

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-18**

**THE RESEARCH CENTRE OF HOME SCIENCE**

*For those who joined in June 2019 onwards*

**PROGRAMME CODE: UAHS**

**PART – I – TAMIL / FRENCH / HINDI- 12 CREDITS**

**PART – I – TAMIL**

**Offered by The Research Centre of Tamil**

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT . MKs
1.	I	19TL1C1	Language-Modern Literature பொதுத்தமிழ் - இக்கால இலக்கியம்	5	3	40	60	100
2.	II	19TL2C2	Language - Bakthi Literature பொதுத்தமிழ் - பக்தி இலக்கியம்	5	3	40	60	100
3.	III	19TL3C3	Language- Epic Literature பொதுத்தமிழ் - காப்பிய இலக்கியம்	5	3	40	60	100
4.	IV	19TL4C4	Language-Sangam Literature பொதுத்தமிழ் - சங்க இலக்கியம்	5	3	40	60	100
			<b>Total</b>	<b>20</b>	<b>12</b>			

### PART – I –FRENCH

Offered by The Department of French

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19RL1C1	PART 1 LANGUAGE FRENCH	5	3	40	60	100
2.	II	19RL2C2	PART 1 LANGUAGE FRENCH	5	3	40	60	100
3.	III	19RL3C3	PART 1 LANGUAGE FRENCH	5	3	40	60	100
4.	IV	19RL4C4	PART 1 LANGUAGE FRENCH	5	3	40	60	100
			<b>Total</b>	<b>20</b>	<b>12</b>			

### PART – I – HINDI

Offered by The Department of Hindi

S.N O	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19DL1C1	PART 1 LANGUAGE HINDI - बोलचालकीहिंदी	5	3	40	60	100
2.	II	19DL2C2	PART 1 LANGUAGE HINDI - कार्यालयीनहिंदी	5	3	40	60	100
3.	III	19DL3C3	PART 1 LANGUAGE HINDI - हिंदीसाहित्यकाआदिकालऔरभक्तिकाल	5	3	40	60	100
4.	IV	19DL4C4	PART 1 LANGUAGE HINDI - हिंदीसाहित्यकाआधुनिककाल	5	3	40	60	100

			<b>Total</b>	<b>20</b>	<b>12</b>			
--	--	--	--------------	-----------	-----------	--	--	--

**PART – II -ENGLISH – 12 CREDITS**

**Offered by The Research Centre of English**

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT . MKs
1.	<b>I</b>	19EL1LB	BASIC COMMUNICATIVE ENGLISH	5	3	40	60	100
2.		19EL1LI	INTERMEDIATE COMMUNICATIVE ENGLISH	5	3	40	60	100
3.		19EL1LA	ADVANCED COMMUNICATIVE ENGLISH	5	3	40	60	100
4.	<b>II</b>	19EL2LB	ENGLISH COMMUNICATION SKILLS (BASIC)	5	3	40	60	100
5.		19EL2LI	ENGLISH FOR EMPOWERMENT (INTERMEDIATE)	5	3	40	60	100
6.		19EL2LA	ENGLISH FOR CREATIVE WRITING (ADVANCED)	5	3	40	60	100
7.	<b>III</b>	19EL3LN	ENGLISH FOR DIGITAL ERA	5	3	40	60	100
8.	<b>IV</b>	19EL4LN	ENGLISH FOR INTEGRATED DEVELOPMENT	5	3	40	60	100
			<b>Total</b>	<b>20</b>	<b>12</b>			

**ART – III -MAJOR, ALLIED & ELECTIVES – 95 CREDITS**

**MAJOR CORE COURSES INCLUDING PRACTICALS : 60 CREDITS**

S.N O	SEM .	COURSE CODE	COURSE TITLE	HRS	CREDI T	CIA Mk s	ESE Mk s	TOT . Mks
1.	I	19N1CC1	HUMAN DEVELOPMENT	5	4	40	60	100
2.		19N1CC2	PHYSIOLOGY	4	3	40	60	100
3.		19N1CC3	LAB IN PHYSIOLOGY	3	2	40	60	100
4.	II	19N2CC4	HUMAN NUTRITION	5	4	40	60	100
5.		19N2CC5	FOOD SCIENCE	4	3	40	60	100
6.		19N2CC6	LAB IN FOOD SCIENCE & NUTRITION	3	2	40	60	100
7.	III	19N3CC7	EXTENSION EDUCATION AND COMMUNICATI ON	5	4	40	60	100
8.		19N3CC8	FIBER TO FABRIC	4	3	40	60	100
9.		19N3CC9	LAB IN BASICS OF CLOTHING CONSTRUCTION	3	2	40	60	100

10.	IV	19N4CC10	BASICS OF BIOTECHNOLOGY	5	4	40	60	100
11.		19N4CC11	CLOTHING AND FASHION	4	3	40	60	100
12.		19N4CC12	LAB IN CLOTHING AND FASHION	3	2	40	60	100
13.	V	19N5CC13	CRECHE AND PRE SCHOOL MANAGEMENT	6	4	40	60	100
14.		19N5CC14	LAB IN PRE SCHOOL ADMINISTRATION	4	2	40	60	100
15.		19N5CC15	HOUSING ART IN HOME	6	4	40	60	100
16.		19N5CC16	LAB IN ART IN EVERYDAY LIFE	4	2	40	60	100
17.	VI	19N6CC17	FAMILY RESOURCE MANAGEMENT	5	4	40	60	100
18.		19N6CC18	LAB IN RESOURCE MANAGEMENT	3	2	40	60	100
19.		19N6CC19	CLINICAL NUTRITION AND DIETETICS	5	4	40	60	100
20.		19N6CC20	LAB IN CLINICAL NUTRITION AND DIETETICS	3	2	40	60	100
21.	Total			84	60			

**ALLIEDCOURSES- 20 CREDITS**

S.NO	SEM	COURSECODE	COURSE TITLE	HRS	CREDI T	CIA Mks	ESE Mks	TOT · MKs
1.	I	19N1ACC1	ALLIED CHEMISTRY- I	3	3	40	60	100
2.		19N1ACC2	VOLUMETRIC ANALYSIS	2	2	40	60	100
3.	II	19N2ACC3	ALLIED CHEMISTRY- II	3	3	40	60	100
4.		19N2ACC4	QUALITATIVE ORGANIC ANALYSIS	2	2	40	60	100
5.	III	19N3AC1	CATERING & HOTEL MANAGEMENT	3	3	40	60	100
6.		19N3AC2	LAB IN CATERING & HOTEL MANAGEMENT	2	2	40	60	100
7.	IV	19N3AC3	FOOD PRODUCTION AND SERVICE	3	3	40	60	100
8.		19N3AC4	LAB IN FOOD PRODUCTION AND SERVICE	2	2	40	60	100

**ELECTIVES-15 CREDITS**

<b>S.No</b>	<b>SEM</b>	<b>COURSECODE</b>	<b>COURSE TITLE</b>	<b>HR S</b>	<b>CREDI T</b>	<b>CIA Mks</b>	<b>ES E Mks</b>	<b>TOT . Mks</b>
1.	V	19N5ME1	TECHNICAL TEXTILES	5	5	40	60	100
2.	V	19N5ME2	FOOD BIOTECHNOLOGY					
3.	VI	19N6ME3	FAMILY DYNAMICS	5	5	40	60	100
4.	VI	19N6ME4	NUTRITION FOR HEALTH AND FITNESS	5	5	40	60	100
5.	VI	19N6ME5	FOOD AND DAIRY PROCESSING	5	5	40	60	100
6.	VI	19N6ME6	WOMEN AND ENTREPRENEURS HIP DEVELOPMENT	5	5	40	60	100

**T – IV – 20 CREDITS**

- **VALUE EDUCATION**
- **ENVIRONMENTAL AWARENESS**
- **NON MAJOR ELECTIVE**
- **SKILL BASED COURSES**

S. No	SE M.	COURSE CODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT. Mks
1.	I	21G1VE1	Personal Values	1	1	40	60	100
2.		19N1NME1	Non Major Elective – Basics of Nutrition (Offered to other major Students)	2	2	40	60	100
3.	II	21G2VE2	Values for life	1	1	40	60	100
4.		19N2NME	Non Major Elective -Basics of Nutrition (Offered to other major Students)	2	2	40	60	100
5.	III	19G3EE	Environmental Education	1	1	40	60	100
6.		19N3SB1	Entrepreneurial Skills – Surface Ornamentation	2	2	40	60	100
7.	IV	19G4EE	Environmental Education	1	1	40	60	100
8.		19N4SB2	Entrepreneurial Skills – CAD	2	2	40	60	100
9.		19N5SB3/ 22N5SB3	Entrepreneurial Skills – Baking, Adulteration and Food Preservation	2	2	40	60	100
10.		19N5SB4	Entrepreneurial Skills – Participatory Rural Appraisal	2	2	40	60	100
11.		19N6SB5	Entrepreneurial Skills – Nutrition Counselling	2	2	40	60	100
12.		19N6SB6	Entrepreneurial Skills – Interior Design and	2	2	40	60	100



			Decoration					
--	--	--	------------	--	--	--	--	--

## OFF-CLASS PROGRAMMES - ALL PART-V

### SHIFT - I

S. No	SE M.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	TOT. Mks
1.	I - IV	21A4PED	Physical Education	30/ SEM	1	100
2.		21A4NSS	NSS			
3.		21A4NCC	NCC			
4.		21A4WEC	Women Empowerment Cell			
5.		21A4ACUF	AICUF			

## OFF-CLASS PROGRAMMES

### ADD-ON COURSES

COURSE CODE	COURSE TITLE	HR S.	CRE DITS	SEME STER IN WHIC H THE COUR SE IS OFFE RED	CIA Mks	ES E Mk s	TOT AL Mks
21UADCA	<b>COMPUTER APPLICATIONS</b> (offered by the department of PGDCA for Shift I)	40	2	I & II	40	60	100
21USDFCS	<b>ONLINE SELF LEARNING COURSE-</b>	40	2	II	40	60	100

COURSE CODE	COURSE TITLE	HR S.	CRE DITS	SEME STER IN WHIC H THE COUR SE IS OFFE RED	CIA Mks	ES E Mk s	TOT AL Mks
	Foundation Course for Science						
21UAD3ES	Professional Ethics	15	1	III	40	60	100
21UAD4ES	Personality Development	15	1	IV	40	60	100
21UAD5ES	Family Life Education	15	1	V	40	60	100
21UAD6ES	Life Skills	15	1	VI	40	60	100
21UAD5HR	<b>HUMAN RIGHTS</b>	15	2	V	100	-	100
21UAD6RS	<b>OUTREACH PROGRAMME-</b> Reach Out to Society through Action <b>ROSA</b>	100	3	V & VI	100	-	100
21UAD6PR	<b>PROJECT</b>	30	4	VI	40	60	100
21UAD6RC	<b>READING CULTURE</b>	10/ Se mes ter	1	II-VI	-	-	-
<b>TOTAL</b>			<b>20</b>				

#### SELF LEARNING EXTRA CREDIT COURSES

COURSE CODE	COURSE	HR S.	CREDI TS	SEMES TER IN WHICH	CIA MK	ES E	TOTA L MAR
-------------	--------	-------	----------	--------------------	--------	------	------------

				THE COURSE IS OFFERED	S	MKS	KS
21UGSLH1	SELF LEARNING COURSES for ADVANCED LEARNERS  Basics of Psychology	-	2	I	40	60	100

#### OFF CLASS PROGRAMMES

COURSE CODE	COURSE	HR S.	CREDIT S	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA MKS	ESE MKS	TOTAL MARKS
21UGVA H1	VALUE ADDED CRASH COURSE Hand Embroidery	-	2	ANY SEMESTER	40	60	100
21UGVA CH1	VALUE ADDED CERTIFICATE COURSE Montessori Aid Teaching	-	2	ANY SEMESTER	40	60	100

OLD

**II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY**

**SEMESTER –IV**

*For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N4SB2	ENTREPRENEURIAL SKILLS – CAD	Lecture / Practical	2	2

**COURSE DESCRIPTION**

**This course imparts skill in designing fashion garments, texture mapping and application of suitable accessories and background using Fashion Studio software.**

**COURSE OBJECTIVES**

- **To train the students in drawing basic silhouettes.**
- **To impart skill in designing fashion garments.**

## **UNITS**

**UNIT –I** (10 HRS.)

**Drawing basic silhouettes**

**Self- Study: Drawing accessories**

**UNIT –II** (5 HRS.)

**Texture mapping – introducing colours and designs**

**UNIT –III** (5 HRS.)

**Colour way studio**

**UNIT –IV** (5 HRS.)

**Introducing pleat and fold**

**UNIT –V** (5 HRS.)

**Draping**

## **REFERENCE BOOKS**

1. Anne Allen & Julian Seaman. (2005). Fashion Drawing – The Basic Principles. Replika Press Pvt. Ltd, India.
2. Erwin, M.D. (1975). Clothing for Moderns. The Mac Millan Company, New York.
3. Gini Stephens Frings. (2005). Fashion – From Concept to Consumer. Pearson Education.
4. Jay Diamond & Ellen Diamond. (1997). The World of Fashion. Fair Child Publications, New York.
5. Mary Mathews. (1985). Practical Clothing Construction Part I and II. Chennai.
6. Retu, T. (1998). Hand book for Fashion Designing. Mittal Publications, New Delhi.

## **OPEN EDUCATIONAL RESOURCES:**

<https://en.wikipedia.org/wiki/Textile>

<https://www.amazon.in/Spinning-Tillie-Walden-ebook/dp/B074ZGMTY2>

<https://www.textileebook.com/2019/04/principles-of-textile-finishing-asim-kumar-roy-choudhury.html>

**COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT -1</b>		<b>TITLE</b>		
<b>1.1</b>	<b>Drawing basic silhouettes</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>2.1</b>	<b>Texture mapping – introducing colours and designs</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>3.1</b>	<b>Colour way studio</b>	<b>4</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>4.1</b>	<b>Introducing pleat and fold</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>5.1</b>	<b>Draping</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>

	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>Total Scholastic Marks</b>	<b>Non Scholastic Marks C6</b>	<b>CIA Total</b>	<b>% of Assessment</b>
<b>Levels</b>	<b>T1</b>	<b>T2</b>	<b>Quiz</b>	<b>Assignment</b>	<b>OBT/PT</b>				
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40 Mks.	
<b>K1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>10 %</b>

K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Scholastic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

✓ All the course outcomes are to be assessed in the various CIA components.

✓ The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1- Remember, K2-Understand, K3-Apply, K4-Analyse**

#### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS	
C1	C2	C3	C4	C5	C6	CIA	ESE
10	10	5	5	5	5	40	60

**C1 – Internal Test-1**

**C2 – Internal Test-2**

**C3 - Quiz**

## C4 – Assignment

## C5 - OBT/PPT

## C6 – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Illustrate the basic silhouettes of garments.	K2, K4	PSO9 & PSO10
CO 2	Plan the colour and design based on the type of garment	K3	PSO10 & PSO17
CO 3	Identify the areas for the application of transparent effect	K1, K3	PSO10
CO 4	Choose appropriate pleat, fold and accessories	K1, K3	PSO10
CO 5	Organize the designed garment against a background	K3	PSO10

## Mapping of COs with PSOs

[illegible]



PSO	13		14	15	16	17	18	19	20	21	22	23	
CO1	1		1	1	1	1	1	1	1	1	1	1	
CO2	1		1	1	1	3	1	1	1	1	1	1	
CO3	1		1	1	1	1	1	1	1	1	1	1	
CO4	1		1	1	1	1	1	1	1	1	1	1	
CO5	1		1	1	1	1	1	1	1	1	1	1	

**Mapping of COs with Pos**

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	3	1
CO2	3	1	3	1
CO3	2	1	3	1
CO4	3	1	3	1
CO5	3	1	3	1

**Note: ♦ Strongly Correlated – 3**

**♦ Moderately Correlated – 2**

**♦ Weakly Correlated -1**

**COURSE DESIGNER:**

**1.Dr.R.Latha**

**2.Ms.J. JosephineJesintha**

**Forwarded By**



**(Dr.Vasantha Esther Rani)**

NEW

**II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY** **20%**

**SEMESTER –IV**

*For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N4SB2	ENTREPRENEURIAL SKILLS – CAD	Lecture / Practical	2	2

**COURSE DESCRIPTION**

**This course imparts skill in designing fashion garments, texture mapping and application of suitable accessories and background using Fashion Studio software.**

**COURSE OBJECTIVES**

- **To train the students in drawing basic silhouettes.**
- **To impart skill in designing fashion garments.**

**UNITS**

**UNIT –I** (10 HRS.)

**Drawing basic silhouettes**

**Self- Study: Drawing accessories**

**UNIT –II** (5 HRS.)

**Texture mapping – introduction to Elements and Principles of design**  
**10%**

**UNIT –III** (5 HRS.)

**Colour way studio**

**UNIT –IV** (5 HRS.)

**Introducing pleat and fold**

**UNIT –V** (5 HRS.)

**Draping with sleeves,yoke,collar and pockets** **10%**

#### **REFERENCE BOOKS**

1. Anne Allen & Julian Seaman. (2005). Fashion Drawing – The Basic Principles. Replika Press Pvt. Ltd, India.
2. Erwin, M.D. (1975). Clothing for Moderns. The Mac Millan Company, New York.
3. Gini Stephens Frings. (2005). Fashion – From Concept to Consumer. Pearson Education.
4. Jay Diamond & Ellen Diamond. (1997). The World of Fashion. Fair Child Publications, New York.
5. Mary Mathews. (1985). Practical Clothing Construction Part I and II. Chennai.
6. Retu, T. (1998). Hand book for Fashion Designing. Mittal Publications, New Delhi.

#### **OPEN EDUCATIONAL RESOURCES:**

<https://en.wikipedia.org/wiki/Textile>

<https://www.amazon.in/Spinning-Tillie-Walden-ebook/dp/B074ZGMTY2>

<https://www.textilebook.com/2019/04/principles-of-textile-finishing-asim-kumar-roy-choudhury.html>

<https://textilestudycenter.com/library/>

#### **COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT -1 TITLE</b>				
<b>1.1</b>	<b>Drawing basic silhouettes</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>2.1</b>	<b>Texture mapping – introducing colours and designs</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>3.1</b>	<b>Colour way studio</b>	<b>4</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>4.1</b>	<b>Introducing pleat and fold</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>
<b>5.1</b>	<b>Draping</b>	<b>1</b>	<b>Lecture</b>	<b>Fashion Studio Software</b>

<b>Levels</b>	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>Total Scholastic Marks</b>	<b>Non Scholastic Marks C6</b>	<b>CIA Total</b>	<b>% of Assessment</b>
	<b>T1</b>	<b>T2</b>	<b>Quiz</b>	<b>Assignment</b>	<b>OBT/PT</b>				
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.	
<b>K1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>10 %</b>
<b>K2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>9</b>	<b>-</b>	<b>9</b>	<b>22.5 %</b>
<b>K3</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>11</b>	<b>-</b>	<b>11</b>	<b>27.5 %</b>
<b>K4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>	<b>27.5 %</b>

Non Scholastic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

✓ All the course outcomes are to be assessed in the various CIA components.

✓ The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1- Remember, K2-Understand, K3-Apply, K4-Analyse**

#### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS	
C1	C2	C3	C4	C5	C6	CIA	ESE
10	10	5	5	5	5	40	60

**C1 – Internal Test-1**

**C2 – Internal Test-2**

**C3 - Quiz**

**C4 – Assignment**

**C5 - OBT/PPT**

**C6 – Non – Scholastic**



<b>C04</b>	1		1	1	1	1	1	1	1	1	1	1	
<b>C05</b>	1		1	1	1	1	1	1	1	1	1	1	

**Mapping of COs with Pos**

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>C01</b>	1	1	3	1
<b>C02</b>	3	1	3	1
<b>C03</b>	2	1	3	1
<b>C04</b>	3	1	3	1
<b>C05</b>	3	1	3	1

**Note: ♦ Strongly Correlated – 3**

**♦ Moderately Correlated – 2**

**♦ Weakly Correlated -1**

**COURSE DESIGNER:**

**1.Dr.R.Latha**

**2.Ms.J. JosephineJesintha**

**Forwarded By**



**(Dr.Vasantha Esther Rani)**

**III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY OLD**  
**SEMESTER -V**

**For those who joined in 2019 onwards**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
<b>UAHS</b>	<b>19N5CC15</b>	<b>Housing and Art in Home</b>	<b>Lecture</b>	<b>6</b>	<b>4</b>

**COURSE DESCRIPTION**

This course elicit knowledge on all aspects of housing and application of art in home.

**COURSE OBJECTIVES**

- Gain basic knowledge of art principles and gain skills in their application in the home.
- Understand basics of house planning.

Understand the housing problems and social effects of housing in India.

- Gain basic knowledge of principles of maintenance of house.

**UNITS**

<b>UNIT – I</b>	<b>ART IN HOME</b>	<b>(15 HRS)</b>
-----------------	--------------------	-----------------

Design-Meaning, Types, Characteristics

Elements of Design – Line, Shape, Form, Colour, Size etc

<b>UNIT – II</b>	<b>PRINCIPLES OF DESIGN</b>	<b>(15 HRS)</b>
------------------	-----------------------------	-----------------

Principles of Design – Harmony, Balance, Proportion, Rhythm, Emphasis

Colour – Prang colour system, Classes of colour, Colour harmony-related & contrast.

<b>UNIT – III</b>	<b>TRENDS IN INTERIOR DESIGN</b>	<b>(20 HRS)</b>
-------------------	----------------------------------	-----------------

Furniture – Selection, use and care, furniture arrangement in various rooms.

Accessories – Selection, use and care, Flower Arrangement – Types – Basic principles

Lighting – Requirements of good lighting, types – based on reflection and purpose-Natural and Artificial lighting.

<b>UNIT – IV</b>	<b>HOUSING AND ENVIRONMENT</b>	<b>(20 HRS)</b>
------------------	--------------------------------	-----------------

Functions of house, selection of site, Principles of planning, Interior and exterior finishes – Wall, Floor and Ceiling, Landscape gardening – meaning, basic principles and units, Desirability of owning Vs renting a house.

<b>UNIT – V</b>	<b>HOUSING DEVELOPMENT IN INDIA</b>	<b>(20HRS)</b>
-----------------	-------------------------------------	----------------

Housing shortage in India, causes of housing problems in India, Role of Tamil Nadu Housing Board & NBO in Housing Development

Self- study– Daily, weekly, periodical cleaning of house, Domestic pests and measures. Purification of water – household & large scale.

Waste management-solid waste-burning, dumping and composting.



## REFERENCES:

### TEXTBOOK:

1. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.

### REFERENCE BOOKS:

#### REFERENCES

2. Bettar and Lockarty (1961), *Design for you*, Jotiss Wiley & Sons, Inc., New York.
3. Faulkner, R & Faulkner. S (1960). *Inside Today's Home*, Rinc Hart and Winston Inc. New York,
4. Goldstein H. & Goldstein V.( 1978). *Art in Everyday life*, The Macmillan Company, New York,
5. Gross I.H, Grandall E.W, & Knoll H.M. (1975) *Management for modern families*
6. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.
7. Nickell & Dorsey, J.N (1976). *Management in Family Living*, Indian Edition,
8. Rutt, A.H.,(1967). *Home Furnishings* Wiley Easters Private Ltd., New Delhi.

#### OPEN EDUCATION RESOURCE:

1. <https://www.homesandgardens.com/news/7-elements-of-design>
2. <https://www.hatchdesign.ca/principles-of-interior-design-part-1-balance/>
3. <https://hmhub.me/accessories-interior-decoration/>
4. <https://designingidea.com/types-of-flooring-materials-for-interior-design/>
5. <https://homedesignlover.com/interior-design/choosing-flooring-materials/>

<https://happho.com/different-materials-used-flooring/>

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT 1 ART IN HOME</b>				
1.1	Introduction	1	Chalk & Talk	LCD
1.2	Design – Meaning, Types, Characteristics	4	Chalk & Talk	Black Board
1.3	Elements of Design – Line, Shape, Form	3	Lecture	PPT & White board
1.4	Elements of Design – Colour, Size	3	Lecture	Smart Board
1.5	Elements of Design – Light and Space, Pattern	4	Lecture	Black Board
<b>UNIT -2 PRINCIPLES OF DESIGN</b>				

2.1	Principles of Design – Harmony, Balance	3	Lecture	LCD
2.2	Principles of Design – Proportion, Rhythm, Emphasis	3	Chalk & Talk	LCD
2.3	Colour – Prang colour system	3	Lecture	PPT & White board
2.4	Classes of colour	3	Discussion	PPT
2.5	Colour harmony – related & contrast	3	Lecture	Black board
<b>UNIT -3 TRENDS IN INTERIOR DESIGN</b>				
3.1	Furniture – Selection, use and care, Furniture arrangement in various rooms	4	Lecture	Black board
3.2	Accessories – Selection, use and care	4	Chalk & Talk	LCD
3.3	Flower arrangement – Types – Basic principles	5	Demonstration, Hands on Experience	Black board
3.4	Lighting – Requirements of good lighting	3	Lecture	PPT & White board
3.5	Lighting – Types – Based on reflection and purpose	4	Discussion	PPT & White board
<b>UNIT -4 HOUSING AND ITS ENVIRONMENT</b>				
4.1	Functions of house	2	Lecture	LCD
4.2	Selection of site	2	Chalk & Talk	LCD
4.3	Principles of planning	4	Lecture	PPT & White board
4.4	Interior and exterior finishes – Wall, Floor, and Ceiling	5	Lecture	PPT & White board
4.5	Landscape gardening – meaning, basic principles and units	4	Chalk & Talk	LCD
4.6	Desirability of owning Vs renting a house	3	Lecture	Black Board
<b>UNIT -5 HOUSING DEVELOPMENT IN INDIA</b>				
5.1	Housing shortage in India, causes of	3	Lecture	LCD

	housing problems in India			
5.2	Role of Tamil Nadu Housing Board & NBO in Housing Development	3	Chalk & Talk	LCD
5.3	Daily, weekly, periodical cleaning of house	3	Discussion	Black Board
5.4	Domestic pest and measures	3	Discussion	Black Board
5.5	Purification of water – household & large scale	4	Discussion	Black Board
5.6	Waste management – solid waste – burning, dumping and composting	4	Lecture	PPT

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assignment 5 Mks	OBT/PP T 5 Mks	35 Mks.	5 Mks.	40Mks .
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40



CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
<b>CO1</b>	1	1	1	1	3	1	1	1	1	1	1	
<b>CO2</b>	1	1	1	1		3	1	1	1	1	1	
<b>CO3</b>	1	1	1	1	1	1	3	1	1	1	1	
<b>CO4</b>	1	1	1	1	1	1	1	3		1	1	
<b>CO5</b>	1	1	1	1	1	1	1	1	2	1	1	

**Mapping of COs with Pos**

CO/ PSO	PO1	PO2	PO3	PO4
<b>CO1</b>	1	1	1	1
<b>CO2</b>	1	2	1	1
<b>CO3</b>	1	1	3	1
<b>CO4</b>	1	1	1	1
<b>CO5</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – **3**     ♦ Moderately Correlated – **2**

♦ Weakly Correlated -**1**

**COURSE DESIGNER:**

**Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY **NEW**  
SEMESTER –V

5%

For those who joined in 2019 onwards

PROGRAMME	COURSE	COURSE	CATEGORY	HRS/WEEK	CREDITS
-----------	--------	--------	----------	----------	---------

CODE	CODE	TITLE			
UAHS	19N5CC15	Housing and Art in Home	Lecture	6	4

#### COURSE DESCRIPTION

This course elicit knowledge on all aspects of housing and application of art in home.

#### COURSE OBJECTIVES

- Gain basic knowledge of art principles and gain skills in their application in the home.
- Understand basics of house planning.

Understand the housing problems and social effects of housing in India.

- Gain basic knowledge of principles of maintenance of house.

#### UNITS

UNIT – I	ART IN HOME	(15 HRS)
----------	-------------	----------

Design-Meaning, Types, Characteristics

Elements of Design – Line, Shape, Form, Colour, Size etc

UNIT – II	PRINCIPLES OF DESIGN	(15 HRS)
-----------	----------------------	----------

Principles of Design – Harmony, Balance, Proportion, Rhythm, Emphasis

Colour – Prang colour system, Classes of colour, Colour harmony-related & contrast.

UNIT – III	TRENDS IN INTERIOR DESIGN	(20 HRS)
------------	---------------------------	----------

Furniture – Selection, use and care, furniture arrangement in various rooms.

Accessories – Selection, use and care, Flower Arrangement – Types – Basic principles

Lighting – Requirements of good lighting, types – based on reflection and purpose-Natural and Artificial lightning.

UNIT – IV	HOUSING AND ENVIRONMENT	(20 HRS)
-----------	-------------------------	----------

Functions of house, selection of site, Principles of planning, Interior and exterior finishes – Wall, Floor and Ceiling, Landscape gardening – meaning, basic principles and units, Desirability of owning Vs renting a house.

UNIT – V	HOUSING DEVELOPMENT IN INDIA	(20HRS)
----------	------------------------------	---------

Housing shortage in India, causes of housing problems in India, Role of Tamil Nadu Housing Board & NBO in Housing Development

Self- study- Daily, weekly, periodical cleaning of house, Domestic pests and measures. Purification of water – household & large scale.

Waste management-solid waste-burning, dumping and composting.

#### REFERENCES:

#### TEXTBOOK:

9. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.

#### REFERENCE BOOKS:

#### REFERENCES

10. Bettar and Lockarty (1961), *Design for you*, Jotiss Wiley & Sons, Inc., New York.
11. Faulkner, R & Faulkner. S (1960). *Inside Today's Home*, Rinc Hart and Winston Inc. New York,
12. Goldstein H. & Goldstein V.( 1978). *Art in Everyday life*, The Macmillan Company, New York,
13. Gross I.H, Grandall E.W, & Knoll H.M. (1975) *Management for modern families*
14. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.
15. Nickell & Dorsey, J.N (1976). *Management in Family Living*, Indian Edition,
16. Rutt, A.H.,(1967). *Home Furnishings* Wiley Easters Private Ltd., New Delhi.

#### OPEN EDUCATION RESOURCE:

6. <https://www.homesandgardens.com/news/7-elements-of-design>
7. <https://www.hatchdesign.ca/principles-of-interior-design-part-1-balance/>
8. <https://hmhub.me/accessories-interior-decoration/>
9. <https://designingidea.com/types-of-flooring-materials-for-interior-design/>
10. <https://homedesignlover.com/interior-design/choosing-flooring-materials/>

<https://happho.com/different-materials-used-flooring/>

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT 1 ART IN HOME</b>				
1.1	Introduction	1	Chalk & Talk	LCD
1.2	Design – Meaning, Types, Characteristics	4	Chalk & Talk	Black Board
1.3	Elements of Design – Line, Shape, Form	3	Lecture	PPT & White board
1.4	Elements of Design – Colour, Size	3	Lecture	Smart Board
1.5	Elements of Design – Light and Space, Pattern	4	Lecture	Black Board
<b>UNIT -2 PRINCIPLES OF DESIGN</b>				
2.1	Principles of Design – Harmony, Balance	3	Lecture	LCD
2.2	Principles of Design – Proportion, Rhythm, Emphasis	3	Chalk & Talk	LCD
2.3	Colour – Prang colour system	3	Lecture	PPT & White

				board
2.4	Classes of colour	3	Discussion	PPT
2.5	Colour harmony – related & contrast	3	Lecture	Black board
<b>UNIT -3 TRENDS IN INTERIOR DESIGN</b>				
3.1	Furniture – Selection, use and care, Furniture arrangement in various rooms	4	Lecture	Black board
3.2	Accessories – Selection, use and care	4	Chalk & Talk	LCD
3.3	Flower arrangement – Types – Basic principles	5	Demonstration, Hands on Experience	Black board
3.4	Lighting – Requirements of good lighting	3	Lecture	PPT & White board
3.5	Lighting – Types – Based on reflection and purpose	4	Discussion	PPT & White board
<b>UNIT -4 HOUSING AND ITS ENVIRONMENT</b>				
4.1	Functions of house	2	Lecture	LCD
4.2	Selection of site	2	Chalk & Talk	LCD
4.3	Principles of planning	4	Lecture	PPT & White board
4.4	Interior and exterior finishes – Wall, Floor, and Ceiling	5	Lecture	PPT & White board
4.5	Landscape gardening – meaning, basic principles and units	4	Chalk & Talk	LCD
4.6	Desirability of owning Vs renting a house	3	Lecture	Black Board
<b>UNIT -5 HOUSING DEVELOPMENT IN INDIA</b>				
5.1	Housing shortage in India, causes of housing problems in India	3	Lecture	LCD
5.2	Role of Tamil Nadu Housing Board & NBO in Housing Development	3	Chalk & Talk	LCD
5.3	Daily, weekly,	3	Discussion	Black



	periodical cleaning of house			Board
5.4	Domestic pest and measures	3	Discussion	Black Board
5.5	Purification of water – household & large scale	4	Discussion	Black Board
5.6	Waste management – solid waste – burning, dumping and composting	4	Lecture	PPT

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
	T1  10 Mks.	T2  10 Mks.	Quiz  5 Mks.	Assignment  5 Mks	OBT/PP T  5 Mks	35 Mks.	5 Mks.	40Mks .
<b>K1</b>	2	2	-	-	-	4	-	4
<b>K2</b>	2	2	5	-	-	9	-	9
<b>K3</b>	3	3	-	-	5	11	-	11
<b>K4</b>	3	3	-	5	-	11	-	11
<b>Non Scholastic</b>	-	-	-	-	-		5	5
<b>Total</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>35</b>	<b>5</b>	<b>40</b>

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

#### **EVALUATION PATTERN**

SCHOLASTIC					NON – SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3**– Quiz

**C4** – Assignment

**C5** –OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Classify the types, elements of design.	K2,K4	PSO17
CO 2	Explain the principles of design, and its application in interiors.	K1, K2	PSO17
CO 3	Construct house plan and landscaping.	K3,K4	PSO17
CO 4	Describe the housing problems and remedies.	K2	PSO17
CO 5	Build skills in interior designing.	K3, K4	PSO17

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	3	1	1	1	1	1	1	
CO2	1	1	1	1		3	1	1	1	1	1	
CO3	1	1	1	1	1	1	3	1	1	1	1	

<b>C04</b>	1	1	1	1	1	1	1	3		1	1	
<b>C05</b>	1	1	1	1	1	1	1	1	2	1	1	

**Mapping of COs with Pos**

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>C01</b>	1	1	1	1
<b>C02</b>	1	2	1	1
<b>C03</b>	1	1	3	1
<b>C04</b>	1	1	1	1
<b>C05</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – **3** ♦ Moderately Correlated – **2**

♦ Weakly Correlated -**1**

**COURSE DESIGNER:**

**Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**OLD**

**III B.Sc. Home Science with Food Biotechnology**

**SEMESTER –V**

*For those who joined in 2019 onwards*

<b>PROGRAMME CODE</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CATEGORY</b>	<b>HRS/WEEK</b>	<b>CREDITS</b>
<b>UAHS</b>	<b>19N5ME2</b>	<b>Food</b>	<b>Lecture</b>	<b>5</b>	<b>5</b>

		<b>Biotechnology</b>			
--	--	----------------------	--	--	--

## **COURSE DESCRIPTION**

The course offers knowledge on the scope, importance and the basic aspects of biotechnology relating to foods

## **COURSE OBJECTIVES**

- To enlighten the students on role of enzymes in food industries.
- To create awareness on biotechnological aspects of food additives
- To gain knowledge in plant and animal biotechnology

## **UNITS**

### **UNIT –I ENZYMES (15HRS.)**

Definition, Properties of enzymes, Microorganisms producing enzymes, Methods of enzyme production, **Self study : Enzymes produced -  $\alpha$ -amylases, lipases, proteases, Use of enzymes in food industry – Proteases, glucose oxidase, catalase, lactase.**

### **UNIT –II ENZYMES IN FRUIT JUICES AND BREWING INDUSTRY (15 HRS.)**

Enzymes used in the production of fruit juices, beer and distilled alcoholic drinks, processing steps of wine and beer.

### **UNIT –III FOOD ADDITIVES (15HRS.)**

Organic acids – Production of citric acid, acetic acid, lactic acid  
 Sweeteners – Production of HFCS and glucose syrup  
 Microbial colour, Microbial flavours  
 Modification of starch and Oilseeds

### **UNIT –IV FOOD AND PLANT BIOTECHNOLOGY (15HRS.)**

Application of Plant Biotechnology in the Food industry.  
 Fruits and Vegetables, Milled Corn Product and Milled Soy Products,  
 Golden rice, Vegetable oil.  
 Fish, Meat, Milk and Milk products

### **UNIT –V FOOD AND ANIMAL BIOTECHNOLOGY (15HRS.)**

Application of Animal Biotechnology in Food industry – fish, meat,

milk and milk products Advantages and disadvantages of genetically modified foods, Ethical issues of genetically modified foods

#### REFERENCES:

1. Dubey, R.C.( 1996) *A textbook of Biotechnology*, S. Chand and Company Ltd., New Delhi
2. Gupta, K. (1995). *Elements of Biotechnology*, Rastogi Publications, Meerut.
3. Sriram Sridhar. (2005) *Enzyme Biotechnology*, Dominant Publishers and Distributors, New Delhi
4. Rita Singh. (2004) *Food Biotechnology*, Global Vision Publishing House, Delhi.
5. Trevor Palmer. (2004). *Enzymes: Biochemistry, Biotechnology and Clinical chemistry*; Affiliated East West Press Pvt ltd., New Delhi.

#### OPEN EDUCATIONAL REFERNCES:

1. <http://www.businessdictionary.com/definition/food-biotechnology.html>
2. [HTTP://WWW.MROTHERY.CO.UK/GENETECH/GENETECHNOTES.HTM](http://www.mrothery.co.uk/genetech/genetechnotes.htm)
3. [HTTP://WWW.WPI.EDU/pUBS/e-PROJECT/aVAIABLE/e-PROJECT-031405-135846/UNRESTRICTED/iqp.PDF](http://www.wpi.edu/pubs/e-project/available/e-project-031405-135846/unrestricted/iqp.pdf)
4. [HTTP://OER.FUNAI.EDU.NG/WP-CONTENT/UPLOADS/2017/10/btg-307-FOOD-bIOTECHNOLOGY-i-dEFINITION-AND-sCOPE-OF-FOOD-bIOTECHNOLOGY-bY-dR.-fRIDAY-nWALO.PPT](http://oer.funai.edu.ng/wp-content/uploads/2017/10/btg-307-food-biotechnology-i-definition-and-scope-of-food-biotechnology-by-dr.-friday-nwalo.ppt)
5. [HTTPS://WWW.NCBI.NLM.NIH.GOV/BOOKS/nbk235032/](https://www.ncbi.nlm.nih.gov/books/nbk235032/)
6. [HTTPS://ACTASCIENTIFIC.COM/asag/PDF/asag-03-0438.PDF](https://actascientific.com/asag/pdf/asag-03-0438.pdf)
7. [HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/312875936\\_aPPPLICATIONS\\_OF\\_food\\_biOTECHNOLOGY](https://www.researchgate.net/publication/312875936_applications_of_food_biotechnology)

#### COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1		ENZYMES		
1.1	Enzymes – Definition, Properties of enzymes	2	Chalk & Talk	Black Board

1.2	Microorganisms producing enzymes	2	Chalk & Talk	LCD
1.3	Methods of enzyme production	4	Lecture	PPT & White board
1.4	Enzymes produced - $\alpha$ -amylases, lipases, proteases, ..	3	Lecture	Smart Board
1.5	Use of enzymes in food industry – Proteases, glucose oxidase, catalase, lactase	4	Lecture	Black Board
<b>UNIT -2 ENZYMES IN FRUIT JUICES AND BREWING INDUSTRY</b>				
2.1	Enzymes used in the production of fruit juices	3	Lecture	Black Board
2.2	Enzymes used in the production of beer and distilled alcoholic drinks	4	Chalk & Talk	LCD
2.3	processing steps of wine	4	Lecture	PPT & White board
2.4	processing steps of beer.	4	Lecture	Smart Board
<b>UNIT -3FOOD ADDITIVES</b>				
3.1	Organic acids – Production of citric acid, acetic acid, lactic acid	4	Lecture	Black Board
3.2	Sweeteners - Production of HFCS and glucose syrup	4	Lecture	PPT & White board
3.3	Microbial colour	2	Lecture	Smart Board
3.4	Microbial flavours	3	Chalk & Talk	LCD
3.5	Modification of starch and Oilseeds	2	Lecture	PPT & White board

<b>UNIT -4 FOOD AND PLANT,ANIMAL BIOTECHNOLOGY</b>				
4.1	Application of Plant and animal Biotechnology in Food industry	2	Lecture	PPT &White board
4.2	Regulation and oversight of biotechnology	3	Chalk & Talk	LCD
4.3	Fruits and Vegetables	3	Chalk & Talk	LCD
4.4	Milled Soy Products,Milled Corn Products	2	Lecture	Black Board
4.5	Golden rice, Vegetable oil	3	Lecture	PPT &White board
4.6	Meat,Fish, Milk and Milk products	2	Lecture	PPT & White board
<b>UNIT -5GENETICALLY MODIFIEDFOODS</b>				
5.1	Basic concepts of DNA structure	2	Lecture	PPT & White board
5.2	Definition of Genetically modified foods	1	Lecture	PPT & White board
5.3	types and techniques of Genetically modified foods	3	Chalk & Talk	LCD
5.4	Health and safety concerns of Genetically modified foods for human consumption	3		
5.5	Advantages and disadvantages of genetically modified foods	2	Chalk & Talk	LCD
5.6	Ethical issues of Genetically modified foods	4	Lecture	Black Board

Levels	C1	C2	C3	C4	C5	Total Scholas tic	Non Scholas tic	CIA Total	% of Assessm
--------	----	----	----	----	----	-------------------	-----------------	-----------	--------------

						Marks	Marks C6		ent
	T1	T2	Qui z	Assignm ent	OBT/P PT				
	10 Mk s.	10 Mk s.	5 Mk s.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mk s.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Scholast ic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components. The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTI C	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100



**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## **COURSE OUTCOMES**

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

<b>NO.</b>	<b>COURSE OUTCOMES</b>	<b>KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)</b>	<b>PSOs ADDRESSED</b>
CO 1	Describe the techniques in enzymes production and its application	K1	PSO3& PSO5
CO 2	Infer the process distilled alcoholic beverages	K4	PSO3& PSO5
CO 3	Classify the types of food additives of microorganism origin	K2	PSO5
CO 4	Compute the concept of transgenic plants and its application in food industry	K3	PSO5
CO 5	Interpret genetically modified foods and its application in food industry	K4	PSO5

## **Mapping of COs with PSOs**

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	3	1	3	1	1	1	1	1	1	1
CO2	1	1	3	1	3	1	1	1	1	1	1	1
CO3	1	1	3	1	3	1	1	1	1	1	1	1
CO4	1	1	3	1	3	1	1	1	1	1	1	1
CO5	1	1	3	1	3	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	
CO2	1	1	1	1	1	1	1	1	1	1	1	
CO3	1	1	1	1	1	1	1	1	1	1	1	
CO4	1	1	1	1	1	1	1	1	1	1	1	
CO5	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	3	3	3	1
CO2	3	3	3	1
CO3	3	3	3	1
CO4	3	3	3	1
CO5	3	3	3	1

**Note:** ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2 ♦  
Weakly Correlated -1

**COURSE DESIGNER:**  
**Mrs.J. JosephineJesintha**

**Forwarded By**

*Harshita E. Rao*

**III B.Sc. Home Science with Food Biotechnology**  
**SEMESTER –V**

*For those who joined in 2019 onwards*

**NEW**

**10%**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N5ME2	Food Biotechnology	Lecture	5	5

**COURSE DESCRIPTION**

The course offers knowledge on the scope, importance and the basic aspects of biotechnology relating to foods

**COURSE OBJECTIVES**

- To enlighten the students on role of enzymes in food industries.
- To create awareness on biotechnological aspects of food additives
- To gain knowledge in plant and animal biotechnology

## UNITS

### UNIT –I ENZYMES (15HRS.)

Definition, Properties of enzymes, Microorganisms producing enzymes, Methods of enzyme production, **Self study : Enzymes produced -  $\alpha$ -amylases, lipases, proteases, Use of enzymes in food industry – Proteases, glucose oxidase, catalase, lactase.**

### UNIT –II ENZYMES IN FRUIT JUICES AND BREWING INDUSTRY (15 HRS.)

Enzymes used in the production of fruit juices, beer and distilled alcoholic drinks, processing steps of wine and beer.

### UNIT –III FOOD ADDITIVES (15HRS.)

Organic acids – Production of citric acid, acetic acid, lactic acid

Sweeteners – Production of HFCS and glucose syrup

Microbial colour, Microbial flavours

Modification of starch and Oilseeds

### UNIT –IV FOOD AND PLANT, ANIMAL BIOTECHNOLOGY (15HRS.)

Application of Plant and Animal Biotechnology in the Food industry.

Regulations and Oversight of Biotechnology

Fruits and Vegetables, Milled Corn Product and Milled Soy Products,

Golden rice, Vegetable oil.

Fish, Meat, Milk and Milk products

### UNIT –V **GENETICALLY MODIFIED FOODS** 10% (15HRS.)

Basic concepts of DNA structure, definition of Genetically modified foods, types and techniques of Genetically modified foods, health and safety concerns of Genetically modified foods for human consumption

Advantages and disadvantages of Genetically modified foods

Ethical issues of Genetically modified foods

## REFERENCES:

6. Dubey, R.C.( 1996) *A textbook of Biotechnology*, S. Chand and Company Ltd., New Delhi

7. Gupta, K. (1995). *Elements of Biotechnology*, Rastogi Publications, Meerut.
8. Sriram Sridhar. (2005) *Enzyme Biotechnology*, Dominant Publishers and Distributors, New Delhi
9. Rita Singh. (2004) *Food Biotechnology*, Global Vision Publishing House, Delhi.
10. Trevor Palmer. (2004). *Enzymes: Biochemistry, Biotechnology and Clinical chemistry*; Affiliated East West Press Pvt Ltd., New Delhi.

#### OPEN EDUCATIONAL REFERNCES:

8. <http://www.businessdictionary.com/definition/food-biotechnology.html>
9. [HTTP://WWW.MROOTHERY.CO.UK/GENETECH/GENETECHNOTES.HTM](http://www.mrothery.co.uk/genetech/genetechnotes.htm)
10. [HTTP://WWW.WPI.EDU/pUBS/e-PROJECT/aVAILABLE/e-PROJECT-031405-135846/UNRESTRICTED/iqp.PDF](http://www.wpi.edu/pubs/e-project/available/e-project-031405-135846/unrestricted/iqp.pdf)
11. [HTTP://OER.FUNAI.EDU.NG/WP-CONTENT/UPLOADS/2017/10/btg-307-fOOD-bIOTECHNOLOGY-i-dEFINITION-AND-sCOPE-OF-fOOD-bIOTECHNOLOGY-bY-dR.-fRIDAY-nWALO.PPT](http://oer.funai.edu.ng/wp-content/uploads/2017/10/btg-307-food-biotechnology-i-definition-and-scope-of-food-biotechnology-by-dr-friday-nwalo.ppt)
12. [HTTPS://WWW.NCBI.NLM.NIH.GOV/BOOKS/nbk235032/](https://www.ncbi.nlm.nih.gov/books/nbk235032/)
13. [HTTPS://ACTASCIENTIFIC.COM/asag/PDF/asag-03-0438.PDF](https://actascientific.com/asag/pdf/asag-03-0438.pdf)
14. [HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/312875936\\_applications\\_of\\_food\\_biotechnology](https://www.researchgate.net/publication/312875936_applications_of_food_biotechnology)

#### COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT -1</b>		<b>ENZYMES</b>		
1.1	Enzymes – Definition, Properties of enzymes	2	Chalk & Talk	Black Board
1.2	Microorganisms producing enzymes	2	Chalk & Talk	LCD
1.3	Methods of enzyme production	4	Lecture	PPT & White board

1.4	Enzymes produced - $\alpha$ -amylases, lipases, proteases,.	3	Lecture	Smart Board
1.5	Use of enzymes in food industry – Proteases, glucose oxidase, catalase, lactase	4	Lecture	Black Board
<b>UNIT -2 ENZYMES IN FRUIT JUICES AND BREWING INDUSTRY</b>				
2.1	Enzymes used in the production of fruit juices	3	Lecture	Black Board
2.2	Enzymes used in the production of beer and distilled alcoholic drinks	4	Chalk & Talk	LCD
2.3	processing steps of wine	4	Lecture	PPT & White board
2.4	processing steps of beer.	4	Lecture	Smart Board
<b>UNIT -3FOOD ADDITIVES</b>				
3.1	Organic acids – Production of citric acid, acetic acid, lactic acid	4	Lecture	Black Board
3.2	Sweeteners – Production of HFCS and glucose syrup	4	Lecture	PPT & White board
3.3	Microbial colour	2	Lecture	Smart Board
3.4	Microbial flavours	3	Chalk & Talk	LCD
3.5	Modification of starch and Oilseeds	2	Lecture	PPT & White board

<b>UNIT -4 FOOD AND PLANT,ANIMAL BIOTECHNOLOGY</b>				
4.1	Application of Plant and animal Biotechnology in Food industry	2	Lecture	PPT &White board

4.2	Regulation and oversight of biotechnology	3	Chalk & Talk	LCD
4.3	Fruits and Vegetables	3	Chalk & Talk	LCD
4.4	Milled Soy Products, Milled Corn Products	2	Lecture	Black Board
4.5	Golden rice, Vegetable oil	3	Lecture	PPT & White board
4.6	Meat, Fish, Milk and Milk products	2	Lecture	PPT & White board
<b>UNIT -5 GENETICALLY MODIFIED FOODS</b>				
5.1	Basic concepts of DNA structure	2	Lecture	PPT & White board
5.2	Definition of Genetically modified foods	1	Lecture	PPT & White board
5.3	types and techniques of Genetically modified foods	3	Chalk & Talk	LCD
5.4	Health and safety concerns of Genetically modified foods for human consumption	3		
5.5	Advantages and disadvantages of genetically modified foods	2	Chalk & Talk	LCD
5.6	Ethical issues of Genetically modified foods	4	Lecture	Black Board

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assessment
	T1	T2	Quiz	Assignment	OBT/PT				

	10 Mk s.	10 Mk s.	5 Mk s.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mk s.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Scholast ic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components. The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTI C	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz



**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## **COURSE OUTCOMES**

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

<b>NO.</b>	<b>COURSE OUTCOMES</b>	<b>KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)</b>	<b>PSOs ADDRESSED</b>
CO 1	Describe the techniques in enzymes production and its application	K1	PSO3& PSO5
CO 2	Infer the process distilled alcoholic beverages	K4	PSO3& PSO5
CO 3	Classify the types of food additives of microorganism origin	K2	PSO5
CO 4	Compute the concept of transgenic plants and its application in food industry	K3	PSO5
CO 5	Interpret genetically modified foods and its application in food industry	K4	PSO5

## **Mapping of COs with PSOs**

<b>CO/ PSO</b>	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO 6</b>	<b>PSO 7</b>	<b>PSO 8</b>	<b>PSO 9</b>	<b>PSO 10</b>	<b>PSO 11</b>	<b>PSO 12</b>
<b>CO1</b>	1	1	3	1	3	1	1	1	1	1	1	1
<b>CO2</b>	1	1	3	1	3	1	1	1	1	1	1	1

<b>CO3</b>	1	1	3	1	3	1	1	1	1	1	1	1
<b>CO4</b>	1	1	3	1	3	1	1	1	1	1	1	1
<b>CO5</b>	1	1	3	1	3	1	1	1	1	1	1	1
<b>CO/ PSO</b>	<b>PSO 13</b>	<b>PSO 14</b>	<b>PSO 15</b>	<b>PSO 16</b>	<b>PSO 17</b>	<b>PSO 18</b>	<b>PSO 19</b>	<b>PSO 20</b>	<b>PSO 21</b>	<b>PSO 22</b>	<b>PSO 23</b>	
<b>CO1</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO2</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO3</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO4</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO5</b>	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>CO1</b>	3	3	3	1
<b>CO2</b>	3	3	3	1
<b>CO3</b>	3	3	3	1
<b>CO4</b>	3	3	3	1
<b>CO5</b>	3	3	3	1

**Note:** ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2 ♦  
Weakly Correlated -1

**COURSE DESIGNER:**  
**Mrs.J. JosephineJesintha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**OLD**

**III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY  
SEMESTER –V**

*For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N5SB3	Entrepreneurial Skills – Baking, Food Preservation and Adulteration	Lecture / Practical	2	2

**COURSE DESCRIPTION**

This course gives hands-on training in the preparation, display of various baked, preserved food products and identification of adulterants in commercially available foods.

**COURSE OBJECTIVES**

- To understand the principles of baking of various bakery products
- To understand the principles of food preservation and preparation of preserved foods.
- To develop skills for setting up a production unit.

**UNITS**

**UNIT –I INTRODUCTION TO BAKERY AND BAKERY  
TECHNIQUES**

**(6HRS.)**

Introduction to Bakery, Baking Techniques – Bread, Cake, Biscuits & Cookies

**UNIT –II FOOD PRESERVATION**

**(6 HRS.)**

Introduction, Classification and use of preservatives

**UNIT –III METHODS OF FOOD PRESERVATION**

**(6 HRS.)**

Methods of Food preservation, Preparation of Jam, Jelly, Squash, Tummyfrutti.

**UNIT –IV FOOD ADULTERATION**

**(6 HRS.)**

Self-study -Types of Adulterants, Methods of Adulteration and Identification of Adulterants.

**UNIT –V FOOD ADDITIVES**

**(6 HRS.)**

Additives – Functions, Uses, Importance, Antioxidants, Coloring matter, Emulsifying agent and Stabilizers

**REFERENCES:**

**TEXTBOOK:**

1. Dearosier. N.N(1975). *The Technology of Food Preservation*.

**REFERENCE BOOKS:**

1. Lai G. Sideleappa G.B. (1987), *Preservation of Fruits and Vegetables* ICAR, New Delhi.
2. Parvinder S. Bali (2009). *Food Production Operations*, Oxford University Press, New Delhi.
3. Srilakshmi. B, (2008), *Food science*, New age international publishers.
4. Sudesh Jood&Neelani (2002) *Food Preservation*.
5. Thangam E. Philip, (1981). *Modern Cookery*, Vol I, Orient Longman, Mumbai.

● **OPEN EDUCATIONAL RESOURCES**

1. <https://www.onlinebiologynotes.com/food-preservation-from-microbial-spoilage-principle-and-methods/>
2. <https://www.cliffsnotes.com/study-guides/biology/microbiology/food-microbiology/food-preservation>
3. <https://www.intechopen.com/books/food-additives/introductory-chapter-introduction-to-food-additives>

4. <https://gcwgandhinagar.com/econtent/document/1589361321Unit%20V%20Food%20adulteration.pdf>
5. <http://www.ihmfaridabad.com/study-material/sem3-fsq-unit7.pdf>

### **COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT -1 INTRODUCTION TO BAKERY AND BAKERY TECHNIQUES</b>				
1.1	Introduction to Bakery	2	Chalk & Talk	Black Board
1.2	Baking Techniques – Bread, Cake, Biscuits & Cookies	4	Demonstration, Hands on Training	Lab
<b>UNIT -2 FOOD PRESERVATION</b>				
2.1	Introduction	1	Lecture	Black Board
2.2	Classification of preservatives	2	Chalk & Talk	LCD
2.3	Uses of preservatives	2	Lecture	Black Board
<b>UNIT -3 METHODS OF FOOD PRESERVATION</b>				
3.1	Methods of Food preservation	2	Chalk & Talk	Black Board
3.2	Preparation of Jam, Jelly, Squash, Tuttyfrutti, Marmalade, Vathal, Vadagam	4	Hands on Training	Lab

<b>UNIT -4 FOOD ADULTERATION</b>				
4.1	Types of Adulterants	2	Chalk & Talk	Black Board
4.2	Methods of Adulteration	2	Lecture	LCD
4.3	Procedure for identifying adulterants in foods	2	Demonstration, Hands on Training	Lab
<b>UNIT -5 FOOD ADDITIVES</b>				
5.1	Additives – functions, uses, importance antioxidants, coloring matter,	3	Chalk & Talk	Black Board
5.2	emulsifying agent and stabilizers.	3	Lecture	LCD

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
evels	T1	T2	Quiz	Assignm ent	OBT/PPT			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5

Total	10	10	5	5	5	35	5	40
-------	----	----	---	---	---	----	---	----

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:

**K1**- Remember, **K2**-Understand, **K3**-Apply, **K4**-Analyse

#### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the terminology in baking, adulteration and preservation.	K1	PSO3
CO 2	Apply the principles of food preservation	K3	PSO3
CO 3	Choose the method of food preservation.	K3	PSO3
CO 4	Examine the adulterants in foods	K4	PSO3
CO 5	Classify the food additives	K2, K4	PSO3

## Mapping of COs with PSOs

[illegible]



<b>C04</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>C05</b>	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
<b>C01</b>	2	2	2	3
<b>C02</b>	2	2	2	3
<b>C03</b>	2	2	2	3
<b>C04</b>	2	2	2	3
<b>C05</b>	2	2	2	3

**Note:** ♦ Strongly Correlated – **3** ♦ Moderately Correlated – **2** ♦  
Weakly Correlated -**1**

#### COURSE DESIGNER:

**1. Mrs.J.JosephineJesintha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**NEW**

**III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY  
SEMESTER –V**

*For those who joined in 2019 onwards*

**40%**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	22N5SB3	Entrepreneurial Skills – Bakery, Food Preservation and Adulteration	Lecture / Practical	2	2

**COURSE DESCRIPTION**

This course gives hands-on training in the preparation, display of various baked, preserved food products and identification of adulterants in commercially available foods.

**COURSE OBJECTIVES**

- To understand the principles of baking of various bakery products
- To understand the principles of food preservation and preparation of preserved foods.
- To develop skills for setting up a production unit.

**UNITS**

**UNIT –I INTRODUCTION TO BAKERY AND BAKERY**

**TECHNIQUES**

**(6HRS.)**

Introduction to Bakery, Baking Techniques – Bread, Cake, Biscuits & Cookies

**UNIT –II FOOD PRESERVATION**

**(6 HRS.)**

Introduction, Classification and use of preservatives

### **UNIT –III METHODS OF FOOD PRESERVATION**

**(6 HRS.)**

Methods of Food preservation, Preparation of Jam, Jelly, Squash, Tutti-frutti, Marmalade, Vathal, Vadagam.

### **UNIT –IV FOOD ADULTERATION**

**(6 HRS.)**

Types, methods and identification of Adulterants.

### **UNIT –V FOOD ADDITIVES**

**(6 HRS.)**

Additives – Functions, Uses, Importance, Antioxidants, Coloring matter, Emulsifying agent and Stabilizers

### **REFERENCES:**

#### **TEXTBOOK:**

1. Dearosier. N.N(1975). *The Technology of Food Preservation*.

#### **REFERENCE BOOKS:**

1. Lai G. Sideleappa G.B. (1987), *Preservation of Fruits and Vegetables* ICAR, New Delhi.
2. Parvinder S. Bali (2009). *Food Production Operations*, Oxford University Press, New Delhi.
3. Srilakshmi. B, (2008), *Food science*, New age international publishers.
4. Sudesh Jood&Neelani (2002) *Food Preservation*.
5. Thangam E. Philip, (1981). *Modern Cookery*, Vol I, Orient Longman, Mumbai.

#### **• OPEN EDUCATIONAL RESOURCES**

1. <https://www.onlinebiologynotes.com/food-preservation-from-microbial-spoilage-principle-and-methods/>
2. <https://www.cliffsnotes.com/study-guides/biology/microbiology/food-microbiology/food-preservation>
3. <https://www.intechopen.com/books/food-additives/introductory-chapter-introduction-to-food-additives>
4. <https://gcwgandhinagar.com/econtent/document/1589361321Unit%20V%20Food%20adulteration.pdf>
5. <http://www.ihmfaridabad.com/study-material/sem3-fsq-unit7.pdf>

### **COURSE CONTENTS & LECTURE SCHEDULE:**

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT -1 INTRODUCTION TO BAKERY AND BAKERY TECHNIQUES</b>				
1.1	Introduction to Bakery	2	Chalk & Talk	Black Board
1.2	Baking Techniques – Bread, Cake, Biscuits & Cookies	4	Demonstration, Hands on Training	Lab
<b>UNIT -2 FOOD PRESERVATION</b>				
2.1	Introduction	1	Lecture	Black Board
2.2	Classification of preservatives	2	Chalk & Talk	LCD
2.3	Uses of preservatives	2	Lecture	Black Board
<b>UNIT -3 METHODS OF FOOD PRESERVATION</b>				
3.1	Methods of Food preservation	2	Chalk & Talk	Black Board
3.2	Preparation of Jam, Jelly, Squash, Tuttyfrutti, Marmalade, Vathal, Vadagam	4	Hands on Training	Lab
<b>UNIT -4 FOOD ADULTERATION</b>				
4.1	Types of Adulterants	2	Chalk & Talk	Black Board
4.2	Methods of Adulteration	2	Lecture	LCD
4.3	Procedure for identifying adulterants in	2	Demonstration, Hands on Training	Lab

	foods			
<b>UNIT -5 FOOD ADDITIVES</b>				
5.1	Additives – functions, uses, importance antioxidants, coloring matter,	3	Chalk & Talk	Black Board
5.2	emulsifying agent and stabilizers.	3	Lecture	LCD

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
evels	T1	T2	Quiz	Assignm ent	OBT/PPT			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

### **EVALUATION PATTERN**

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### **COURSE OUTCOMES**

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the terminology in baking, adulteration and preservation.	K1	PSO3
CO 2	Apply the principles of food preservation	K3	PSO3

CO 3	Choose the method of food preservation.	K3	PSO3
CO 4	Examine the adulterants in foods	K4	PSO3
CO 5	Classify the food additives	K2, K4	PSO3

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	3	1	1	1	1	1	1	1	1	1
CO2	1	1	3	1	1	1	1	1	1	1	1	1
CO3	1	1	3	1	1	1	1	1	1	1	1	1
CO4	1	1	3	1	1	1	1	1	1	1	1	1
CO5	1	1	3	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	
CO2	1	1	1	1	1	1	1	1	1	1	1	
CO3	1	1	1	1	1	1	1	1	1	1	1	
CO4	1	1	1	1	1	1	1	1	1	1	1	
CO5	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	2	2	2	3
CO2	2	2	2	3
CO3	2	2	2	3
CO4	2	2	2	3
CO5	2	2	2	3

**Note:** ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2 ♦ Weakly Correlated -1

**COURSE DESIGNER:**

**1. Mrs.J.JosephineJesintha**

**Forwarded By**

A handwritten signature in black ink, appearing to read 'Vasantha E Rani', written in a cursive style.

(Dr.Vasantha Esther Rani)



**III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY  
SEMESTER –V**

**For those who joined in 2019 onwards**

<b>PROGRAMME CODE</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CATEGORY</b>	<b>HRS/WEEK</b>	<b>CREDITS</b>
<b>UAHS</b>	<b>19N5SB4</b>	<b>Entrepreneurial Skills – Participatory Rural appraisal</b>	<b>Lecture</b>	<b>2</b>	<b>2</b>

**COURSE DESCRIPTION**

This course enlightens the students on concept of participatory rural appraisal.

**COURSE OBJECTIVES**

- To enable the students to understand the concept of participatory
  - rural appraisal.
- To develop knowledge on tools of participatory rural appraisal.
- To impart knowledge on different types of mapping.
- To train students to prepare project appraisal.
- To apply different resources in mapping.

**UNITS**

<b>UNIT – I</b>	<b>INTRODUCTION TO PRA</b>	<b>[6 HRS]</b>
-----------------	----------------------------	----------------

PRA- Introduction, Meaning, Importance, History and nature of Participatory Appraisal and Planning

**UNIT – II PRINCIPLES AND MENU OF METHODS [6 HRS]**

Application of PRA in Rural Setting – Principles of PRA - Tools of PRA: Timeline, Trend change, Seasonal calendar, Daily routine

**UNIT – III MAPPING AND MODELLING [6 HRS]**

Self- study -Mapping – Social and Resource mapping

**UNIT – IV RANKING METHODS [6 HRS]**

Concept of wealth, health, Pair wise and Matrix Ranking

**UNIT – V PROJECT FORMULATION [6 HRS]**

Focus Group Discussion, Income and Expenditure Matrix, Problem Analysis and Project Formulation.

REFERENCES:

**TEXTBOOK:**

1. Narayanasamy.N,(2009). Participatory Rural Appraisal: Principles, Methods And Application, SAGE Publications Ltd.

**REFERENCE BOOKS:**

1. Neelamukherjee (1997). Participatory Rural Appraisal volume I of studies in rural participation, concept publishing company, New Delhi.
2. Stringer, E.T.(2007). Action research (3rd ed). Thousand oaks, A: Sage Publications Ltd.

**OPEN EDUCATIONAL RESOURCES:**

1. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=15475>
2. <http://www.slideshare.net/pria87/Ranking-Methods>
3. <http://www.nzdl.org/cgi-bin/library?e=d-00000-00---off-0cdl--00-0---0-10-0---0---0direct-10---4-----0-11--11-en-50---20-about---00-0-1-00-0--4---0-0-11-10-0utfZz-800&cl=CL2.6&d=HASH01fd3098cbe6ad79c6ae84c1.5.4&gt=1>

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT 1 – INTRODUCTION TO PRA</b>				
1.1	Introduction, meaning, importance	2	Chalk and talk	Black Board
1.2	History and nature of Participatory Appraisal and planning	4	Chalk and talk	LCD
<b>UNIT -2 PRINCIPLES AND MENU OF METHODS</b>				
2.1	Application of PRA in Rural setting, principles of PRA	2	Lecture	LCD
2.2	Tools of PRA- Timeline, trend change, seasonal calendar, daily routine	4	Chalk and talk	LCD
<b>UNIT -3 MAPPING AND MODELLING</b>				
3.1	Self -study and mapping	2	Chalk and talk	Black board
3.2	Social and Resource Mapping	4	Lecture	LCD
<b>UNIT -4 RANKING METHODS</b>				
4.1	Concept of health, wealth	2	Lecture	LCD
4.2	Pairwise and Matrix ranking	4	Chalk and talk	LCD
<b>UNIT -5 PROJECT FORMULATION</b>				
5.1	Focus group Discussion, Income and Expenditure Matrix	3	Lecture	LCD
5.2	Problem analysis and Project formulation	3	Chalk and talk	LCD

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
	T1  10 Mks.	T2  10 Mks.	Quiz  5 Mks.	Assignment  5 Mks	OBT/PP T  5 Mks	35 Mks.	5 Mks.	40Mks .
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components. The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1**- Remember, **K2**-Understand, **K3**-Apply, **K4**-Analyse

#### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define PRA and its principles	K1	PSO23
CO 2	Describe the application of PRA.	K2	PSO23
CO 3	List the types and techniques of mapping.	K1	PSO23
CO 4	Plan participatory research method in the field	K3, K4	PSO23
CO 5	Identify the rural problems and plan projects.	K3	PSO23

## Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	3	3	
CO2	1	1	1	1	1	1	1	1	1	3	3	
CO3	1	1	1	1	1	1	1	1	1	3	3	

<b>C04</b>	1	1	1	1	1	1	1	1	1	3	3	
<b>C05</b>	1	1	1	1	1	1	1	1	1	3	3	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
<b>C01</b>	1	1	1	1
<b>C02</b>	1	2	1	1
<b>C03</b>	1	1	1	1
<b>C04</b>	1	1	1	3
<b>C05</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – 3  
♦ Weakly Correlated -1

♦ Moderately Correlated – 2

**COURSE DESIGNER:**  
**Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

### III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY

NEW

20%

#### SEMESTER –V

For those who joined in 2019 onwards

PROGRAMM E CODE	COURSE CODE	COURSE TITLE	CATEGOR Y	HRS/WEE K	CREDIT S
<b>UAHS</b>		<b>Entrepreneurial</b>			

	<b>19N5SB4</b>	<b>Skills – Participatory Rural appraisal</b>	<b>Lecture</b>	<b>2</b>	<b>2</b>
--	----------------	---	----------------	----------	----------

## COURSE DESCRIPTION

This course enlightens the students on concept of participatory rural appraisal.

## COURSE OBJECTIVES

- To enable the students to understand the concept of participatory rural appraisal.
- To develop knowledge on tools of participatory rural appraisal.
- To impart knowledge on different types of mapping.
- To train students to prepare project appraisal.
- To apply different resources in mapping.

## UNITS

<b>UNIT – I</b>	<b>INTRODUCTION TO PRA</b>	<b>[6 HRS]</b>
-----------------	----------------------------	----------------

PRA- Introduction, Meaning, Importance, History and nature of Participatory Appraisal and Planning

## UNIT – II PRINCIPLES AND TYPES OF MENU [6 HRS] 10%

Application of PRA in Rural Setting – Principles of PRA - Tools of PRA: Timeline, Trend change, Seasonal calendar, Daily routine

## UNIT – III MAPPING AND MODELLING [6 HRS]

Self- study -Mapping – Social and Resource mapping

## UNIT – IV RANKING METHODS [6 HRS]

Concept of wealth, health, Pair wise and Matrix Ranking

## UNIT – V PROJECT FORMULATION 10% [6 HRS]

Focus Group Discussion, Income and Expenditure Matrix, Problem Analysis and Project Formulation, Reports and Documentation.

## REFERENCES:

## TEXTBOOK:

1. Narayanasamy.N,(2009). Participatory Rural Appraisal: Principles, Methods And Application, SAGE Publications Ltd.

## REFERENCE BOOKS:

3. Neelamukherjee (1997). Participatory Rural Appraisal volume I of studies in rural participation, concept publishing company, New Delhi.
4. Stringer, E.T.(2007). Action research (3rd ed). Thousand oaks, A: Sage Publications Ltd.

## OPEN EDUCATIONAL RESOURCES:

4. 1.<http://ecoursesonline.iasri.res.in/mod/page/view.php?id=15475>
5. 2.<http://www.slideshare.net/pria87/Ranking-Methods>
6. 3.<http://www.nzdl.org/cgi-bin/library?e=d-00000-00---off-0cd1--00-0---0-10-0---0---0direct-10---4-----0-11--11-en-50---20-about---00-0-1-00-0--4---0-0-11-10-0utfZz-800&cl=CL2.6&d=HASH01fd3098cbe6ad79c6ae84c1.5.4&gt=1>

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT 1 – INTRODUCTION TO PRA</b>				
1.1	Introduction, meaning, importance	2	Chalk and talk	Black Board
1.2	History and nature of Participatory Appraisal and planning	4	Chalk and talk	LCD
<b>UNIT -2 PRINCIPLES AND MENU OF METHODS</b>				
2.1	Application of PRA in Rural setting, principles of PRA	2	Lecture	LCD
2.2	Tools of PRA- Timeline, trend change, seasonal calendar, daily routine	4	Chalk and talk	LCD
<b>UNIT -3 MAPPING AND MODELLING</b>				
3.1	Self -study and mapping	2	Chalk and talk	Black board
3.2	Social and Resource Mapping	4	Lecture	LCD
<b>UNIT -4 RANKING METHODS</b>				
4.1	Concept of health, wealth	2	Lecture	LCD
4.2	Pairwise and Matrix ranking	4	Chalk and talk	LCD
<b>UNIT -5 PROJECT FORMULATION</b>				
5.1	Focus group Discussion, Income and Expenditure Matrix	3	Lecture	LCD
5.2	Problem analysis and Project formulation	3	Chalk and talk	LCD

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks	CIA Total
--------	----	----	----	----	----	------------------------	----------------------	-----------

							C6	
	T1	T2	Quiz	Assignment	OBT/PP T			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks .
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components. The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1**- Remember, **K2**-Understand, **K3**-Apply, **K4**-Analyse

#### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

#### COURSE OUTCOMES

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



NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define PRA and its principles	K1	PSO23
CO 2	Describe the application of PRA.	K2	PSO23
CO 3	List the types and techniques of mapping.	K1	PSO23
CO 4	Plan participatory research method in the field	K3, K4	PSO23
CO 5	Identify the rural problems and plan projects.	K3	PSO23

#### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	3	3	
CO2	1	1	1	1	1	1	1	1	1	3	3	
CO3	1	1	1	1	1	1	1	1	1	3	3	
CO4	1	1	1	1	1	1	1	1	1	3	3	
CO5	1	1	1	1	1	1	1	1	1	3	3	

#### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
---------	-----	-----	-----	-----

<b>C01</b>	1	1	1	1
<b>C02</b>	1	2	1	1
<b>C03</b>	1	1	1	1
<b>C04</b>	1	1	1	3
<b>C05</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – **3**  
 ♦ Weakly Correlated -**1**

♦ Moderately Correlated – **2**

**COURSE DESIGNER:**  
**Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY **OLD**  
 SEMESTER –V

For those who joined in 2019 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N5CC15	Family Resource Management	Lecture	6	4

**COURSE DESCRIPTION**

This course elicit knowledge on all aspects of housing and application of art in home.

**COURSE OBJECTIVES**

- Gain basic knowledge of art principles and gain skills in their application in the home.
- Understand basics of house planning.

Understand the housing problems and social effects of housing in India.

- Gain basic knowledge of principles of maintenance of house.

#### UNITS

UNIT – I	ART IN HOME	(15 HRS)
----------	-------------	----------

Design-Meaning, Types, Characteristics

Elements of Design – Line, Shape, Form, Colour, Size etc

UNIT – II	PRINCIPLES OF DESIGN	(15 HRS)
-----------	----------------------	----------

Principles of Design – Harmony, Balance, Proportion, Rhythm, Emphasis

Colour – Prang colour system, Classes of colour, Colour harmony-related & contrast.

UNIT – III	TRENDS IN INTERIOR DESIGN	(20 HRS)
------------	---------------------------	----------

Furniture – Selection, use and care, furniture arrangement in various rooms.

Accessories – Selection, use and care, Flower Arrangement – Types – Basic principles

Lighting – Requirements of good lighting, types – based on reflection and purpose-Natural and Artificial lightning.

UNIT – IV	HOUSING AND ENVIRONMENT	(20 HRS)
-----------	-------------------------	----------

Functions of house, selection of site, Principles of planning, Interior and exterior finishes – Wall, Floor and Ceiling, Landscape gardening – meaning, basic principles and units, Desirability of owning Vs renting a house.

UNIT – V	HOUSING DEVELOPMENT IN INDIA	(20HRS)
----------	------------------------------	---------

Housing shortage in India, causes of housing problems in India, Role of Tamil Nadu Housing Board & NBO in Housing Development

Self- study– Daily, weekly, periodical cleaning of house, Domestic pests and measures. Purification of water – household & large scale.

Waste management-solid waste-burning, dumping and composting.

#### REFERENCES:

#### TEXTBOOK:

17. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.

#### REFERENCE BOOKS:

##### REFERENCES

18. Bettar and Lockarty (1961), *Design for you*, Jotiss Wiley & Sons, Inc., New York.
19. Faulkner, R & Faulkner. S (1960). *Inside Today's Home*, Rinc Hart and Winston Inc. New York,
20. Goldstein H. & Goldstein V.( 1978). *Art in Everyday life*, The Macmillan Company, New York,
21. Gross I.H, Grandall E.W, & Knoll H.M. (1975) *Management for modern families*
22. Mullick.P.(2007) *Text Book of Home Science*, Kalyani Publishers, Ludhiyana.
23. Nickell & Dorsey, J.N (1976). *Management in Family Living*, Indian Edition,

24. Rutt, A.H.,(1967). *Home Furnishings* Wiley Easterns Private Ltd., New Delhi.

OPEN EDUCATION RESOURCE:

11. <https://www.homesandgardens.com/news/7-elements-of-design>
12. <https://www.hatchdesign.ca/principles-of-interior-design-part-1-balance/>
13. <https://hmhub.me/accessories-interior-decoration/>
14. <https://designingidea.com/types-of-flooring-materials-for-interior-design/>
15. <https://homedesignlover.com/interior-design/choosing-flooring-materials/>

<https://happho.com/different-materials-used-flooring/>

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT 1 ART IN HOME</b>				
1.1	Introduction	1	Chalk & Talk	LCD
1.2	Design – Meaning, Types, Characteristics	4	Chalk & Talk	Black Board
1.3	Elements of Design – Line, Shape, Form	3	Lecture	PPT & White board
1.4	Elements of Design –Colour, Size	3	Lecture	Smart Board
1.5	Elements of Design – Light and Space, Pattern	4	Lecture	Black Board
<b>UNIT -2 PRINCIPLES OF DESIGN</b>				
2.1	Principles of Design – Harmony, Balance	3	Lecture	LCD
2.2	Principles of Design – Proportion, Rhythm, Emphasis	3	Chalk & Talk	LCD
2.3	Colour – Prang colour system	3	Lecture	PPT & White board
2.4	Classes of colour	3	Discussion	PPT
2.5	Colour harmony – related & contrast	3	Lecture	Black board
<b>UNIT -3 TRENDS IN INTERIOR DESIGN</b>				
3.1	Furniture – Selection, use and care, Furniture arrangement in various rooms	4	Lecture	Black board
3.2	Accessories – Selection, use and care	4	Chalk & Talk	LCD
3.3	Flower arrangement – Types – Basic principles	5	Demonstration, Hands on Experience	Black board
3.4	Lighting – Requirements of good lighting	3	Lecture	PPT & White board

3.5	Lighting – Types – Based on reflection and purpose	4	Discussion	PPT & White board
UNIT -4 HOUSING AND ITS ENVIRONMENT				
4.1	Functions of house	2	Lecture	LCD
4.2	Selection of site	2	Chalk & Talk	LCD
4.3	Principles of planning	4	Lecture	PPT & White board
4.4	Interior and exterior finishes – Wall, Floor, and Ceiling	5	Lecture	PPT & White board
4.5	Landscape gardening – meaning, basic principles and units	4	Chalk & Talk	LCD
4.6	Desirability of owning Vs renting a house	3	Lecture	Black Board
UNIT -5 HOUSING DEVELOPMENT IN INDIA				
5.1	Housing shortage in India, causes of housing problems in India	3	Lecture	LCD
5.2	Role of Tamil Nadu Housing Board & NBO in Housing Development	3	Chalk & Talk	LCD
5.3	Daily, weekly, periodical cleaning of house	3	Discussion	Black Board
5.4	Domestic pest and measures	3	Discussion	Black Board
5.5	Purification of water – household & large scale	4	Discussion	Black Board
5.6	Waste management – solid waste – burning, dumping and composting	4	Lecture	PPT

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
Levels	T1	T2	Quiz	Assignment	OBT/PPT			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11

Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

K1- Remember, K2-Understand, K3-Apply, K4-Analyse

EVALUATION PATTERN

SCHOLASTIC					NON – SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3**– Quiz

**C4** – Assignment

**C5** –OBT/PPT

**C6** – Non – Scholastic

#### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Classify the types, elements of design.	K2,K4	PSO17
CO 2	Explain the principles of design, and its application in interiors.	K1, K2	PSO17
CO 3	Construct house plan and landscaping.	K3,K4	PSO17
CO 4	Describe the housing problems and remedies.	K2	PSO17
CO 5	Build skills in interior designing.	K3, K4	PSO17

#### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO1 0	PSO1 1	PSO1 2
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/	PSO	PSO	PSO	PSO	PSO	PSO	PSO	PSO	PSO	PSO2	PSO2	

PSO	13	14	15	16	17	18	19	20	21	2	3	
CO1	1	1	1	1	3	1	1	1	1	1	1	
CO2	1	1	1	1		3	1	1	1	1	1	
CO3	1	1	1	1	1	1	3	1	1	1	1	
CO4	1	1	1	1	1	1	1	3		1	1	
CO5	1	1	1	1	1	1	1	1	2	1	1	

#### Mapping of COs with Pos

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	2	1	1
CO3	1	1	3	1
CO4	1	1	1	1
CO5	1	1	1	1

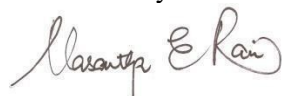
Note: ♦ Strongly Correlated – 3      ♦ Moderately Correlated – 2

♦ Weakly Correlated -1

COURSE DESIGNER:

Dr. C. Priyalatha

Forwarded By



(Dr.Vasantha Esther Rani)

III B.Sc. HOMESCIENCE WITH FOOD  
BIOTECHNOLOGY SEMESTER –VI

**NEW10%**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6CC17	Family Resource Management	Lecture	6	4

**COURSE DESCRIPTION**

This course offers knowledge on managing resources like time, money and energy. It also deals with consumerism and standard of living.

**COURSE OBJECTIVES**

- ✓ Understand the housing values and goals.
- ✓ Understand the importance of Family Resource Management in family and personal living.
- ✓ Develop ability to apply Family Resource Management concepts in living situations to improve quality of family life.
- ✓ Appreciate the role of successful financial management in satisfying family living.

**UNITS**

UNIT – I MANAGEMENT PROCESS [15  
HRS] Management- Meaning, Elements of management (planning, controlling and evaluation). Decision Making- Meaning, Steps in decision making, Types, Values, Goals, and Standards.

Self Study: Characteristics of a good home maker.

UNIT – II RESOURCES [15 HRS]



Types of resources- Human, Non-human resources  
Time and Energy Management.

Work simplification- Principles and Techniques.

Labour Saving Devices- Major and Minor, Selection, Use and Care.

UNIT – III MONEY MANAGEMENT [15 HRS] Family

income – types, sources of income, supplementing Family Income. Income management – Family Budget and its main items and steps in making budget. Engel's law of consumption, Law of Diminishing Marginal Utility, Law of Substitution, Financial Records of House, Savings.

UNIT – IV STANDARD OF LIVING [15 HRS]

Meaning, Factors affecting standard of living, reasons for low standard of living, Remedial measures to overcome low standard of living.

Self -Study: Remedial measures to overcome low standard of living.

UNIT – V CONSUMERISM [15 HRS] Self-

study -Meaning of consumer, Consumerism, Problem faced by consumers Adulteration, Faulty weights and measures, misleading advertisements. Problem of purchasing – When, Where, How, how much to buy? Types of labels, Consumer rights, consumer protection acts, consumer court, CGSI, Green Consumerism.

#### REFERENCES:

##### TEXTBOOK:

1. Gross, I.H., Crandall, E.W. & Knoll, H. M (1975) *Management for Modern Families*,

##### REFERENCE BOOKS

1. Bigelow H.P.(1953) Family finance, J.B. Lippincott Co.
2. Dewett, K.K. & Varma (1976). Elementary Economics Theory, S. Chand and Company Ltd. New Delhi,
3. Gisban, L.B., (1971) .Economics of Consumers, American book Co,
4. Gordan (1971).Economics of Consumers, American book Co,
5. Maneesh.S. (2006). Home Management and Family Finance, Dominant Publishers and Distributors, New Delhi.
6. Mullick.P., (2007) Text Book of Home Science, Kalyani Publishers, Ludhiyana.
7. Nickell & Dorsey (1976), Management in Family living, Indian Edition,
8. Swarison, V (1981). Introduction to Home Management, Mac Milan and

Co.,

9. Thankamma, J. (1965) .Food Adulteration, Mac Milan Co., New Delhi.

OPEN EDUCATIONAL RESOURCES:

1. <https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-10.pdf>

2. <https://www.investopedia.com/ask/answers/013015/what-does-law-diminishing-marginal-utility-explain.asp>

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT 1 – Management Process				
1.1	Management- Meaning Introduction	2	Chalk & Talk	Black Board
1.2	Elements of management (planning, controlling and evaluation).	3	Chalk & Talk	LCD
1.3	Decision Making: Meaning, Steps and decision making, Types	5	Lecture	PPT & White board
1.4	Values, Goals, and	4	Lecture	Smart Board
1.5	SelfStudy: Characteristics of a good home maker.	1	Discussion	Black Board

UNIT -2 Resources				
2.1	Types of resources- Human, Non-human resources	2	Lecture	LCD
2.2	Time Management	3	Chalk & Talk	LCD
2.3	Energy Management	3	Lecture	PPT & White board
2.4	Work simplification and Principles and Techniques.	5	Discussion	PPT
2.5	Labour Saving Devices-Major and Minor, Selection, use and Care.	2	Lecture	Black board
UNIT -3 Money Management				
3.1	Family income – types, sources of income, supplementing Family Income.	3	Lecture	Black board
3.2	Income management, Family Budget and its main items and steps in making budget.	4	Lecture	LCD
3.3	Engel's law of consumption	2	Chalk & Talk	LCD
3.4	Law of Diminishing Marginal Utility, Law of Substitution	3	Lecture	PPT & White board
3.5	Financial Records of House Savings	3	Discussion	PPT & White board
UNIT -4 Standard Of Living				
4.1	Introduction and meaning	1	Lecture	LCD
4.2	Factors affecting	4	Chalk &	LCD

	standard of living		Talk	
4.3	reasons for low standard of living	4	Lecture	PPT & White board
4.4	Remedial measures to overcome low standard of living	4	Chalk & Talk	LCD
4.5	Self Study: Remedial measures to overcome	2	Discussion	PPT
UNIT -5 Consumerism				
5.1	-Meaning of Consumerism	1	Lecture	LCD
5.2	Problem faced by consumers Adulteration, Faulty weights and measures,	4	Chalk & Talk	LCD
5.3	misleading advertisements . Problem of purchasing – When, Where, How,	3	Lecture	PPT & White board
5.4	Types of labels	1	Lecture	PPT & White board
5.5	Consumer rights consumer protection acts, consumer court,	4	Chalk & Talk	LCD
5.6	Consumer Guidance	2	Discussion	PPT

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
Levels	T1	T2	Quiz	Assignment	OBT/PPT			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.

K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components.

### **The levels of CIA Assessment based on Revised Bloom's Taxonomy for**

UG are :

K1- Remember, K2-Understand, K3-Apply, K4-Analyse

### **EVALUATION PATTERN**

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

C1 – Internal Test-1

C2 – Internal Test-2

C3 - Quiz

C4 – Assignment

C5 - OBT/PPT

C6 – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED <b>BLOOM'S</b> TAXONOMY)	PSOs ADDRESSED
CO 1	Describe the management process.	K1	PSO18
CO 2	Identify the human and non-human resource	K2, K3	PSO18
CO 3	Explain the financial management	K1,K2	PSO18
CO 4	Summarise the key elements of standard of living	K2, K4	PSO18
CO 5	Build the concept of consumerism.	K3, K4	PSO18

## Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO1 0	PSO1 1	PSO1 2
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO2 2	PSO2 3	
CO1	1	1	1	1	3	3	1	3	1	1	1	
CO2	1	1	1	1	3	3	1	3	1	1	1	
CO3	1	1	1	1	3	3	1	3	1	1	1	
CO4	1	1	1	1	3	3	1	3	1	1	1	
CO5	1	1	1	1	3	3	1	3	1	1	1	

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	2	1	1
CO3	1	1	3	1
CO4	1	1	1	1
CO5	1	1	1	1

Note: ♦ Strongly Correlated – 3      ♦ Moderately Correlated – 2

♦ weakly Correlated -1

COURSE DESIGNER: Dr. C. Priyalatha

Forwarded By



(Dr.Vasantha Esther Rani)



**III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY****SEMESTER –VI****OLD***For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6CC19	Clinical Nutrition and Dietetics	Lecture	5	4

**COURSE DESCRIPTION**

The course gives a detailed picture of the normal & therapeutic nutrition, highlighting the importance, recommended dietary allowance, medical nutrition therapy for various stages of life cycle and all disease conditions.

**COURSE OBJECTIVES**

- Learn the principles of meal planning, plan and prepare meals for families at different income levels and for special groups.
- Gain knowledge and develop skills and techniques in the planning and preparation of therapeutic diets for nutritional deficiencies.
- To recommend and provide appropriate nutritional care, prevention and treatment of various diseases

**UNITS****UNIT –I NUTRITION FOR DEVELOPMENTAL MILESTONES (20 HRS.)**

Meal Planning – Principles of planning meals, meal pattern and its modification to suit to different disease conditions.

1. Nutrition during pregnancy – importance – changes nutritional requirements and complication.
2. Nutrition during lactation – importance, advantages of breast feeding, need for enhanced nutritional requirements.
3. Nutrition during infancy – nutritional requirement, weaning – methods – low cost supplementary foods.

4. Nutrition for Preschoolers – nutritional requirements, inculcating feeding habits.
5. Nutrition for school children and adolescents – nutritional requirements in adolescence- nutritional problems of adolescents.
6. Geriatric nutrition – changes during old age, nutritional requirements during old age, nutrition related problems of old age.

**Self Study: Nutrition for school children and adolescents – nutritional requirements in adolescence- nutritional problems of adolescents.**

## **UNIT –II DIET THERAPY**

**(15 HRS.)**

Diet therapy – Objectives of therapeutic diets

1. Routine Hospital diet –
  - a. a.TPN b. EN
2. Modification of diets in different diseases,

Etiology /Pre-disposing factors, clinical symptoms and modification of diets for

- a. Obesity and Underweight
- b. Diabetes mellitus
- c. Febrile disease conditions – Typhoid (acute), Tuberculosis (chronic) and Malaria (intermittent).
- d. Gastrointestinal disorders – Peptic- ulcer, diarrhoea, constipation

**Self Study: Anemia – types.**

## **UNIT-III THERAPEUTIC DIETS FOR HEART, KIDNEY & LIVER DISEASES**

**(15HRS.)**

Etiology or Pre-disposing factors, clinical symptoms and modification of diets for

- a) CVD-Hypertension and Atherosclerosis.
- b) Diseases of urinary tract – Nephritis, Nephrosis, Renal failure.
- c) Diseases of the liver – Hepatitis and Cirrhosis

## **UNIT –IV DIET IN AIDS AND CANCER**

**(10 HRS.)**

Etiology of Pre-disposing factors, clinical symptoms and modification of diets for

- a) Cancer
- b) AIDS

## UNIT –V COMMUNITY NUTRITION

( 15 HRS.)

Malnutrition – etiology and measures to overcome

Assessment of nutritional status

Nutrition Education

Nutrition Intervention Programme – CMNMP, ICDS

National and International Organisations

FAO, WHO, UNICEF, CARE, CFTRI and NIN

**Self Study: Malnutrition – etiology and measures to overcome**

### REFERENCES:

1. Antia H. P (1989) *Clinical Nutrition and Dietetics* Oxford University press
2. Carroll, A. Lutz (1997) *Nutrition for Diet Therapy*, Edition – 2, F. A. Davis Company, Philadelphia.
3. Davidson S. Passmore, R. Brock J. K. & Truwell A. S.(1975) *Human Nutrition and Dietetics*, The English Language Book Society and Churchill.
4. Ghosh S (1976). *The feeding and care of Infant and Young children*
5. Gupta L. C. &. Kusium Gupta (1989). *Foods mid Nutrition, Facts and Figures*, Jayapahothas, New Delhi,
6. Passmore R. Eastwood (1986) *Human Nutrition and Dietetics*, Longman Group Ltd.,
7. Raheena Begum, A. (1989). *Textbook of food, nutrition and dietetics*, Stanley Publishers,
8. Skinner Paul (2000) *Development of a medical nutrition therapy protocol for female collegiate alhotetes*, J. AM. Diet ASS 101
9. Swaminathan M. (1988) *Advanced textbook of Food and Nutrition*, Vol. I and II, the Bangalore Printing and Publishing Co., Ltd.,
10. Williams S.R (1977). *Nutrition and Diet Therapy* C.V. Mospy CO.

### WEB REFERENCES:

1. [cnr.berkeley.edu/site/majors/nsd\\_resources.php](http://cnr.berkeley.edu/site/majors/nsd_resources.php)
2. ***journal of human nutrition and dietetics***[editor.wordpress.com/.../journal](http://editor.wordpress.com/.../journal)
3. [www.siemens.com/cardiovascular-care](http://www.siemens.com/cardiovascular-care)
4. [www.who.int/mediacentre//cardiovascular\\_diseases](http://www.who.int/mediacentre//cardiovascular_diseases)
5. [www.cdc.gov/diabetes/pubs/factsheets/kidney.htm](http://www.cdc.gov/diabetes/pubs/factsheets/kidney.htm)

**NEW****III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY****SEMESTER –VI****5%***For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6CC19	Clinical Nutrition and Dietetics	Lecture	5	4

**COURSE DESCRIPTION**

The course gives a detailed picture of the normal & therapeutic nutrition, highlighting the importance, recommended dietary allowance, medical nutrition therapy for various stages of life cycle and all disease conditions.

**COURSE OBJECTIVES**

- Learn the principles of meal planning, plan and prepare meals for families at different income levels and for special groups.
- Gain knowledge and develop skills and techniques in the planning and preparation of therapeutic diets for nutritional deficiencies.
- To recommend and provide appropriate nutritional care, prevention, and treatment of various diseases

**UNITS****UNIT –I NUTRITIONFOR DEVELOPMENTAL MILESTONES (20 HRS.)**

Meal Planning – Principles of planning meals, meal pattern and its modification to suit to different disease conditions.

1. Nutrition during pregnancy – importance – changes nutritional requirements and complication.
2. Nutrition during lactation – importance, advantages of breast feeding, need for enhanced nutritional requirements.
3. Nutrition during infancy – nutritional requirement, weaning – methods – low-cost supplementary foods.
4. Nutrition for Preschoolers – nutritional requirements, inculcating feeding habits.

5. Nutrition for school children and adolescents – nutritional requirements in adolescence- nutritional problems of adolescents.

6. Geriatric nutrition – changes during old age, nutritional requirements during old age, nutrition related problems of old age.

**Self -Study: Nutrition for school children and adolescents – nutritional requirements in adolescence- nutritional problems of adolescents.**

## **UNIT –II DIET THERAPY**

**(15 HRS.)**

Diet therapy – Objectives of therapeutic diets

1. Routine Hospital diet –

a. a.TPN b. EN

2. Modification of diets in different diseases,

Etiology /Pre-disposing factors, clinical symptoms and modification of diets for

a. Obesity and Underweight

b. Diabetes mellitus

c. Febrile disease conditions – Typhoid (acute), Tuberculosis (chronic) and Malaria (intermittent).

d. Gastrointestinal disorders – Peptic- ulcer, diarrhoea, constipation

**Self Study: Anemia – types.**

## **UNIT-III THERAPEUTIC DIETS FOR HEART, KIDNEY & LIVER DISEASES**

**(15HRS.)**

Etiology or Pre-disposing factors, clinical symptoms and modification of diets for

a) CVD-Hypertension and Atherosclerosis.

b) Diseases of urinary tract – Nephritis, Nephrosis, Renal failure.

c) Diseases of the liver – Hepatitis and Cirrhosis

## **UNIT –IV DIET IN AIDS AND CANCER**

**(10 HRS.)**

Etiology of Pre-disposing factors, clinical symptoms and modification of diets for a) Cancer b) AIDS

**10%**

Allergy- symptoms, types of reactions & treatment-elimination diet.

Burns- symptoms, classification & dietary management.

## **UNIT –V COMMUNITY NUTRITION**

**(15 HRS.)**

Malnutrition – etiology and measures to overcome

Assessment of nutritional status

Nutrition Education

Nutrition Intervention Programme – CMNMP, ICDS

National and International Organisations

FAO, WHO, UNICEF, CARE, CFTRI and NIN

**Self -Study:Malnutrition – etiology and measures to overcome**

### **REFERENCES:**

### **TEXTBOOK:**

1. Antia H. P (1989) *Clinical Nutrition and Dietetics* Oxford University press

### **REFERENCE BOOKS:**

1. Carroll, A. Lutz (1997) *Nutrition for Diet Therapy*, Edition – 2, F. A. Davis Company, Philadelphia.
2. Davidson S. Passmore, R. Brock J. K. & Truwell A. S. (1975) *Human Nutrition and Dietetics*, The English Language Book Society and Churchill.
3. Ghosh S (1976). *The feeding and care of Infant and Young children*
4. Gupta L. C. & Kusium Gupta (1989). *Foods and Nutrition, Facts and Figures*, Jayapahothas, New Delhi,
5. Passmore R. Eastwood (1986) *Human Nutrition and Dietetics*, Longman Group Ltd.,
6. Raheena Begum, A. (1989). *Textbook of food, nutrition and dietetics*, Stanley Publishers,
7. 8. Skinner Paul (2000) Development of a medical nutrition therapy protocol for female collegiate athletes, J. AM. Diet ASS 101
8. 9. Swaminathan M. (1988) *Advanced textbook of Food and Nutrition*, Vol. I and II, the Bangalore Printing and Publishing Co., Ltd.,
9. Williams S.R (1977). *Nutrition and Diet Therapy* C.V. Mosby CO.

### **Open Educational Resources:**

1. <https://clinical-nutrition.imedpub.com/>
2. <http://egyankosh.ac.in/bitstream/123456789/33402/1/Unit-8.pdf>
3. <http://egyankosh.ac.in/bitstream/123456789/33399/1/Unit-9.pdf>
4. <http://egyankosh.ac.in/bitstream/123456789/33394/1/Unit-11.pdf>

5.<http://egyankosh.ac.in/bitstream/123456789/33387/1/Unit-14.pdf>

6.<https://www.subhartidde.com/slms/M.Sc%20-202%20Clinical%20and%20Therapeutic%20Nutrition.pdf>

7.[www.who.int/mediacentre/cardiovascular\\_diseases](http://www.who.int/mediacentre/cardiovascular_diseases)

8.[www.cdc.gov/diabetes/pubs/factsheets/kidney.htm](http://www.cdc.gov/diabetes/pubs/factsheets/kidney.htm)

### **COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT -1 NUTRITION FOR DEVELOPMENTAL MILESTONES</b>				
1.1	Meal Planning – Principles of planning meals, meal pattern and its modification to suit to different disease conditions.	2	Chalk & Talk	Black Board
1.2	Nutrition during pregnancy – importance – changes nutritional requirements and complication.	3	Chalk & Talk	Black Board
1.3	Nutrition during lactation – importance, advantages of breast feeding, need for enhanced nutritional requirements.	3	Lecture	PPT & White board
1.4	Nutrition during infancy – nutritional requirement, weaning – methods – low cost supplementary foods.	3	Chalk & Talk	Black Board
1.5	Nutrition for Preschoolers – nutritional requirements, inculcating feeding habits.	3	Lecture	Black Board
1.6	Nutrition for school children and adolescents – nutritional requirements in adolescence- nutritional problems of adolescents.	3	Discussion	Black Board

1.7	Geriatric nutrition – changes during old age, nutritional requirements during old age, nutrition related problems of old age.	3	Lecture	LCD
<b>UNIT -2 DIET THERAPY</b>				
2.1	Diet therapy – Objectives of therapeutic diets	1	Chalk & Talk	Black Board
2.2	Routine Hospital diet – a.TPN b. EN	3	Lecture	LCD
2.3	Obesity and Underweight	3	Chalk & Talk	Black Board
2.4	Diabetes mellitus	3	Lecture	LCD
2.5	Febrile disease conditions – Typhoid (acute), Tuberculosis (chronic) and Malaria (intermittent).	2	Chalk & Talk	Black Board
2.6	Gastrointestinal disorders – Peptic- ulcer, diarrhea, constipation	3	Lecture	PPT & White board
<b>UNIT -3 THERAPEUTIC DIETS FOR HEART, KIDNEY &amp; LIVER DISEASES</b>				
3.1	CVD-Hypertension and Atherosclerosis	5	Lecture	PPT & White board
3.2	Diseases of urinary tract – Nephritis, Nephrosis, Renal failure.	5	Lecture	LCD
3.3	Diseases of the liver – Hepatitis and Cirrhosis	5	Lecture	PPT & White board
<b>UNIT -4 DIET IN AIDS AND CANCER</b>				
4.1	Etiology of Pre-disposing factors, clinical symptoms and modification of diets for	5	Lecture	LCD



## CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

	Cancer			
4.2	Etiology of Pre-disposing factors, clinical symptoms and modification of diets for AIDS	5	Lecture	PPT & White board
<b>UNIT -5 COMMUNITY NUTRITION</b>				
5.1	Malnutrition – etiology and measures to overcome	2	Chalk & Talk	Black Board
5.2	Assessment of nutritional status	3	Lecture	PPT & White board
5.3	Nutrition Education	2	Demonstrations	Charts
5.4	Nutrition Intervention Programme – CMNMP, ICDS	2	Chalk & Talk	Black Board
5.5	FAO, WHO, UNICEF	3	Lecture	LCD
5.6	CARE, CFTRI and NIN	3	Lecture	LCD

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
Levels	T1	T2	Quiz	Assignm ent	OBT/PPT			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11

<b>K4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>Non Scholastic</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		<b>5</b>	<b>5</b>
<b>Total</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>35</b>	<b>5</b>	<b>40</b>

<b>CIA</b>	
<b>Scholastic</b>	<b>35</b>
<b>Non Scholastic</b>	<b>5</b>
	<b>40</b>

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## **EVALUATION PATTERN**

<b>SCHOLASTIC</b>					<b>NON - SCHOLASTIC</b>	<b>MARKS</b>		
<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>CIA</b>	<b>ESE</b>	<b>Total</b>
<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>40</b>	<b>60</b>	<b>100</b>

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic**COURSE OUTCOMES**

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Identify the principles of meal planning in nutrition through life cycle.	K1, K3	PSO3&PSO4
CO 2	Recall the nutritive value of foods for planning diets	K1	PSO3
CO 3	Recognize the etiology and symptoms of diseases	K1, K2	PSO3&PSO4
CO 4	Examine skills in preparation of therapeutic diets	K4	PSO3&PSO4
CO 5	Solve problem of malnutrition through intervention programmes	K3	PSO3&PSO4

**Mapping of COs with PSOs**

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	3	3	1	1	1	1	1	1	1	1
CO2	1	1	3	3	1	1	1	1	1	1	1	1
CO3	2	1	3	3	1	1	1	1	1	1	1	1
CO4	1	1	3	3	1	1	1	1	1	1	1	1
CO5	1	1	2	3	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	
CO2	1	1	1	1	1	1	1	1	1	1	1	
CO3	1	1	1	1	1	1	1	1	1	1	1	

<b>C04</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>C05</b>	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
<b>CO1</b>	3	3	1	2
<b>CO2</b>	3	3	1	1
<b>CO3</b>	3	3	2	1
<b>CO4</b>	3	3	2	1
<b>CO5</b>	3	3	1	2

**Note:** ♦ Strongly Correlated – **3**      ♦ Moderately Correlated – **2**  
 ♦ Weakly Correlated -**1**

#### COURSE DESIGNER:

**1.Dr.Vasantha Esther Rani**

**2. Mrs.D.Mouna**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**III B.Sc.Home Science with Food Biotechnology OLD****SEMESTER –VI***For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6ME5	Food and Dairy Processing	Lecture	5	5

**COURSE DESCRIPTION**

This course enlightens the students to understand the various food processing operations in food industries.

**COURSE OBJECTIVES**

- To impart systemic knowledge of basic and applied aspects of food processing and technology.
- To understand the methods of heat and cold processing.
- To provide in-depth knowledge on production of processed food products.

**UNITS****UNIT –I FOOD PROCESSING OPERATION****(15 HRS.)**

Characteristics of food raw materials – Geometric, physical, functional properties. Preparative Operations in food industry – Cleaning – objectives, Methods – Dry cleaning – Screening, Abrasion, Aspiration and Magnetic. Wet cleaning – Soaking, Spray washing, Flotation washing. Sorting – Methods – weight, size, shape and photometric. Grading – grading factors, methods.

**UNIT –II PROCESSING BY HEAT AND COLD****(15 HRS.)**

Heat – blanching, canning, pasteurization, sterilization.  
Cold – Refrigeration, freezing – direct and indirect freezing.

Processing by Dry heat

Drying – Definition, purpose, methods – sun drying, drying by mechanical.

**Self-study: freeze drying.**

### **UNIT –III PROCESSING OF PLANT FOODS**

**(15 HRS.)**

Cereals – Processing of wheat - milling.

Pulses – Processing –germination, decortication.

Fruits & Vegetables – Harvesting and storage, canning, drying.

**Self-study: vegetable paste and powders.**

### **UNIT –IV PROCESSING OF ANIMAL FOODS**

**(15 HRS.)**

Meat – Post mortem changes in meat – ripening and tenderizing meat, Grades of meat, Changes produced during heat processing.

Poultry – Classification and Processing.

Fish- Classification, Processing – Canning

**Self-study :smoking, salting and drying.**

### **UNIT –V DAIRY PROCESSING**

**(15 HRS.)**

Milk-composition, nutritive value, processing-milk collection-transportation and grading of milk-

clarification,standardization,pasteurization,homogenization,packaging.

Fermented milk products-butter, cheese, curd, shrikhand, Non-fermented milk products-milk powder, sweetened condensed milk, skim milk

**Self -study: Ice-cream.**

### **REFERENCES:**

#### **TEXTBOOK:**

1. Manay, S.N, Shadaksharaswamy, M. (2005). *Foods, facts and principles*, New age international publishers, New Delhi.

#### **REFERENCE BOOKS:**

- 1.Sivasankar, B. (2008). *Food Processing and Preservation*, Prentice-Hall of India Pvt Limited, New Delhi.
- 2.Srilakshmi, B. (2008). *Food science*, New age international publishers, New Delhi.
- 3.Subbulakshmi, G, Udipi, S.A. (2006). *Food processing and preservation*, New age international publishers, New Delhi.
- 4.Sudeshjood, Khetarpaul, N. (2002). *Food preservation*, Agrotech publishing academy, Udaipur.

**Open Educational Resources:**

1. [https://www.researchgate.net/publication/323167448\\_1](https://www.researchgate.net/publication/323167448_1)  
Introduction to cereal processing and by-products
2. [https://www.unido.org/sites/default/files/2009-04/Small\\_scale\\_cereal\\_milling\\_and\\_bakery\\_products\\_0.pdf](https://www.unido.org/sites/default/files/2009-04/Small_scale_cereal_milling_and_bakery_products_0.pdf)
3. <https://ccsuniversity.ac.in/bridge-library/pdf/FST-Paper-II%20Technology%20of%20cereals,%20pulses%20and%20oilseeds-%20II%20Semester.pdf>
4. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=805>
5. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=807>
6. <http://www.fao.org/3/V5030E/V5030E03.htm#1.2%20Importance%20of%20fruit%20and%20vegetables%20in%20world%20agriculture>
7. <https://meridian.allenpress.com/jfp/article/33/2/64/425033/EGG-PROCESSING-TECHNOLOGY-PROGRESS-AND-SANITATION>
8. <https://www.britannica.com/technology/meat-processing>

**COURSE CONTENTS & LECTURE SCHEDULE:**

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT -1 FOOD PROCESSING OPERATION</b>				
1.1	Characteristics of food raw materials	2	Chalk & Talk	Black Board
1.2	Preparative Operations in food industry	2	Chalk & Talk	Black Board
1.3	Different Cleaning methods	4	Lecture, Group Discussion	PPT , Black Board
1.4	Different Sorting methods	4	Lecture, Discussion	PPT, Black Board
1.5	Different Grading methods	3	Lecture	Black Board,PPT
<b>UNIT -2 PROCESSING BY HEAT AND COLD</b>				
2.1	Processing by heat-Canning & Blanching	3	Lecture	PPT & Videos
2.2	Pasteurization and Sterilization	3	Chalk &	Black

			Talk	Board
2.3	Processing by Cold-Refrigeration	2	Lecture	Black Board
2.4	Freezing	3	Lecture	Black Board
2.5	Processing by dry heat-Different drying methods	4	Lecture	PPT & Videos
<b>UNIT -3 PROCESSING OF PLANT FOODS</b>				
3.1	Cereal Processing-Wheat Milling	3	Chalk & Talk	Black Board
3.2	Pulse Processing	4	Chalk & Talk, Discussion	Black Board
3.3	Fruits Processing	4	Lecture	PPT & Videos
3.4	Vegetable Processing	4	Lecture	PPT & Videos
<b>UNIT -4 PROCESSING OF ANIMAL FOODS</b>				
4.1	Meat Processing	3	Chalk & Talk, Discussion	Black Board
4.2	Meat Processing	3	Lecture	PPT & Videos
4.3	Fish Processing	3	Lecture	PPT & Videos
4.4	Fish Processing	3	Lecture	PPT & Videos
4.5	Poultry Processing	3	Lecture	PPT & Videos
<b>UNIT -5 DAIRY PROCESSING</b>				
5.1	Milk Processing	4	Chalk & Talk, Discussion	Black Board
5.2	Milk Packaging	3	Lecture	PPT & Videos



CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

5.3	Fermented Milk Products	4	Lecture	PPT & Videos
5.4	Non-Fermented Milk Products	4	Lecture	PPT & Videos

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assignment 5 Mks	OBT/PPT 5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

### EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the characteristics of food raw materials	K1	PSO3
CO 2	Recall the preparative operations in food industries	K1	PSO3
CO 3	Classify the methods of heat and cold processing	K2	PSO3,PSO5

CO 4	Choose the different processing methods adopted for plant and animal foods	K3	PSO3
CO 5	Illustrate the processing & preparation of milk and milk products	K4	PSO3,PSO5

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	3	1	1	1	1	1	1	1	1	1
CO2	1	1	3	1	1	1	1	1	1	1	1	1
CO3	1	1	3	1	2	1	1	1	1	1	1	1
CO4	1	1	3	1	1	1	1	1	1	1	1	1
CO5	1	1	3	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	
CO2	1	1	1	1	1	1	1	1	1	1	1	
CO3	1	1	1	1	1	1	1	1	1	1	1	
CO4	1	1	1	1	1	1	1	1	1	1	1	
CO5	1	1	1	1	1	1	1	1	1	1	1	

### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	1	1	1
CO3	1	1	2	1
CO4	1	1	2	1
CO5	1	1	2	1

**Note:** ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2 ♦  
Weakly Correlated -1

**COURSE DESIGNER:**

**1.Dr.K.Karthiga**

**Forwarded By**

A handwritten signature in purple ink, reading "Vasantha Esther Rani".

(Dr.Vasantha Esther Rani)

**NEW****5%****III B.Sc.Home Science with Food Biotechnology****SEMESTER –VI***For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6ME5	Food and Dairy Processing	Lecture	5	5

**COURSE DESCRIPTION**

This course enlightens the students to understand the various food processing operations in food industries.

**COURSE OBJECTIVES**

- To impart systemic knowledge of basic and applied aspects of food processing and technology.
- To understand the methods of heat and cold processing.
- To provide in-depth knowledge on production of processed food products.

**UNITS****UNIT –I FOOD PROCESSING OPERATION****(15 HRS.)**

Characteristics of food raw materials – Geometric, physical, functional properties. Preparative Operations in food industry – Cleaning – objectives, Methods – Dry cleaning – Screening, Abrasion, Aspiration and Magnetic. Wet cleaning – Soaking, Spray washing, Flotation washing. Sorting – Methods – weight, size, shape and photometric.

**5%**

Grading – grading factors, methods.

**Self -study: An overall view of commonly used packaging materials.**

**UNIT –II PROCESSING BY HEAT AND COLD (15 HRS.)**

Heat – blanching, canning, pasteurization, sterilization.

Cold – Refrigeration, freezing – direct and indirect freezing.

Processing by Dry heat

Drying – Definition, purpose, methods – sun drying, drying by mechanical.

**Self-study:freeze drying.**

**UNIT –III PROCESSING OF PLANT FOODS (15 HRS.)**

Cereals – Processing of wheat - milling.

Pulses – Processing –germination, decortication.

Fruits & Vegetables – Harvesting and storage, canning, drying.

**Self-study: vegetable paste and powders.**

**UNIT –IV PROCESSING OF ANIMAL FOODS (15 HRS.)**

Meat – Post mortem changes in meat – ripening and tenderizing meat, Grades of meat, Changes produced during heat processing.

Poultry – Classification and Processing.

Fish- Classification, Processing – Canning

**Self-study :smoking, salting and drying.**

**UNIT –V DAIRY PROCESSING (15 HRS.)**

Milk-composition, nutritive value, processing-milk collection-transportation and grading of milk-

clarification,standardization,pasteurization,homogenization,packaging.

Fermented milk products-butter, cheese, curd, shrikhand, Non-fermented milk products-milk powder, sweetened condensed milk, skim milk

**Self -study: Ice-cream.**

**REFERENCES:**

**TEXTBOOK:**

1.Manay, S.N, Shadaksharaswamy, M. (2005). *Foods, facts and principles*, New age international publishers, New Delhi.

**REFERENCE BOOKS:**

1. Sivasankar, B. (2008). *Food Processing and Preservation*, Prentice-Hall of India Pvt Limited, New Delhi.
2. Srilakshmi, B. (2008). *Food science*, New age international publishers, New Delhi.
3. Subbulakshmi, G, Udipi, S.A. (2006). *Food processing and preservation*, New age international publishers, New Delhi.
4. Sudeshjood, Khetarpaul, N. (2002). *Food preservation*, Agrotech publishing academy, Udaipur.

### Open Educational Resources:

1. [https://www.researchgate.net/publication/323167448\\_1](https://www.researchgate.net/publication/323167448_1)  
*Introduction to cereal processing and by-products*
2. [https://www.unido.org/sites/default/files/2009-04/Small scale cereal milling and bakery products 0.pdf](https://www.unido.org/sites/default/files/2009-04/Small_scale_cereal_milling_and_bakery_products_0.pdf)
3. <https://ccsuniversity.ac.in/bridge-library/pdf/FST-Paper-II%20Technology%20of%20cereals,%20pulses%20and%20oilseeds-%20II%20Semester.pdf>
4. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=805>
5. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=807>
6. <http://www.fao.org/3/V5030E/V5030E03.htm#1.2%20Importance%20of%20fruit%20and%20vegetables%20in%20world%20agriculture>
7. <https://meridian.allenpress.com/jfp/article/33/2/64/425033/EGG-PROCESSING-TECHNOLOGY-PROGRESS-AND-SANITATION>
8. <https://www.britannica.com/technology/meat-processing>

### COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT -1 FOOD PROCESSING OPERATION</b>				
1.1	Characteristics of food raw materials	2	Chalk & Talk	Black Board
1.2	Preparative Operations in food industry	2	Chalk & Talk	Black Board
1.3	Different Cleaning methods	4	Lecture, Group Discussion	PPT , Black Board
1.4	Different Sorting methods	4	Lecture, Discussion	PPT, Black

				Board
1.5	Different Grading methods	3	Lecture	Black Board,PPT
<b>UNIT -2                  PROCESSING BY HEAT AND COLD</b>				
2.1	Processing by heat-Canning & Blanching	3	Lecture	PPT & Videos
2.2	Pasteurization and Sterilization	3	Chalk & Talk	Black Board
2.3	Processing by Cold-Refrigeration	2	Lecture	Black Board
2.4	Freezing	3	Lecture	Black Board
2.5	Processing by dry heat-Different drying methods	4	Lecture	PPT & Videos
<b>UNIT -3                  PROCESSING OF PLANT FOODS</b>				
3.1	Cereal Processing-Wheat Milling	3	Chalk & Talk	Black Board
3.2	Pulse Processing	4	Chalk & Talk, Discussion	Black Board
3.3	Fruits Processing	4	Lecture	PPT & Videos
3.4	Vegetable Processing	4	Lecture	PPT & Videos
<b>UNIT -4                  PROCESSING OF ANIMAL FOODS</b>				
4.1	Meat Processing	3	Chalk & Talk, Discussion	Black Board
4.2	Meat Processing	3	Lecture	PPT & Videos
4.3	Fish Processing	3	Lecture	PPT & Videos
4.4	Fish Processing	3	Lecture	PPT & Videos
4.5	Poultry Processing	3	Lecture	PPT &



				Videos
<b>UNIT -5 DAIRY PROCESSING</b>				
5.1	Milk Processing	4	Chalk & Talk, Discussion	Black Board
5.2	Milk Packaging	3	Lecture	PPT & Videos
5.3	Fermented Milk Products	4	Lecture	PPT & Videos
5.4	Non-Fermented Milk Products	4	Lecture	PPT & Videos

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
Levels	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assignment 5 Mks	OBT/PPT 5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the characteristics of food raw materials	K1	PSO3
CO 2	Recall the preparative operations in food industries	K1	PSO3
CO 3	Classify the methods of heat and cold processing	K2	PSO3,PSO5
CO 4	Choose the different processing methods adopted for plant and animal foods	K3	PSO3
CO 5	Illustrate the processing & preparation of milk and milk products	K4	PSO3,PSO5

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	3	1	1	1	1	1	1	1	1	1
CO2	1	1	3	1	1	1	1	1	1	1	1	1
CO3	1	1	3	1	2	1	1	1	1	1	1	1
CO4	1	1	3	1	1	1	1	1	1	1	1	1
CO5	1	1	3	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	
CO2	1	1	1	1	1	1	1	1	1	1	1	
CO3	1	1	1	1	1	1	1	1	1	1	1	
CO4	1	1	1	1	1	1	1	1	1	1	1	
CO5	1	1	1	1	1	1	1	1	1	1	1	

**Mapping of COs with POs**

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	1	1	1
CO3	1	1	2	1
CO4	1	1	2	1
CO5	1	1	2	1

**Note:** ♦ Strongly Correlated – **3** ♦ Moderately Correlated – **2** ♦  
Weakly Correlated -**1**

**COURSE DESIGNER:****1.Dr.K.Karthiga****Forwarded By**


(Dr.Vasantha Esther Rani)

**OLD**

**III B.Sc. Home Science with Food Biotechnology**  
**SEMESTER –VI**  
**For those who joined in 2019 onwards**

<b>PROGRAMME CODE</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CATEGORY</b>	<b>HRS/WEEK</b>	<b>CREDITS</b>
<b>UAHS</b>	<b>19N6ME6</b>	<b>Women and Entrepreneurship development</b>	<b>Lecture</b>	<b>5</b>	<b>5</b>

**COURSE DESCRIPTION**

This course offers deep insight into the concepts of entrepreneurship and the institution for entrepreneurship development. It also deals with the preparation of project report and appraisal.

**COURSE OBJECTIVES**

- To enable students to understand the concepts of entrepreneurship
- To motivate them to start business
- To impart knowledge on the financial institution entrepreneurship development.
- To train them to prepare project report.

**UNITS**

<b>UNIT – I</b>	<b>INTRODUCTION TO ENTREPRENEURSHIP</b>	<b>[15 HRS]</b>
-----------------	---	-----------------

Entrepreneurship- Meaning, Importance, Concept of women  
 Entrepreneurship, Characteristics of Entrepreneur, Function of women  
 Entrepreneurship, Developing women Entrepreneur, Problems of women  
 Entrepreneur.

<b>UNIT – II</b>	<b>HOW TO START BUSINESS</b>	<b>[15 HRS]</b>
------------------	------------------------------	-----------------

How to start Business-Product selection -form of ownership - Sole proprietorship and partnership , Plant location - land , building , water and power - raw materials- machinery - man power - other infrastructural facilities -Licensing registration and bye laws.

<b>UNIT – III</b>	<b>FINANCIAL INSTITUTION</b>	<b>[15 HRS]</b>
-------------------	------------------------------	-----------------

**Self-study -InstitutionalArrangement for Entrepreneurship**

**Development D.I.C. S.I.D.C.O, N.S.I.C.** S.I.S.I. – Institutional Finance to Entrepreneurs – T.I.I.C. S.I.D, B.I, MSME and role of commercial banks.

UNIT – IV	REPORT PREPARATION	[15 HRS]
-----------	--------------------	----------

Project Report Meaning and importance-Contents of a project report -  
Format of a report (as per requirements of financial institutions)  
Project Appraisal Meaning, market feasibility, technical feasibility – financial  
feasibility-break even analysis.

UNIT – V	RECENT TRENDS IN ENTREPRENEURSHIP	[15 HRS]
----------	-----------------------------------	----------

Rural Entrepreneurship – Meaning, need, opportunities and problems of women entrepreneur

Agri – entrepreneurship – Meaning, need, opportunities and challenges involved in developing agri-entrepreneurship

#### REFERENCES:

#### TEXTBOOK:

Khanka.S.S (2018). *Entrepreneurial Development*, S.Chandhan Company Ltd, New Delhi

#### REFERENCE BOOKS:

Jose Paul, N, Entrepreneurship Development. India Taxmann Publication, 2000.

2. Khan, M.A, - Entrepreneurship Development Programmes in India, Jaipur, India, Kanishka Publishing House, 1992.

4. Vijayashree. P.T.-Entrepreneurial Development and Small Business Management, India Pearson Publishers. 2005.

#### OPEN EDUCATIONAL RESOURCES:

1. <https://articles.bplans.com/how-to-get-your-business-funded/>
2. <https://accountlearning.com/important-qualities-entrepreneur/>
3. <https://www.businessmanagementideas.com/entrepreneurship-2/rural-entrepreneurship/21624>
4. <https://www.ukessays.com/essays/economics/opportunities-and-challenges-for-rural-entrepreneurship-in-india-economics-essay.php>
5. <https://www.g-fras.org/en/agripreneurship.html>
6. [https://www.researchgate.net/publication/339843368\\_What\\_is\\_AGR\\_IPRENEURSHIP\\_and\\_why\\_India\\_needs\\_it](https://www.researchgate.net/publication/339843368_What_is_AGR_IPRENEURSHIP_and_why_India_needs_it)

**COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT 1 INTRODUCTION TO ENTREPRENEURSHIP</b>				
1.1	Meaning, objectives, concept of women Entrepreneurship	4	Chalk & Talk	Black Board
1.2	Characteristics of entrepreneurship	2	Chalk & Talk	LCD
1.3	Functions of women entrepreneurship	2	Lecture	PPT & White board
1.4	Developing women entrepreneurship	4	Lecture	Smart Board
1.5	Problems of women entrepreneur	3	Lecture	Black Board
<b>UNIT – 2 TECHNIQUES TO START BUISNESS</b>				
2.1	How to start a business, product selection	3	Lecture	LCD
2.2	Forms of ownership – sole proprietorship and partnership	3	Chalk & Talk	LCD
2.3	Plant location, land building, water and power	2	Lecture	PPT & White board
2.4	Raw materials, machinery, man power, other infrastructural facilities	4	Lecture	PPT
2.5	Licensing and registration and bye laws	3	Chalk and talk	Black board
<b>UNIT -3 FINANCIAL INSTITUTION</b>				
3.1	Self -study-institutional arrangement for entrepreneurship development	2	Lecture	Black board
3.2	D.I.C, S.I.D.C.O.,	2	Lecture	LCD
3.3	N.S.I.C, S.I.S.I	3	Chalk & Talk	LCD

3.4	Institutional finance to entrepreneurs T.I.I.C., S.I.D.B.I.	4	Lecture	PPT & White board
3.5	Role of commercial banks	4	Chalk and talk	PPT & White board
<b>UNIT -4REPORT PREPARATION</b>				
4.1	Project report-meaning and importance	2	Lecture	LCD
4.2	Content of project report, format of report	3	Chalk & Talk	LCD
4.3	Project Appraisal – meaning	1	Lecture	PPT & White board
4.4	Market and technical feasibility	4	Lecture	PPT & White board
4.5	Financial feasibility	2	Chalk & Talk	LCD
4.6	Break even analysis	3	Chalk & Talk	PPT
<b>UNIT -5 RECENT TRENDS IN ENTREPRENEURSHIP</b>				
5.1	Rural entrepreneurship-meaning, need	2	Lecture	LCD
5.2	Opportunities and problems of women entrepreneurship	3	Chalk & Talk	LCD
5.3	Agri-preneurship – meaning, need	2	Lecture	PPT & White board
5.4	Opportunities in agripreneurship	4	Lecture	PPT & White board
5.5	Challenges involved in developing agripreneurship	4	Chalk & Talk	LCD
5.6	Rural entrepreneurship-meaning, need	2	Lecture	PPT

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
--------	----	----	----	----	----	------------------------	-------------------------	-----------



	<b>T1</b>	<b>T2</b>	<b>Quiz</b>	<b>Assignment</b>	<b>OBT/PP T</b>			
	<b>10 Mks.</b>	<b>10 Mks.</b>	<b>5 Mks.</b>	<b>5 Mks</b>	<b>5 Mks</b>	<b>35 Mks.</b>	<b>5 Mks.</b>	<b>40Mks .</b>
<b>K1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>
<b>K2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>9</b>	<b>-</b>	<b>9</b>
<b>K3</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>K4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>Non Scholastic</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		<b>5</b>	<b>5</b>
<b>Total</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>35</b>	<b>5</b>	<b>40</b>

<b>CIA</b>	
<b>Scholastic</b>	<b>35</b>
<b>Non Scholastic</b>	<b>5</b>
	<b>40</b>

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1**- Remember, **K2**-Understand, **K3**-Apply, **K4**-Analyse

### EVALUATION PATTERN

<b>SCHOLASTIC</b>					<b>NON - SCHOLASTIC</b>	<b>MARKS</b>		
<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>CIA</b>	<b>ESE</b>	<b>Total</b>
<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>40</b>	<b>60</b>	<b>100</b>

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the concept of entrepreneurship.	K1	PSO21
CO 2	Describe the requisites to establish business.	K1,K2	PSO21
CO 3	List the institutions for entrepreneur development.	K1	PSO21
CO 4	Plan and prepare the project report.	K3,K4	PSO21
CO 5	Recognize the components of project appraisal.	K1	PSO21

#### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	3	1	1	
CO2	1	1	1	1	1	1	1	1	3	1	1	
CO3	1	1	1	1	1	1	1	1	3	1	1	
CO4	1	1	1	1	1	1	1	1	3	1	1	
CO5	1	1	1	1	1	1	1	1	3	1	1	

#### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	2	1	1

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>C03</b>	1	1	1	1
<b>C04</b>	1	1	1	2
<b>C05</b>	1	1	3	1

**Note:** ♦ Strongly Correlated – **3**  
♦ Weakly Correlated -**1**

♦ Moderately Correlated – **2**

**COURSE DESIGNER:**

**1.Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**NEW**

5%

**III B.Sc.Home Science with Food Biotechnology  
SEMESTER -VI**

**For those who joined in 2019 onwards**

<b>PROGRAMME CODE</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CATEGORY</b>	<b>HRS/WEEK</b>	<b>CREDITS</b>
<b>UAHS</b>	<b>19N6ME6</b>	<b>Women and Entrepreneurship development</b>	<b>Lecture</b>	<b>5</b>	<b>5</b>

**COURSE DESCRIPTION**

This course offers deep insight into the concepts of entrepreneurship and the institution for entrepreneurship development. It also deals with the preparation of project report and appraisal.

**COURSE OBJECTIVES**

- To enable students to understand the concepts of entrepreneurship
- To motivate them to start business
- To impart knowledge on the financial institution entrepreneurship development.
- To train them to prepare project report.

**UNITS**

<b>UNIT – I</b>	<b>INTRODUCTION TO ENTREPRENEURSHIP</b>	<b>[15 HRS]</b>
-----------------	---	-----------------

Entrepreneurship- Meaning, Importance, Concept of women  
Entrepreneurship, Characteristics of Entrepreneur, Function of women  
Entrepreneurship, Developing women Entrepreneur, Problems of women  
Entrepreneur.

<b>UNIT – II</b>	<b>INPUTS TO START BUSINESS</b>	<b>[15 HRS]</b>
------------------	---------------------------------	-----------------

How to start Business-Product selection -form of ownership - Sole proprietorship and partnership , Plant location - land , building , water and power - raw materials- machinery - man power - other infrastructural facilities -Licensing registration and bye laws.

<b>UNIT – III</b>	<b>FINANCIAL INSTITUTION</b>	<b>[15 HRS]</b>
-------------------	------------------------------	-----------------

### Self-study -InstitutionalArrangement for Entrepreneurship

**Development D.I.C. S.I.D.C.O, N.S.I.C.** S.I.S.I. – Institutional Financeto  
Entrepreneurs – T.I.I.C. S.I.D, B.I, **MSME** and role of commercial banks.

<b>UNIT – IV</b>	<b>REPORT PREPARATION</b>	<b>[15 HRS]</b>
------------------	---------------------------	-----------------

Project ReportMeaning and importance-Contents of a project report -  
Format of a report (as per requirements of financial institutions)  
Project AppraisalMeaning, market feasibility,technical feasibility – financial  
feasibility-break even analysis.

<b>UNIT – V</b>	<b>RECENT TRENDS IN ENTERPRENEURSHIP</b>	<b>[15 HRS]</b>
-----------------	--	-----------------

Rural Entrepreneurship – Meaning, need, opportunities and problems of  
women entrepreneur

Agri – preneurship – Meaning, need, opportunities and challenges  
involved in developing agri-pneurship

### REFERENCES:

#### TEXTBOOK:

Khanka.S.S (2018). *Entrepreneurial Development*, S.Chandhan Company Ltd,  
New Delhi

#### REFERENCE BOOKS:

Jose Paul, N, Entrepreneurship Development. India Taxmamn Publication,  
2000.

3. Khan, M.A, - Entrepreneurship Development Programmes in India,  
Jaiphur, India, Kanishka Publishing House, 1992.

4. Vijayashree. P.T.-Entrepreneurial Development and Small Business  
Management, India Pearson Publishers. 2005.

#### OPEN EDUCATIONAL RESOURCES:

7. <https://articles.bplans.com/how-to-get-your-business-funded/>
8. <https://accountlearning.com/important-qualities-entrepreneur/>
9. <https://www.businessmanagementideas.com/entrepreneurship-2/rural-entrepreneurship/21624>
10. <https://www.ukessays.com/essays/economics/opportunities-and-challenges-for-rural-entrepreneurship-in-india-economics-essay.php>
11. <https://www.g-fras.org/en/agripreneurship.html>
12. [https://www.researchgate.net/publication/339843368\\_What\\_is\\_AGRIPRENEURSHIP\\_and\\_why\\_India\\_needs\\_it](https://www.researchgate.net/publication/339843368_What_is_AGRIPRENEURSHIP_and_why_India_needs_it)

**COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT 1 INTRODUCTION TO ENTREPRENEURSHIP</b>				
1.1	Meaning, objectives, concept of women Entrepreneurship	4	Chalk & Talk	Black Board
1.2	Characteristics of entrepreneurship	2	Chalk & Talk	LCD
1.3	Functions of women entrepreneurship	2	Lecture	PPT & White board
1.4	Developing women entrepreneurship	4	Lecture	Smart Board
1.5	Problems of women entrepreneur	3	Lecture	Black Board
<b>UNIT – 2 TECHNIQUES TO START BUISNESS</b>				
2.1	How to start a business, product selection	3	Lecture	LCD
2.2	Forms of ownership – sole proprietorship and partnership	3	Chalk & Talk	LCD
2.3	Plant location, land building, water and power	2	Lecture	PPT & White board
2.4	Raw materials, machinery, man power, other infrastructural facilities	4	Lecture	PPT
2.5	Licensing and registration and bye laws	3	Chalk and talk	Black board
<b>UNIT -3 FINANCIAL INSTITUTION</b>				
3.1	Self -study-institutional arrangement for entrepreneurship development	2	Lecture	Black board
3.2	D.I.C, S.I.D.C.O.,	2	Lecture	LCD
3.3	N.S.I.C, S.I.S.I	3	Chalk & Talk	LCD
3.4	Institutional finance to entrepreneurs T.I.I.C.,	4	Lecture	PPT & White board

	S.I.D.B.I.			
3.5	Role of commercial banks	4	Chalk and talk	PPT & White board
<b>UNIT -4REPORT PREPARATION</b>				
4.1	Project report-meaning and importance	2	Lecture	LCD
4.2	Content of project report, format of report	3	Chalk & Talk	LCD
4.3	Project Appraisal – meaning	1	Lecture	PPT & White board
4.4	Market and technical feasibility	4	Lecture	PPT & White board
4.5	Financial feasibility	2	Chalk & Talk	LCD
4.6	Break even analysis	3	Chalk & Talk	PPT
<b>UNIT -5 RECENT TRENDS IN ENTREPRENEURSHIP</b>				
5.1	Rural entrepreneurship-meaning, need	2	Lecture	LCD
5.2	Opportunities and problems of women entrepreneurship	3	Chalk & Talk	LCD
5.3	Agri-preneurship – meaning, need	2	Lecture	PPT & White board
5.4	Opportunities in agripreneurship	4	Lecture	PPT & White board
5.5	Challenges involved in developing agripreneurship	4	Chalk & Talk	LCD
5.6	Rural entrepreneurship-meaning, need	2	Lecture	PPT

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
--------	----	----	----	----	----	------------------------	-------------------------	-----------

	<b>T1</b>	<b>T2</b>	<b>Quiz</b>	<b>Assignment</b>	<b>OBT/PP T</b>			
	<b>10 Mks.</b>	<b>10 Mks.</b>	<b>5 Mks.</b>	<b>5 Mks</b>	<b>5 Mks</b>	<b>35 Mks.</b>	<b>5 Mks.</b>	<b>40Mks .</b>
<b>K1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>
<b>K2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>9</b>	<b>-</b>	<b>9</b>
<b>K3</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>K4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>Non Scholastic</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		<b>5</b>	<b>5</b>
<b>Total</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>35</b>	<b>5</b>	<b>40</b>

<b>CIA</b>	
<b>Scholastic</b>	<b>35</b>
<b>Non Scholastic</b>	<b>5</b>
	<b>40</b>

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1**- Remember, **K2**-Understand, **K3**-Apply, **K4**-Analyse

### EVALUATION PATTERN

<b>SCHOLASTIC</b>					<b>NON - SCHOLASTIC</b>	<b>MARKS</b>		
<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>CIA</b>	<b>ESE</b>	<b>Total</b>
<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>40</b>	<b>60</b>	<b>100</b>

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES



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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Define the concept of entrepreneurship.	K1	PSO21
CO 2	Describe the requisites to establish business.	K1,K2	PSO21
CO 3	List the institutions for entrepreneur development.	K1	PSO21
CO 4	Plan and prepare the project report.	K3,K4	PSO21
CO 5	Recognize the components of project appraisal.	K1	PSO21

#### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	3	1	1	
CO2	1	1	1	1	1	1	1	1	3	1	1	
CO3	1	1	1	1	1	1	1	1	3	1	1	
CO4	1	1	1	1	1	1	1	1	3	1	1	
CO5	1	1	1	1	1	1	1	1	3	1	1	

#### Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	1	1	1	1
CO2	1	2	1	1

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>C03</b>	1	1	1	1
<b>C04</b>	1	1	1	2
<b>C05</b>	1	1	3	1

**Note:** ♦ Strongly Correlated – **3**  
 ♦ Weakly Correlated -**1**

♦ Moderately Correlated – **2**

**COURSE DESIGNER:**

**1.Dr. C. Priyalatha**

**Forwarded By**



(Dr.Vasantha Esther Rani)

**OLD**

### **III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY SEMESTER –VI**

*For those who joined in 2019 onwards*

<b>PROGRAMME CODE</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CATEGORY</b>	<b>HRS/WEEK</b>	<b>CREDITS</b>
<b>UAHS</b>	<b>19N6SB5</b>	<b>Entrepreneurial Skills – Nutrition Counselling</b>	<b>Lecture / Practical</b>	<b>2</b>	<b>2</b>

#### **COURSE DESCRIPTION**

This course provides a strong ground in the strategies and techniques of nutrition counseling, nutrition education ,nutrition care plan, evaluation and documentation.

#### **COURSE OBJECTIVES**

- To acquire skills needed for effective counseling sessions related to the field of nutrition and dietetics
- To develop skills for group education and counselling

#### **UNITS**

##### **UNIT –I DIET COUNSELLING (6 HRS.)**

Diet Counselling – Definition, Counselling process and its significance.

##### **UNIT –II ASSESSMENT (6 HRS.)**

Assessment - Assessment of needs of patients, Establishing rapport  
Communication process, Patient education.

##### **UNIT-III CASE STUDIES AND DIET MODIFICATIONS (6HRS.)**

Case studies – Understanding Case Study - Clinical, Nutritional and Biochemical Profile, Therapeutic Modification of Diets, Report Writing

**UNIT –IV COUNSELLING CENTER  
(6 HRS.)**

Counselling Center - Pre requisites and preparation for setting up a counselling center.

**Self study - Preparation of audio - visual aids for diet counselling.**

**UNIT –V COUNSELLING CAMPS (6 HRS.)**

Counselling Camps - Organizing counselling camps for specific diseases

**REFERENCES:**

1. Srilakshmi. B. (2002) .*Dietetics*, New Age International Publishers,
2. Skinner Paul (2000), *Development of a Medical Nutrition Therapy Protocol for Female Collegiate Athletes*, JAMA 101.
3. Carroll, A. Lutz. (1997).*Nutrition for Diet Therapy*, Edition – 2, F. A. Davis Company, Philadelphia.

**WEB REFERENCES:**

6. <http://patch.com>new-york>bp>.
7. [www.minddisorders.com>Kau-Nu](http://www.minddisorders.com>Kau-Nu).
8. <https://www.sciencedirect.com>topics>.

**COURSE CONTENTS & LECTURE SCHEDULE:**

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
<b>UNIT -1 DIET COUNSELLING</b>				
1.1	Diet Counseling – Definition, Counseling process and its significance.	6	Chalk & Talk	Black Board
<b>UNIT -2 ASSESSMENT</b>				
2.1	Assessment - Assessment of needs of patients.	2	Discussion	Case Report

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

2.2	Establishing rapport Communication process.	2	Chalk & Talk	Black Board
2.3	Patient education.	2	Lecture & Role Play	PPT
<b>UNIT -3 CASE STUDIES AND DIET MODIFICATIONS</b>				
3.1	Case C case Studies- Understanding Case Study - Clinical, Nutritional and Biochemical Profile.	3	Discussion	Case Report
3.2	Therapeutic Modification of Diets and Report Writing.	3	Discussion	Case Report
<b>UNIT -4 COUNSELLING CENTER</b>				
4.1	Counselling Center - Prerequisites and preparation for setting up a counselling center.	6	Chalk & Talk	Black Board
<b>UNIT -5 COUNSELLING CAMPS</b>				
5.1	Counselling Camps - Organizing counselling camps for specific diseases	6	Chalk &Talk& Role Play	Black Board

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholas tic Marks C6	CIA Total
Levels	T1  10 Mks.	T2  10 Mks.	Quiz  5 Mks.	Assignm ent  5 Mks	OBT/PPT  5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9

K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment**C5** - OBT/PPT**C6** – Non – Scholastic**COURSE OUTCOMES**

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Explain the counseling process.	K2	PSO1
CO 2	Identify the appropriate counseling techniques.	K3	PSO1
CO 3	Choose audiovisual aids for diet counseling.	K3	PSO1
CO 4	Organize counseling camps for specific diseases.	K3	PSO1
CO 5	Recall the principles of therapeutic diet.	K1	PSO1

**Mapping of COs with PSOs**

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	3	2	2	2	1	1	1	1	1	1	1	1
CO2	3	2	2	2	1	1	1	1	1	1	1	1
CO3	3	2	2	2	1	1	1	1	1	1	1	1
CO4	3	2	2	2	1	1	1	1	1	1	1	1
CO5	3	2	2	2	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	1	1	1	1	1	1	1	

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>C02</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>C03</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>C04</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>C05</b>	1	1	1	1	1	1	1	1	1	1	1	

**Mapping of COs with POs**

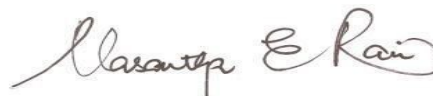
<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>C01</b>	3	1	2	2
<b>C02</b>	3	1	2	2
<b>C03</b>	3	1	2	2
<b>C04</b>	3	1	2	2
<b>C05</b>	3	1	2	2

**Note:** ♦ Strongly Correlated – **3**      ♦ Moderately Correlated – **2**  
 ♦ Weakly Correlated -**1**

**COURSE DESIGNER:**

**1.Mrs. P. Magdalene Virjini**

**Forwarded By**



(Dr.Vasantha Esther Rani)



**NEW**

### III B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY SEMESTER –VI

**10 %***For those who joined in 2019 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6SB5	Entrepreneurial Skills – Nutrition Counselling	Lecture / Practical	2	2

**COURSE DESCRIPTION**

This course provides a strong ground in the strategies and techniques of nutrition counseling, nutrition education, nutrition care plan, evaluation, and documentation.

**COURSE OBJECTIVES**

- To acquire skills needed for effective counseling sessions related to the field of nutrition and dietetics
- To develop skills for group education and counselling

**UNITS****UNIT –I DIET COUNSELLING****10%****(6 HRS.)**

Diet Counselling – Definition, Counselling process and its significance.

Dietitian – Role of dietitian, classification, responsibilities and code of ethics.  
RD, Membership in IDA, NSI.

**UNIT –II ASSESSMENT****(6 HRS.)**

Assessment - Assessment of needs of patients, Establishing rapport  
Communication process, Patient education

**UNIT-III CASE STUDIES AND DIET MODIFICATIONS****(6HRS.)**

Case studies – Understanding Case Study - Clinical, Nutritional and Biochemical Profile, Therapeutic Modification of Diets, Report Writing

#### **UNIT –IV COUNSELLING CENTER**

**(6 HRS.)**

Counselling Center - Pre requisites and preparation for setting up a counselling center.

**Self- study -Preparation of audio - visual aids for diet counselling.**

#### **UNIT –V COUNSELLING CAMPS**

**(6 HRS.)**

Counselling Camps - Organizing counselling camps for specific diseases

#### **REFERENCES:**

#### **TEXTBOOK:**

1. Srilakshmi. B. (2002) .*Dietetics*, New Age International Publishers,

#### **REFERENCE BOOKS:**

1. Skinner Paul (2000), *Development of a Medical Nutrition Therapy Protocol for Female Collegiate Athletes*, JAMA 101.
2. Carroll, A. Lutz. (1997).*Nutrition for Diet Therapy*, Edition – 2, F. A. Davis Company, Philadelphia.

#### **OPEN EDUCATION RESOURCES:**

1. <https://www.slideshare.net/jippyjack5/diet-counselling-71525270>
2. <https://www.sciencedirect.com/topics/food-science/diet-counseling>
3. <https://www.slideshare.net/DrSusmitaShah/diet-and-diet-counselling>
4. <https://emedprimarycare.com/diet-counseling-jacksonville/>
5. <https://www.encyclopedia.com/medicine/encyclopedias-almanacs-transcripts-and-maps/dietary-counseling>
6. <https://edepot.wur.nl/121590>
7. <http://seasonswomenscare.com/nutritional-counseling-steps-to-a-healthy-diet/>

#### **COURSE CONTENTS & LECTURE SCHEDULE:**

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1 DIET COUNSELLING				

## CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

1.1	Diet Counseling – Definition, Counseling process and its significance.	6	Chalk & Talk	Black Board
<b>UNIT -2 ASSESSMENT</b>				
2.1	Assessment - Assessment of needs of patients.	2	Discussion	Case Report
2.2	Establishing rapport Communication process.	2	Chalk & Talk	Black Board
2.3	Patient education.	2	Lecture & Role Play	PPT
<b>UNIT -3 CASE STUDIES AND DIET MODIFICATIONS</b>				
3.1	Case C case Studies- Understanding Case Study - Clinical, Nutritional and Biochemical Profile.	3	Discussion	Case Report
3.2	Therapeutic Modification of Diets and Report Writing.	3	Discussion	Case Report
<b>UNIT -4 COUNSELLING CENTER</b>				
4.1	Counselling Center - Prerequisites and preparation for setting up a counselling center.	6	Chalk & Talk	Black Board
<b>UNIT -5 COUNSELLING CAMPS</b>				
5.1	Counselling Camps - Organizing counselling camps for specific diseases	6	Chalk &Talk& Role Play	Black Board

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholas tic Marks C6	CIA Total
	T1	T2	Quiz	Assignm ent	OBT/PPT			

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.
K1	2	2	-	-	-	4	-	4
K2	2	2	5	-	-	9	-	9
K3	3	3	-	-	5	11	-	11
K4	3	3	-	5	-	11	-	11
Non Scholastic	-	-	-	-	-		5	5
Total	10	10	5	5	5	35	5	40

CIA	
Scholastic	35
Non Scholastic	5
	40

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are :**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total

10	10	5	5	5	5	40	60	100
----	----	---	---	---	---	----	----	-----

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

## COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Explain the counseling process.	K2	PSO1
CO 2	Identify the appropriate counseling techniques.	K3	PSO1
CO 3	Choose audiovisual aids for diet counseling.	K3	PSO1
CO 4	Organize counseling camps for specific diseases.	K3	PSO1
CO 5	Recall the principles of therapeutic diet.	K1	PSO1

## Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	3	2	2	2	1	1	1	1	1	1	1	1
CO2	3	2	2	2	1	1	1	1	1	1	1	1
CO3	3	2	2	2	1	1	1	1	1	1	1	1
CO4	3	2	2	2	1	1	1	1	1	1	1	1

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>CO5</b>	3	2	2	2	1	1	1	1	1	1	1	1
<b>CO/ PSO</b>	<b>PSO 13</b>	<b>PSO 14</b>	<b>PSO 15</b>	<b>PSO 16</b>	<b>PSO 17</b>	<b>PSO 18</b>	<b>PSO 19</b>	<b>PSO 20</b>	<b>PSO 21</b>	<b>PSO 22</b>	<b>PSO 23</b>	
<b>CO1</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO2</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO3</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO4</b>	1	1	1	1	1	1	1	1	1	1	1	
<b>CO5</b>	1	1	1	1	1	1	1	1	1	1	1	

**Mapping of COs with POs**

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>CO1</b>	3	1	2	2
<b>CO2</b>	3	1	2	2
<b>CO3</b>	3	1	2	2
<b>CO4</b>	3	1	2	2
<b>CO5</b>	3	1	2	2

**Note:** ♦ Strongly Correlated – 3      ♦ Moderately Correlated – 2  
 ♦ Weakly Correlated -1

**COURSE DESIGNER:**

**1.Mrs. P. Magdalene Virjini**

**Forwarded By**



(Dr.Vasantha Esther Rani)

OLD

**III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY  
SEMESTER –VI**

**For those who joined in 2019 onwards**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6SB6	Entrepreneurial Skills – Interior Design and Decoration	Lecture / Practical	2	2

**COURSE DESCRIPTION**

This course offers deep insight on all the aspects of interior design and decoration.

**COURSE OBJECTIVES**

- Know the concept of interior design and decoration
- Draw perspective views and House plans, Vastu application

**UNITS**

UNIT – I	HOUSE PLAN	[10 HRS]
Floor plan- low-income plan-medium income plan-high income plan-double storied plan.		
UNIT – II	INTERIOR DESIGNING	[5 HRS]
Clearance spaces- Living room-dining room-Living cum Dining room- bed room –Kitchen lay out-bath room		
UNIT – III	FLOOR COVERINGS	[5 HRS]
Definition- Selection, Types of floor coverings		
UNIT – IV	WINDOW TREATMENTS	[5 HRS]
Concept- Types of Windows – Types of Window Treatments		
UNIT – V	VASTU IN INTERIORS	[5 HRS]

Self -study -Floor plan – Basics of Vastu- Feng Shui Application –Feng Shi.

**REFERENCE BOOKS:**

1. Barrie Evans & James Powell.(1992). *Changing Design*, John Wiley Publication, New York,
  2. Drieve Mary & Stevenson Isabelle. (1996). *The Complete Book of Interior Decoration*, Greystone Press, New York,
- Faulkner ray (1995). *Inside Today's Home*, Kind Port Press, Tennessee,

**COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT 1 – HOUSE PLAN</b>				
1.1	Floor Plan- Meaning Introduction	2	Chalk & Talk	Black Board
1.2	Floor plan- low Income plan	3	Chalk & Talk	LCD
1.3	Medium Income plan	2	Lecture	PPT & White board
1.4	High Income plan	2	Lecture	Smart Board
1.5	Double Storied Plan	1	Discussion	Black Board
<b>UNIT -2 Interior Designing</b>				
2.1	Clearance spaces – Introduction	1	Lecture	Black board
2.2	Living room-dining room	2	Chalk & Talk	PPT
2.3	Dining room- bed room	1	Lecture	PPT & White board
2.4	Kitchen lay out-bath room	2	Discussion	PPT
<b>UNIT -3 Floor coverings</b>				
3.1	Floor coverings - Introduction	1	Lecture	Black board
3.2	Definition- Selection of floor coverings	1	Lecture	Black board
3.3	Types of floor coverings	2	Chalk & Talk	PPT
3.4	Landscaping	1	Chalk & Talk	PPT
<b>UNIT -4 Window Treatments</b>				
4.1	Introduction and meaning	2	Lecture	Black board
4.2	Concept- Types of Windows	2	Chalk & Talk	PPT
4.3	Types of Window Treatments	1	Lecture	PPT & White board
<b>UNIT -5 Vastu in Interiors</b>				
5.1	<b>Self -study -Floor</b>	1	Lecture	LCD



	<b>plan</b>			
5.2	<b>Basics of Vastu</b>	1	Discussion	Black board
5.3	<b>Feng Shui Application</b>	3	Lecture	PPT & White board
5.4	<b>Feng Shui Accessories</b>	1	Discussion	PPT & White board

	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>Total Scholastic Marks</b>	<b>Non Scholastic Marks C6</b>	<b>CIA Total</b>
<b>Levels</b>	<b>T1</b>	<b>T2</b>	<b>Quiz</b>	<b>Assignment</b>	<b>OBT/PP T</b>			
	<b>10 Mks.</b>	<b>10 Mks.</b>	<b>5 Mks.</b>	<b>5 Mks</b>	<b>5 Mks</b>	<b>35 Mks.</b>	<b>5 Mks.</b>	<b>40Mks .</b>
<b>K1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>
<b>K2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>9</b>	<b>-</b>	<b>9</b>
<b>K3</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>K4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>Non Scholastic</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		<b>5</b>	<b>5</b>
<b>Total</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>35</b>	<b>5</b>	<b>40</b>

<b>CIA</b>	
<b>Scholastic</b>	<b>35</b>
<b>Non Scholastic</b>	<b>5</b>
	<b>40</b>

**All the course outcomes are to be assessed in the various CIA components.**

**The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:**

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## **EVALUATION PATTERN**

SCHOLASTIC					NON – SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Construct floor plan for different income groups.	K3,K4	PSO17
CO 2	Classify the concept of interior design	K2, K4	PSO17
CO 3	Describe the concepts of landscaping.	K2	PSO17
CO 4	Identify the different types of windows treatments	K3	PSO17
CO 5	Explain the application of Vastu in interior	K1,K2	PSO17

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	
CO1	1	1	1	1	3	1	3	3	1	1	1	

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>CO2</b>	1	1	1	1	3	2	3	3	1	1	1	
<b>CO3</b>	1	1	1	1	3	1	3	3	1	1	1	
<b>CO4</b>	1	1	1	1	3	1	3	3	1	1	1	
<b>CO5</b>	1	1	1	1	3	1	3	3	1	1	1	

**Mapping of COs with POs**

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>CO1</b>	1	1	1	1
<b>CO2</b>	1	1	1	1
<b>CO3</b>	1	1	1	1
<b>CO4</b>	1	1	1	3
<b>CO5</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – **3**

♦ Weakly Correlated -**1**

♦ Moderately Correlated – **2**

**COURSE DESIGNER:**

**1. Dr. C. Priyalatha**

**Forwarded By**



**NEW****5%**

### III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY SEMESTER –VI

**For those who joined in 2019 onwards**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAHS	19N6SB6	<b>Entrepreneurial Skills – Interior Design and Decoration</b>	<b>Lecture / Practical</b>	<b>2</b>	<b>2</b>

#### **COURSE DESCRIPTION**

This course offers deep insight on all the aspects of interior design and decoration.

#### **COURSE OBJECTIVES**

- Know the concept of interior design and decoration
- Draw perspective views and House plans, Vastu application

#### **UNITS**

UNIT – I	HOUSE PLAN	[10 HRS]
----------	------------	----------

Floor plan- low-income plan-medium income plan-high income plan-double storied plan.

UNIT – II	INTERIOR DESIGNING	[5 HRS]
-----------	--------------------	---------

Clearance spaces- Living room-dining room-Living cum Dining room- bed room –Kitchen lay out-bath room

UNIT – III	FLOOR COVERINGS	[5 HRS]
------------	-----------------	---------

Definition- Selection, Types of floor coverings

UNIT – IV	WINDOW TREATMENTS	[5 HRS]
-----------	-------------------	---------

Concept- Types of Windows – Types of Window Treatments

UNIT – V	<b>VASTU IN HOUSE PLANNING</b>	<b>5%</b>	[5 HRS]
----------	--------------------------------	-----------	---------

Self -study -Floor plan – Basics of Vastu- Feng Shui Application –Feng Shi  
**Scientific Evidence of Vastu.**

#### **REFERENCE BOOKS:**

3. Barrie Evans & James Powell.(1992). *Changing Design*, John Wiley Publication, New York,
4. Drievex Mary & Stevenson Isabelle. (1996). *The Complete Book of Interior Decoration*, Greystone Press, New York,

Faulkner ray (1995). *Inside Today's Home*, Kind Port Press, Tenessee,

### **COURSE CONTENTS & LECTURE SCHEDULE:**

<b>Module No.</b>	<b>Topic</b>	<b>No. of Lectures</b>	<b>Teaching Pedagogy</b>	<b>Teaching Aids</b>
<b>UNIT 1 – HOUSE PLAN</b>				
1.1	Floor Plan- Meaning Introduction	2	Chalk & Talk	Black Board
1.2	Floor plan- low Income plan	3	Chalk & Talk	LCD
1.3	Medium Income plan	2	Lecture	PPT & White board
1.4	High Income plan	2	Lecture	Smart Board
1.5	Double Storied Plan	1	Discussion	Black Board
<b>UNIT -2 Interior Designing</b>				
2.1	Clearance spaces – Introduction	1	Lecture	Black board
2.2	Living room-dining room	2	Chalk & Talk	PPT
2.3	Dining room- bed room	1	Lecture	PPT & White board
2.4	Kitchen lay out-bath room	2	Discussion	PPT
<b>UNIT -3 Floor coverings</b>				
3.1	Floor coverings - Introduction	1	Lecture	Black board
3.2	Definition- Selection of floor coverings	1	Lecture	Black board
3.3	Types of floor coverings	2	Chalk & Talk	PPT
3.4	Landscaping	1	Chalk & Talk	PPT
<b>UNIT -4 Window Treatments</b>				
4.1	Introduction and meaning	2	Lecture	Black board
4.2	Concept- Types of Windows	2	Chalk & Talk	PPT
4.3	Types of Window Treatments	1	Lecture	PPT & White board
<b>UNIT -5 Vastu in Interiors</b>				

5.1	<b>Self -study -Floor plan</b>	1	Lecture	LCD
5.2	<b>Basics of Vastu</b>	1	Discussion	Black board
5.3	<b>Feng Shui Application</b>	3	Lecture	PPT & White board
5.4	<b>Feng Shui Accessories</b>	1	Discussion	PPT & White board

	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total
Levels	T1	T2	Quiz	Assignment	OBT/PP T			
	10 Mks.	10 Mks.	5 Mks.	5 Mks	5 Mks	35 Mks.	5 Mks.	40Mks .
<b>K1</b>	2	2	-	-	-	4	-	4
<b>K2</b>	2	2	5	-	-	9	-	9
<b>K3</b>	3	3	-	-	5	11	-	11
<b>K4</b>	3	3	-	5	-	11	-	11
<b>Non Scholastic</b>	-	-	-	-	-		5	5
<b>Total</b>	10	10	5	5	5	35	5	40

CIA	
<b>Scholastic</b>	<b>35</b>
<b>Non Scholastic</b>	<b>5</b>
	<b>40</b>

All the course outcomes are to be assessed in the various CIA components.

The levels of CIA Assessment based on Revised Bloom's Taxonomy for UG are:

**K1-** Remember, **K2-**Understand, **K3-**Apply, **K4-**Analyse

## EVALUATION PATTERN

SCHOLASTIC					NON – SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

**C1** – Internal Test-1

**C2** – Internal Test-2

**C3** - Quiz

**C4** – Assignment

**C5** - OBT/PPT

**C6** – Non – Scholastic

### COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Construct floor plan for different income groups.	K3,K4	PSO17
CO 2	Classify the concept of interior design	K2, K4	PSO17
CO 3	Describe the concepts of landscaping.	K2	PSO17
CO 4	Identify the different types of windows treatments	K3	PSO17
CO 5	Explain the application of Vastu in interior	K1,K2	PSO17

### Mapping of COs with PSOs

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10	PSO 11	PSO 12
CO1	1	1	1	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	1	1	1	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	1	1	1
CO4	1	1	1	1	1	1	1	1	1	1	1	1
CO5	1	1	1	1	1	1	1	1	1	1	1	1
CO/ PSO	PSO 13	PSO 14	PSO 15	PSO 16	PSO 17	PSO 18	PSO 19	PSO 20	PSO 21	PSO 22	PSO 23	

CBCS Curriculum for B.Sc. Home Science with Food Biotechnology

<b>C01</b>	1	1	1	1	3	1	3	3	1	1	1	
<b>C02</b>	1	1	1	1	3	2	3	3	1	1	1	
<b>C03</b>	1	1	1	1	3	1	3	3	1	1	1	
<b>C04</b>	1	1	1	1	3	1	3	3	1	1	1	
<b>C05</b>	1	1	1	1	3	1	3	3	1	1	1	

**Mapping of COs with POs**

<b>CO/ PSO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>
<b>C01</b>	<b>1</b>	1	1	1
<b>C02</b>	1	1	1	1
<b>C03</b>	1	1	1	1
<b>C04</b>	1	1	1	3
<b>C05</b>	1	1	1	1

**Note:** ♦ Strongly Correlated – **3**  
♦ Weakly Correlated – **1**

♦ Moderately Correlated – **2**

**COURSE DESIGNER:**

**1. Dr. C. Priyalatha**

**Forwarded By**

