.

UNIT V

Soft Furnishings: Selection, care and maintenance of beds, mattresses, pillows, blankets, covers. Window treatment – draping fabric, hanging of curtains. Carpets – types, selection, care & cleaning

TEXTBOOK

1. Kaushal, S.K. and Gautam, S.N. (2000) Accommodation Operations Management – A Textbook on Housekeeping, Frank Bros & Co., New Delhi.

REFERENCES

1. Andrews, S. (1985) Hotel Housekeeping – training manual, Tata McGraw-Hill Publishing Co. Ltd., New Delhi.
2. Branson, J.C. and Lennox, M. (1998) Hotel, Hostel and Hospital Housekeeping, 4th ed., Edward Arnold Pub. Ltd., London.
3. Kaushal, S.K. and Gautam, S.N. (2000) Accommodation Operations Management – A Textbook on Housekeeping, Frank Bros & Co., New Delhi.
4. Lennox, M., Branson, J. (1995) Hotel, Hostel and Hospital Housekeeping, Pitman Publishing.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO2	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO3	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO4	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO5	5	3	4	3	5	4	4	2	5	2	4	4	3.8
MEAN OVERALL SCORE													3.8

Result: The score for this course is 3.8 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part III** **Generic Elective Course I(b)**
Semester : **VI** **Hours per week: 2** **30 hrs/ Semester**
Sub. Code : **U22GE1B** **Credits: 2**

Title of the Course: FRONT OFFICE AND PERSONNEL MANAGEMENT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	30	20	2	-	3	-	5

PREAMBLE

To enable students to :

1. Be familiar with the functions of front office
2. Develop an ability in performing front office operations
3. Gain knowledge on personnel management in front office operations

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Understand the functions of front office and duties of personnel	I	6
CO2: Demonstrate front office operations	II	6
CO3: Handle guest room occupancy and billing procedures	III	6
CO4: Exhibit communication skills in guest care in front office	IV	6
CO5: Apply the knowledge on personnel management in various levels of front office	V	6

SYLLABUS

UNIT I

Classification of hotels and other departments. Front Office organization, layout, duties and attributes of different levels of staff.

UNIT II

Reservation Basic definition, modes of room reservation and source of reservation, system of room reservation, Basic reservation procedures, Individual and group reservation, Forecasting, computerized reservation system. Check – in check – out procedures.

UNIT III

Settlement of bills, dealing with walk-in guests with scanty baggage, change of guest rooms, handling of guest mail, key handling and control, use and function of the key rack, handling guest messages and enquiries.

UNIT IV

Communications, guest care & billings – Knowledge of PBX, EPABX, handling the telephone, reading of directories.

UNIT V

Personnel Development Program: Employee training, executive development and career.

TEXTBOOK

1. Sudhir Andrews, Front Office Management & Operations, McGraw Hill Education, 2017.

REFERENCE:

1. David A. DeCenzo & Stephen P.Robbins, Personnel/Human Resource Management,Third edition, PHI/Pearson.
2. VSP Rao, Human Resource Management: Text and cases, First edition Excel Books, New Delhi - 2000.
3. Dr. R.Venkatapathy & Assissi Menacheri, Industrial Relations & Labour Welfare,Ad ithya Publications, CBE, 2001.
4. Robert L.Gibson and Marianne H.Mitchell, Introduction to Counseling and Guidance, VI edition, PHI, 2005.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO2	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO3	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO4	5	3	4	3	5	4	4	2	5	2	4	4	3.8
CO5	5	3	4	3	5	4	4	2	5	2	4	4	3.8
MEAN OVERALL SCORE													3.8

Result: The score for this course is 3.8 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part IV** **Skill Enhancement Course I**
Semester : **IV** **Hours per week:2** **30 hrs/ Semesters**
Sub. Code : **U22SEN1** **Credits: 2**

Title of the Course: INTERIOR DECORATION

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	30	12	5	5	3	5	--

PREAMBLE

To enable the students to

1. Understand elements and Principles of art and design
2. Learn to appreciate art
3. Develop an understanding to the application of art principle in interior design

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sems
CO1: Recognize elements and principles of art and design	I	6
CO2: Appreciate role of design in interior decoration	II	6
CO3: Identify Colour concepts in all art forms	III	6
CO4: Apply principles of lighting in interiors	IV	6
CO5: Integrate and apply principles of design in home décor	V	6

SYLLABUS

UNIT I

Design in Everyday life -Importance of good taste, traditional design and modern design. Elements of Design - Line, form, colour, texture, space, value, pattern and light. Types of Design - Structural design, decorative design.

UNIT II

Objectives of interior decoration, Principles of Design – Harmony – elements of art, Balance – Formal and informal, Proportion – Methods to achieve, Emphasis – What, how and how much to emphasis, Rhythm – Types, creation.

UNIT III

Colour - dimensions of colour, classification of colours, sociological, psychological and physical reaction of colours, types of colour scheme, colour for different rooms.

UNIT IV

Lighting in the house-artificial, importance, principles of home lighting, needs for different activities, types of lighting, Glare – Causes, elimination, selection of lamp shades.

UNIT V

Application of design in home, art object, show case, flower arrangement, equipment, floral art; furniture and furnishings.

TEXTBOOK

1. Stella Soundararaj (2008) Text book of household arts, 4th Edition Orient Longman, Madras.

REFERENCES

1. DeshPande, R.S.(1971) Modern Ideal Homes for India, United Book Corporation, Pune.
2. Goldstein, H and Goldstein,V.(1964) Art in Everyday life, Macmillan Co., New York.
3. Rutt Anna (1961) Home Furnishing, Wiley Eastern Pvt. Ltd.
4. Bhat Pranar Goenka Shanita (1990) The foundation of art and design, Bombay.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	2	4	2	4	4	3.5
CO2	5	3	4	3	5	4	2	2	4	2	4	4	3.5
CO3	5	3	4	3	5	4	2	2	4	2	4	4	3.5
CO4	5	3	4	3	5	4	2	2	4	2	4	4	3.5
CO5	5	3	4	3	5	4	2	2	4	2	4	4	3.5
MEAN OVERALL SCORE													3.5

Result: The score for this course is 3.5 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part IV** **Skill Enhancement Course II**
Semester : **V** **Hours per week:2** **30 hrs/Semesters**
Sub. Code : **U22SEN1** **Credits: 2**

Title of the Course: ENTREPRENEURSHIP DEVELOPMENT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	DI/IV
	30	12	5	5	3	5	-

PREAMBLE

To enable the students to :

1. Get empowered to face the challenging world.
2. Gain working knowledge in entrepreneurship and become a successful entrepreneur.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Summarize the types and qualities of an entrepreneur.	I	6
CO2: Explain the procedure of starting a business.	II	6
CO3: Describe the role of financing institutions involved in entrepreneurship development.	III	6
CO4: Discuss the steps in preparation of project proposal.	IV	6
CO5: Analyze the case histories of successful women entrepreneurs.	V	6

SYLLABUS

UNIT I

Entrepreneurship – Meaning, importance. Types – Role of Entrepreneurs in Economic Development – Qualities of an Entrepreneur – Entrepreneurship as a career.

UNIT II

How to start Business? – Product selection – Form of ownership – Plant location – Land, Building, Water and Power – Raw materials – Machinery – Manpower – Other infra-structural facilities – Licensing registration and local bye laws.

UNIT III

Institutions for Entrepreneurship Development – Micro Small and Medium Enterprises, DIC, ITCOT, SIDCO, NSIC, SISI – Institutional Finance to Entrepreneurs – TIIC, SIDBI, Commercial banks – Incentives to small scale industries - Role of SHGs.

UNIT IV

Project proposal – proposal format and content – steps in project proposal preparation, feasibility testing, SWOT Analysis.

UNIT V

Case histories of successful entrepreneurs – Entrepreneurship Development in India; Women Entrepreneurship in India; Sickness in Small Scale Industries and their remedial measures.

TEXTBOOK

1. Nandan, H (2007) Fundamentals of Entrepreneurship, Prentice – Hall of India Pvt. Ltd., New Delhi.

REFERENCES

1. Radha, V. (2007) Entrepreneurial Development, Prasanna and Co., Chennai.
2. Sundaram, S.S.M and Muthupandi, M. (2002) Entrepreneurship Development, Iyyappan Print House, Madurai.
3. Sundarapandian, P (2004) Entrepreneurship Development, 2nd edition, M.M. Publishers, Virudhunagar.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	3	5	5	4	2	2	5	2	4	4	3.7
CO2	5	3	3	5	5	4	2	2	5	2	4	4	3.7
CO3	5	3	3	5	5	4	2	2	5	2	4	4	3.7
CO4	5	3	3	5	5	4	2	2	5	2	4	4	3.7
CO5	5	3	3	5	5	4	2	2	5	2	4	4	3.7

Result: The score for this course is 3.7 (High Relationship)

Programme : **B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)**
Course : **Part IV** **Skill Enhancement Course III Practical**
Semester : **V** **Hours per week: 2** **30 hrs/Semester**
Sub. Code : **U22SEN2P** **Credits: 2**

Title of the Course: BAKERY

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ Practical/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	30	-	--	25	--	-	5

PREAMBLE

To enable the students to

1. Understand basic concepts of baking.
2. Acquainted with the role of various major and minor ingredients in bakery products.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: To know the essentials of Basic bakery and confectionery knowledge	I	6
CO2: To identify the various commodities used in bakery and confectionery preparation	II	6
CO3: To illustrate the methods of cooking in bakery and confectionery	III	6
CO4: To differentiate the between selection and identification of raw materials used in bakery and confectionery	IV	6
CO5: To classify the cooking equipments used in bakery and confectionery	V	6

SYLLABUS

UNIT – I BREAD MAKING:

Bread Making**:** Demonstration & Preparation of Plain, Milk, Masala and Fruit bread.

UNIT – II PRODUCTION OF BREAKFAST ROLLS:

Demonstration & Preparation of Single Knot, Double Knot, Croissant, Pizza base and Bun.

UNIT – III PREPARATION OF CAKES:

Demonstration & Preparation of Fat Spange, Fatless Sponge

UNIT – IV PREPARATION OF ASSORTED PASTRIES:

Demonstration & preparation of various pastries, Short Crust, fresh cream pastry, black forest pastry, gateau and pineapple pastry.

UNIT – V PREPARATION OF COLD AND HOT PUDDING:

Caramel custard, Bread and Butter pudding, Queen of pudding. Preparation of cold pudding with base of custard (mousse)

TEXTBOOK

1. Basic Baking Science & Craft by S.C. Dubey (S.C. Dubey F-10/5, Malaviya Nagar, New Delhi – 110 017), 2019.'
2. Yogambal A (2006) Theory of Bakery and Confectionery, Visiga Publications, Singampunari, Tamil Nadu.

REFERENCES

1. Parvinder S.Bali, Food Production Operations, 11th Edition, Oxford University Press, New Delhi 2018
2. Kinton and Ceserani, The Theory of Catering, ELBS Publications, 2020.
3. Parvinder S.Bali, International Cuisine Food Production Management, 10th Edition, 2018.

E-BOOKS:

1. https://uou.ac.in/sites/default/files/slm/HM-302.pdf
2. http://ihmgwalior.blogspot.com/2012/10/bakery-theory-notes.html
3. http://www.eiilmuniversity.co.in/downloads/Bakery_&_confectionery.pdf

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	2	0	2	4	4	3.2
CO2	5	3	4	3	5	4	2	2	0	2	4	4	3.2
CO3	5	3	4	3	5	4	2	2	0	2	4	4	3.2
CO4	5	3	4	3	5	4	2	2	0	2	4	4	3.2
CO5	5	3	4	3	5	4	2	2	0	2	4	4	3.2
MEAN OVERALL SCORE													3.2

Result: The score for this course is 3.2 (High Relationship)

Programme : Open to all Undergraduates
Course : Part: IV Non Major Elective - 1
Semester : III Hours per week: 2 30 hrs /Semester
Sub Code : U22NMN1 Credits: 2

Title of the Course: FOOD PRESERVATION

Pedagogy	Hours	Lecture	Peer Group Teaching	Demo/OER/ Tutorial	GD/Seminar	ICT/ Blended Learning	IV/DI
	30	16	-	14	-	-	-

PREAMBLE

To enable the students to:

1. Understand basic concepts of food preservation.
2. Develop skills and techniques in food preservation.

SCOPE

1. To facilitate self employment ventures.
2. Career opportunities in food processing industries.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Distinguish various methods of food preservation.	I	6
CO2: Explain the FPO specifications of jams, jellies and marmalades.	II	6
CO3: Demonstrate preparations of squashes and syrups.	III	6
CO4: Apply the acquired knowledge while preparing jams and jellies.	IV	6
CO5: Develop value added food products.	V	6

SYLLABUS

UNIT I

A study of the methods and principles involved in preserving foods
Drying and dehydration, Low temperature, Canning and bottling, Pickling, Irradiation.

UNIT II

Jams, jellies and marmalades – Definition, methods of determination of pectin in food extract, problems in jelly making.

UNIT III

Methods of Preparation of squashes and syrups

UNIT IV

Methods of Preparation of jams, jellies and preserves

UNIT V

Methods of Preparation of pickles, chutneys, vattal and vadagam.

TEXTBOOK

1. Vennila, P. and Kanchana, S. (2003) Principles on Preservation of foods and vegetables, Ratna Publications, Madurai.

REFERENCES

1. Jood, S. and Khetarpaul, N. (2002) Food Preservation, Agrotech Publishing Academy, Udaipur.
2. SandeepSareen (1999) Food Preservation, Sarup and Sons, New Delhi.
3. Subbulakshmi, G. and Udupi, A.S. (2001) Food Processing and Preservation New Age International Publishers, New Delhi.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	4	5	2	2	2	3.4
CO2	5	3	4	3	5	4	2	4	5	2	2	2	3.4
CO3	5	3	4	3	5	4	2	4	5	2	2	2	3.4
CO4	5	3	4	3	5	4	2	4	5	2	2	2	3.4
CO5	5	3	4	3	5	4	2	4	5	2	2	2	3.4
MEAN OVERALL SCORE													3.4

Result: The score for this course is 3.4 (High Relationship)

Programme : **Open to all Undergraduates**
Course : Part IV Non Major Elective - II
Semester : IV Hours per week: 2 30 hrs/Semester
Sub. Code : U22NMN2 Credits: 2

Title of the Course: HEALTH AND HYGIENE

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	30	18	2	3	2	5	-

PREAMBLE

This course will enable the student to

1. Gain basic knowledge on health and nutrition.
2. Equip herself on health care and education of the community.
3. Develop correct habits of personal and environmental hygiene

SCOPE

1. Behave a socially responsible citizen.
2. To act as messengers of nutrition, hygiene and public health.
3. To find placement in the health care sector.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Discuss about the role of international organizations working towards public health	I	6
CO2: Apply healthy eating habits in day to day life	II	6
CO3: Describe the functions, requirements and sources of macro and micro nutrients	III	6
CO4: Define the objectives of health education	IV	6
CO5: Explain safe handling of food and water	V	6

SYLLABUS

UNIT I

Introduction to concept of health, health situation in India, Role of WHO, FAO and UNICEF in International health.

UNIT II

Nutrition and health: Food in relation to health. Classification of foods. Healthy habits for healthy living – balanced diet, exercise, physical activity and rest.

UNIT III

Nutrients – sources, functions, requirements & deficiency conditions

UNIT IV

Health care and education of the community – concept of health care, primary health care; Health care systems & services. Health education – objectives and approaches. Community hygiene – control and eradication of rodents and pests, waste disposal.

UNIT V

Safe handling of food and water - Care in storage, preparation and service of foods, hygiene of food handlers. Water – household purification methods.

TEXTBOOK

1. Park, J.E. and Park, K. (2013) Textbook of preventive and social medicine, 21st edition, M/s Banarsidas Bhanot, Jabalpur.

REFERENCES

1. Frazier, W.C. & Westhoff D.C., (2013) Food Microbiology, 5th edition, Tata McGraw Hill Book Company, New Delhi.
2. Roday, S (1999) Hygiene and Sanitation in Food Industry, Tata MC Graw Hill Publishing Co. Ltd., New Delhi.
3. Swaminathan, M. (1990) Food and Nutrition, Vols. I & II, BAPPCO, Bangalore.

COURSE OUTCOMES (COs)	PROGRAMME OUTCOMES (POs)					PROGRAMME SPECIFIC OUTCOMES (PSOs)							MEAN SCORE OF COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	5	3	4	3	5	4	2	4	4	2	4	4	3.7
CO2	5	3	4	3	5	4	2	4	4	2	4	4	3.7
CO3	5	3	4	3	5	4	2	4	4	2	4	4	3.7
CO4	5	3	4	3	5	4	2	4	4	2	4	4	3.7
CO5	5	3	4	3	5	4	2	4	4	2	4	4	3.7
MEAN OVERALL SCORE													3.7

Result: The score for this course is 3.7 (High Relationship)

Programme : B.Sc. HOME SCIENCE (Nutrition, Food Service Management & Dietetics)
Course : Part V
Semester : III
Sub. Code : Credits: 1

Title of the Course: EXTENSION ACTIVITY

1. Demonstration of low cost locally available nutritious recipes to members of Self Help Groups (SHGs), especially pregnant and lactating women.
2. Study of functioning of Balwadi and Anganwadi centres.
3. Assessment of nutritional status of school children and imparting nutrition education.
4. Assessment of nutritional status and diet survey of college going girls.
5. Awareness on food hygiene practices to street food vendors.
6. Introduce the concept of health and nutrition to mentally retarded children.
7. Formulation and sales of nutritious low cost food products.
8. Awareness generation on causes, symptoms, prevention and treatment of anaemia to adolescent girls.
9. Conduct exhibitions on adverse effects of junk foods to college students.
10. Assessment of nutritional status of college teachers.

INTERNAL EVALUATION

Maximum Marks	: 100
Attendance	: 50 Marks
Voluntary Participation	: 25 Marks
Report	: 25 Marks
Total	**: 100 Marks**

Programme : Open to all Undergraduates
Course : Value Added Course-I
Semester : III Hours per week: 2 30 hrs/Semester
Sub. Code : VAN1 Credits: 2

Title of the Course: FLOWER ARRANGEMENT

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Practical Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	30	7	6	14	-	3	-

PREAMBLE

This course will enable the student to

1. Learn and identify flowers and foliage suitable for flower arrangement
2. Develop skill to arrange flowers in different styles and
3. Acquire creativity in floral decoration.

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Identify flowers and foliage suitable for flower arrangement	I & II	6 + 6
CO2: Demonstrate skill in arranging flowers and foliage in different styles and	III &IV	6 + 6
CO3: Apply creativity in floral decoration	IV	6

SYLLABUS

UNIT I

Elements of design in Flower Arrangement: Line, Shape, Size, Texture, Colour, Light and Space. Principles of Design in Flower Arrangement: Harmony, Balance, Proportion, Emphasis and Rhythm.

UNIT II

Types of Flower Arrangement: Vertical, Horizontal, Circle, Diagonal, Spiral, Crescent, S-shaped, Oval shaped and Cascade; Japanese flower arrangement-Ikebana; Styles of Flower Arrangement: Line, Mass and Line-Mass.

UNIT III

Cut flowers and foliage: Identification and classification of common cut flowers and foliage; major characteristics of cut flowers and foliage. Precautions during handling - storing, packing, unpacking, hydration, use of floral preservatives, drying of flowers.

UNIT IV

Flower Arrangement: Tools and materials for flower arrangement; Principles of fresh flower and dry flower arrangement. Basic skills related to arranging flowers and foliage.

UNIT V

Floral decoration: Types of bouquets - Flat, Round, Bow, Single, Vase and Basket, Table and Wall decoration.

TEXTBOOK

1. Soundararaj S (2008) A Textbook of Household Arts, 4th Edition, Orient Longman, Madras.
2. Goldstein, H and Goldstein,V.(1964) Art in Everyday life, Macmillan Co., New York.

REFERENCES

1. Chezar A & Michaels J (2016) The Flower Workshop: Lessons in Arranging Blooms, Branches, Fruits, and Foraged Materials, Ten Speed Press, California.

Programme : Open to all Home Science Undergraduates
Course : Value Added Course-II
Semester : IV Hours per week: 2 30 hrs/Semester
Sub. Code : VAN2 Credits: 2

Title of the Course: DIET COUNSELLING

Pedagogy	Hours	Lecture	Peer Group Learning	Demo/ OER/ Tutorial	GD/ Seminar	ICT/ Blended Learning	IV/ DI
	30	15	5	3	3	4	-

PREAMBLE

This course will enable the student

1) Understand the dietary behaviour of the client/patient
2) Develop diet counselling skills
3) Acquire communication skills to impart diet counselling to individual and community

COURSE OUTCOMES At the end of the Semester, the Students will be able to	Unit	Hrs/Sem
CO1: Evaluate the dietary behaviour of the client/patient	I & IV	6 + 6
CO2: Demonstrate diet counselling skills	II & III	6 + 6
CO3: Apply communication skills to impart diet counselling to individual and community	V	6

SYLLABUS

UNIT I

Role of a dietician in a hospital and community, team approach to nutritional care, ethical code and responsibility. Defining features of counselling psychology.

UNIT II

Diet counselling skill: Tactics and techniques of counselling- evaluating and understanding the clients' attitude, imparting behaviour change in clients, utilizing proper counselling techniques- non -verbal behavior, verbal behavior, covert behavior.

UNIT III

Concepts and principles in communication and their application in developing skills in counselling. Use of communication aids, communication and interviewing skills.

UNIT IV

Nutritional assessment: Eliciting Anthropometric, Biochemical, Clinical and Diet profile, techniques of obtaining relevant information; interpreting clinical information, case study assessment and evaluation.

UNIT V

Therapeutic relationships: psychology of feeding the patients- Assessment of needs, education of the patient and follow up and establishing rapport with the patient and the family member.

TEXTBOOK

Srilakshmi, B. (2019) Dietetics, 8th Edition, New Age International (P) Ltd, New Delhi

REFERENCES

1. Blackman,M.C., Kvaska,C.A.,(2011) Nutrition Psychology Improving Dietary Adherence, Jones and Bartlett Publishers, London.
2. Mahan, K.L. & Escott-Stump, S. (2008) Krause's Food & Nutrition Therapy, 12th ed., Saunders' Pub.