# FATIMA COLLEGE (AUTONOMOUS)

**Re-Accredited with "A" Grade by NAAC (3rd Cycle)**
**94th Rank in India Ranking 2019 (NIRF) by MHRD**
**Maryland, Madurai- 625 018, Tamil Nadu, India**

**NAME OF THE DEPARTMENT : HOME SCIENCE**

**NAME OF THE PROGRAMME : UG**

**PROGRAMME CODE : UAHS**

**ACADEMIC YEAR : 2020-2021**

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

**DEPARTMENT 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 | CREDIT | CIA Mks | ESE Mks | TOT. MKs |
|---|---|---|---|---|---|---|---|---|
| 1. | I | 19TLC1 | Language-Modern Literature | 5 | 3 | 40 | 60 | 100 |
| 2. | II | 19TLC2 | Language - Bakthi Literature | 5 | 3 | 40 | 60 | 100 |
| 3. | III | 19TLC3 | Language- Epic Literature | 5 | 3 | 40 | 60 | 100 |
| 4. | IV | 19TLC4 | Language-Sangam Literature | 5 | 3 | 40 | 60 | 100 |
| | | | **Total** | **20** | **12** | | | |

### PART – I –FRENCH

**Offered by The Department of French**

| S. NO | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. MKs |
|---|---|---|---|---|---|---|---|---|
| 1. | I | 19RLC1 | PART 1 LANGUAGE FRENCH | 5 | 3 | 40 | 60 | 100 |
| 2. | II | 19RLC2 | PART 1 LANGUAGE FRENCH | 5 | 3 | 40 | 60 | 100 |
| 3. | III | 19RLC3 | PART 1 LANGUAGE FRENCH | 5 | 3 | 40 | 60 | 100 |
| 4. | IV | 19RLC4 | PART 1 LANGUAGE FRENCH | 5 | 3 | 40 | 60 | 100 |
| | | | **Total** | **20** | **12** | | | |

## PART – I – HINDI

**Offered by The Department of Hindi**

| S. NO | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. MKs |
|---|---|---|---|---|---|---|---|---|
| 1. | I | 19DLC1 | PART 1 LANGUAGE HINDI | 5 | 3 | 40 | 60 | 100 |
| 2. | II | 19DLC2 | PART 1 LANGUAGE HINDI | 5 | 3 | 40 | 60 | 100 |
| 3. | III | 19DLC3 | PART 1 LANGUAGE HINDI | 5 | 3 | 40 | 60 | 100 |
| 4. | IV | 19DLC4 | PART 1 LANGUAGE HINDI | 5 | 3 | 40 | 60 | 100 |
| | | | **Total** | **20** | **12** | | | |

## PART – II -ENGLISH – 12 CREDITS

**Offered by The Research Centre of English**

| S. NO | SEM. | COURSECODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. MKs |
|---|---|---|---|---|---|---|---|---|
| **1.** | **I** | 19E1LB1 | BASIC COMMUNICATIVE ENGLISH | 5 | 3 | 40 | 60 | 100 |
| **2.** | | 19E1LI1 | INTERMEDIATE COMMUNICATIVE ENGLISH | 5 | 3 | 40 | 60 | 100 |
| **3.** | | 19E1LA1 | ADVANCED COMMUNICATIVE ENGLISH | 5 | 3 | 40 | 60 | 100 |
| **4.** | **II** | 19E2LB2 | ENGLISH COMMUNICATION SKILLS (BASIC) | 5 | 3 | 40 | 60 | 100 |
| **5.** | | 19E2LI2 | ENGLISH FOR EMPOWERMENT (INTERMEDIATE) | 5 | 3 | 40 | 60 | 100 |
| **6.** | | 19E2LA2 | ENGLISH FOR CREATIVE WRITING (ADVANCED) | 5 | 3 | 40 | 60 | 100 |
| **7.** | **III** | 19ELC3 | ENGLISH FOR DIGITAL ERA | 5 | 3 | 40 | 60 | 100 |
| **8.** | **IV** | 19ELC4 | ENGLISH FOR INTEGRATED DEVELOPMENT | 5 | 3 | 40 | 60 | 100 |
| | | | **Total** | **20** | **12** | | | |

## *PART – III -MAJOR, ALLIED & ELECTIVES – 95 CREDITS*

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

| S.NO | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | 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 | 4 | 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 COMMUNICATION | 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 | N5CC11 | CRECHE AND PRESCHOOL MANAGEMENT | 6 | 4 | 40 | 60 | 100 |
| **14.** | | N5CC12 | FAMILY RESOURCE MANAGEMENT-I | 4 | 2 | 40 | 60 | 100 |

| S.NO | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. Mks |
|---|---|---|---|---|---|---|---|---|
| **15.** | | N5CC13 | EXTENSION EDUCATION AND COMMUNICATION | 6 | 4 | 40 | 60 | 100 |
| **16.** | | N5CC14 | RESOURCE MANAGEMENT | 5 | 4 | 40 | 60 | 100 |
| **17.** | VI | N6CC15 | FAMILY RESOURCE MANAGEMENT-II | 5 | 4 | 40 | 60 | 100 |
| **18.** | | N6CC16 | FAMILY RESOURCE MANAGEMENT-I & II (PRACTICALS) | 3 | 2 | 40 | 60 | 100 |
| **19.** | | N6CC17 | CLINICAL NUTRITION AND DIETETICS | 5 | 4 | 40 | 60 | 100 |
| **20.** | | N6CC18 | CLINICAL NUTRITION AND DIETETICS(PRACTICALS) | 3 | 2 | 40 | 60 | 100 |

**ALLIEDCOURSES- 20 CREDITS**

| S.NO | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. MKs |
|---|---|---|---|---|---|---|---|---|
| 1. | I | 19N1ACC1 | CHEMISTRY | 3 | 3 | 40 | 60 | 100 |
| 2. | | 19N1ACC2 | CHEMISTRY-LAB | 2 | 2 | 40 | 60 | 100 |
| 3. | II | 19N2ACC3 | FOOD SCIENCEAND NUTRITION-LAB | 3 | 3 | 40 | 60 | 100 |
| 4. | | 19N2ACC4 | CHEMISTRY LAB | 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**

| S.No | SEM. | COURSE CODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. Mks |
|---|---|---|---|---|---|---|---|---|
| 1. | V | N5ME1/ N5ME2 | TECHNICAL TEXTILES /FOOD BIOTECHNLOGY-II | 5 | 5 | 40 | 60 | 100 |
| 2. | VI | N6ME3 / 19N6ME 4 | FAMILY DYNAMICS / FOOD AND DAIRY PROCESSING | 5 | 5 | 40 | 60 | 100 |
| 3. | | N6ME5 / N6ME6 | ALTERNATE SOURCES OF ENERGY/ NUTRITION FOR HEALTH AND FITNESS | 5 | 5 | 40 | 60 | 100 |

## PART – IV – 20 CREDITS

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

| S. No | SEM. | COURSECODE | COURSE TITLE | HRS | CREDIT | CIA Mks | ESE Mks | TOT. Mks |
|---|---|---|---|---|---|---|---|---|
| 1. | I | 19G1VE1 | Value Education (Including Meditation in Action Movement) | 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 | 19G2VE2 | Value Education | 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. | | N5SB3 | ENTREPRENEURIAL SKILLS – BAKING AND FOOD PRESERVATION | 2 | 2 | 40 | 60 | 100 |
| 10. | | N5SB4 | ENTREPRENEURIAL SKILLS – APPLIED ARTS AND CRAFT | 2 | 2 | 40 | 60 | 100 |
| 11. | | N6SB5 | ENTREPRENEURIAL SKILLS –NUTRITION COUNSELING | 2 | 2 | 40 | 60 | 100 |
| 12. | | N6SB6 | ENTREPRENEURIAL SKILLS – INTERIOR DESIGN AND DECORATION | 2 | 2 | 40 | 60 | 100 |

**PART – V – 1CREDIT**

**OFF-CLASS PROGRAMME**

**ALL PART-V**

**Shift I**

- Physical Education
- NSS
- NCC
- Women Empowerment Cell
- AICUF

**Shift II**

- Physical Education
- Rotaract
- Women Empowerment Cell
- AICUF
- Youth Red Cross / NSS

**Kindly retain your respective Part V**

## OFF-CLASS PROGRAMME

**ADD-ON COURSES**

| Courses | Hrs. | Credits | Semester in which the course is offered | CIA Mks | ESE Mks | Total Marks |
|---|---|---|---|---|---|---|
| **COMPUTER APPLICATIONS (**offered by The department of PGDCA for Shift I) | 40 | 2 | I&II | 40 | 60 | 100 |
| **ONLINE SELF LEARNING COURSE**- Foundation Course for Arts | 40 | 3 | I | 50 | - | 50 |
| **ONLINE SELF LEARNING COURSE-** Foundation Course for Science | 40 | 3 | II | 50 | - | 50 |
| **ETHICAL STUDIES**-Value Education | 15 | 2 | III-VI | 50 each Semester | - | 100 |
| **HUMAN RIGHTS** | 15 | 2 | V | - | - | 100 |
| **OUTREACH PROGRAMME**- Reach Out to Society through Action **ROSA** | 100 | 3 | V & VI | - | - | 100 |
| **PROJECT** | 30 | 4 | VI | 40 | 60 | 100 |
| **READING CULTURE** | 10/ Semester | 1 | II-VI | - | - | - |
| **MOOC COURSES**(Department Specific Courses/any other courses) * Students can opt other than the listed course from UGC-SWAYAM UGC / CEC | - | Minimum 2 Credits | - | - | - | |
| **TOTAL** | | 22 + | | | | |

**EXTRA CREDIT COURSE**

| Course Code | Courses | Hrs. | Credits | Semester in which the course is offered | CIA Mks | ESE Mks | Total Marks |
|---|---|---|---|---|---|---|---|
| 19UGSLN1 | **SELF LEARNING COURSE for ADVANCED LEARNERS (offered for III UG)** | - | | | 40 | 60 | 100 |

**OFF CLASS PROGRAMMES**
**19UGVA N1 - Crash Course**
**19UGVA CN1 - Certificate Course**

# I B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –I

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N1CC1 | HUMAN DEVELOPMENT | Lecture | 5 | 4 |

**COURSE DESCRIPTION**

This course gives a complete picture of the developmental changes takes place across the stages

**COURSE OBJECTIVES**

To enable students

- Understand the fundamentals of Human Development
- Get to know information on milestones in all round development of children
- Orient on various childhood problems and disabilities

**UNITS**

**UNIT –I CONCEPT OF HOME SCIENCE AND GROWTH & DEVELOPMENT (18HRS.)**

a) Meaning, needs and role of Home Science for personality and family development.

b) Definition, Principles and Factors influencing growth and development

c) Pregnancy, Symptoms, discomforts and complications

d) Prenatal stage - Period gestation, Period of embryo, Period of fetus, factors affecting prenatal development

**UNIT –II DEVELOPMENT STAGES (Birth–Infancy) (18 HRS.)**

a) Birth process and Types of birth

b) Infancy

a. Neonate and Partunate
b. Physical and motor, cognitive emotional, language and social development.
c. Care of an infant - breast feeding & artificial feeding, weaning and supplementary feeding, toilet Training, Sleep routines, and hygienic practices.

d. Common ailments and treatments -Immunization schedule

c) Babyhood - Physical and motor, cognitive emotional, language and social development

**Self Study**: **Common ailments and treatments -Immunization schedule**

**UNIT –III DEVELOPMENTAL STAGES (Early childhood) (18 HRS.)**

Early Childhood (3-6 yrs)

a) Physical and motor, cognitive, language, social and emotional development.

b) Importance of Preschool years.

**UNIT –IV DEVELOPMENTAL STAGES (Childhood to Adolescence)**

**(18HRS.)**

Middle Childhood (6 - 12 years)

Physical and motor, cognitive, language, social and emotional development.

Adolescence (12 – 20 Yrs )

**Self Study**: **Physical and motor development**, **cognitive**, **social and emotional development.**

**UNIT –V CHILDHOOD PROBLEMS (18HRS.)**

a) Behavior problems - Causes & Prevention, Temper Tantrums, Thumb Sucking, bed wetting, Masturbation, nail biting and Juvenile delinquency, habit and habit formation

b) Children with special needs - a brief study -Physically impaired (Orthopedic, Visual, Hearing, Speech) Mental retardation, gifted and Juvenile Delinquency.

c) Parental styles - Different methods of disciplining children and their effects

**REFERENCES:**

1. Devadas R.P &JayaN, (1994) *Textbook on Child Development*, Macmillan and Co, New Delhi.

2. Helen, B. (1995) *Developing Child,* HarperCollins Publishers

3. Hurlock E.B, (1981) *Developmental psychology: a life-span approach* Tata McGraw -Hill., NewYork.

4. Hurlock E. B, (2004). Child *Development*, (6th ed). , McGraw Hill Inc.,NewYork.

5. Santrock J.W, *(2014) Child Development*, McGraw Hill Inc.,New York.

6. Shrimali S.S, (2008) *Child Development*, Rawat publications, NewDelhi.

7. Suria Kanthi A. (2004) Child *development- An introduction*. Kavitha Publications, Gandhigram, TamilNadu

**WEB REFERENCES :**

1. Cherry, K., 2020, The 4 Stages of Cognitive Development, Retrieved from https://www.verywellmind.com/piagets-stages-of-cognitive-development-2795457

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | The students will be able to define and understand the principles of growth and development |
| CO 2 | Describe pregnancy, prenatal and birth process |
| CO 3 | Explain the developmental changes occur in different stages of human life span |
| CO 4 | Solve problems of childhood and adolescence. |
| CO 5 | Identify and explore on children with special needs |

# I B.Sc. HOME SCIENCE WITH FOOD BIO TECHNOLOGY

## SEMESTER –I

***(For those who joined in 2019 onwards)***

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UG-UAHS | 19N1CC2 | Physiology | Lecture | 4 | 4 |

**COURSE DESCRIPTION**

The course provides a detailed insight on the anatomy and functions of the various systems of the human body.

**COURSE OBJECTIVES**

- Location and anatomy of the organs of the body.
- The functions of the different organ systems of the body, with special reference to the control and feedback mechanisms
- Physiological changes at different stages of life.
- Methods of artificial respiration and family planning.

**UNIT-I DIGESTIVE AND EXCRETORY SYSTEM [15 HRS]**

Anatomy and functions of the organs of the digestive system - oral cavity, stomach, small intestine, large intestine, pancreas, liver; Saliva-composition, function, Bile- composition, function ; process of digestion, absorption and assimilation of food. Movements of the gastro intestinal tract- deglutition, gastric tone, digestive peristalsis, Pendular, Segmenting movements, anti-peristalsis, Peristaltic rush, gastro colic reflex, Vomiting; Jaundice.

**EXCRETORY SYSTEM**

Kidneys, Nephron- Structure and functions, renal circulation, Juxta glomerular apparatus; composition, volume and formation of urine, micturition. Urinary Bladder -Structure, filling of bladder, impairment of renal function.

**UNIT-II BLOOD AND CIRCULATORY SYSTEM [15 HRS)**

Composition, functions and volume, Erythrocytes, Leucocytes, Thrombocytes- types, erythropoiesis, leucopoiesis, fate, functions; Haemoglobin, Erythrocyte sedimentation rate, haemolysis,leucocytosis, leucopenia, leukemia, polycythemia, anaemia.

Structure and functions of the heart and blood vessels, Junctional tissues, cardiac cycle, Blood pressure- factors affecting blood pressure, ECG, heart

sound, cardiac output, regulation of heart rate, pulse.
**Self Study: Blood coagulation, blood grouping transfusion, RH factor, Erythroblastosis foetalis.**

**UNIT-III RESPIRATORY SYSTEM [10 HRS]**
Anatomy- respiratory pathway, lungs - lung unit, Mechanism of respiration, lung volumes, Gaseous exchange in tissues, lungs, transport of $O_2$ and $C0_2$- chloride shift; Regulation of respiration - nervous, chemical - Herring-Brewers reflex; types of breathing; modified forms of respiration- Hypoxia, Asphyxia, Cyanosis, Oxygen debt; Artificial Respiration.

**UNIT-IV REPRODUCTIVE AND ENDOCRINE SYSTEM [10 HRS]**
Anatomy of male and female reproductive organs - menstrual cycle, process of reproduction and lactation, conception and contraception.

Structure and functions of pituitary, thyroid and adrenal glands

**UNIT-V SENSE ORGANS AND NERVOUS SYSTEM [10 HRS]**

Structure and functions of Eye, Ear and Skin –regulation of body temperature.
Structure and functions of neuron, brain and spinal cord; Autonomic nervous system, Reflex Action.

**Self Study: Physiology of sleep. Structure and functions of Eye, Ear and Skin –regulation of body temperature.**

**REFERENCES:**

**TEXT BOOKS**

1. Ahuja (2001) *Textbook of Physiology*, CBS Publishers.
2. Best, C.H., and Taylor, R.B(1975) *The Physiological Basis for Medical Practice*; The William and Wilkinson Scientific Book Company, Kolkata.
3. Chatterjee C. C (1988) *Text book of Medical physiology*, W B Saunder's Co, London.
4. Jain, A.K.(1989) *Textbook of Physiology*. Vol.I and II. Avichal Publishing Co., New Delhi.
5.S.Subramanian and S.M.Kutty ( 1971)*Text Book of Physiology*, Orient Longman.

**REFERENCE BOOKS**

1. C.C. Chatterjee's .(20160 *Human Physiology*, 11e, Vol.1,CBS Publishers
2. Guyton,A.C,
   (2009).*FunctionoftheHumanbody,*4th Edition,W.B.SandersCompany, Philadephia.
3. Guyton,A.C,andHall,J.B.(2010).*TextBookofMedicalPhysiology*,9th Edition, W.B. Sanders Company,Prime Books (Pvt.) Ltd.,Bangalore
4. Gerald R.Graham (2008). *Textbook of Physiology*,PMC Company., US.

5. Muthaiya N. M (2006). *Human Physiology*, 4th Edition , Jaypee Brothers Medical Publishers Ltd, NewDelhi .
6. Sujit E. Chaudhuri(2008). Concise medical physiology, 6th Edition, Jain Book Depot, New Delhi.
7. Winwood (1988). Sear's Anatomy and Physiology for nurses, Edward Arnold, London

**WEB REFERENCES:**

1. www.cvphsysiology.com - Comprehensive explanation of basic cardiovascular concepts
2. simple.wikipedia.org/wiki/Digestion - 17k
3. www.medicalnewstoday.com/articles/11949.php - 59k

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Recall the importance of the intricacy of the human body and Recognize the position of the various organ systems of the body. |
| CO 2 | Illustrate the anatomy of the organs. Explain the physiology of sleep. |
| CO 3 | Describe the functions of the organs with special reference to the feedback mechanisms |
| CO 4 | Choose appropriate artificial respiration techniques during emergencies. |
| CO 5 | Plan strategies to maintain ideal family size. |

# I B.Sc. HOME SCIENCE WITH FOOD BIO TECHNOLOGY

## SEMESTER –I

***(For those who joined in 2019 onwards)***

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UG-UAHS | 19N1CC3 | Physiology Lab | Practical | 3 | 2 |

**COURSE DESCRIPTION**

The course provides practical experience on the identification of various tissues, blood cells, estimation of haemoglobin, blood pressure and determination of clotting time, bleeding time and blood grouping.

**COURSE OBJECTIVES**

- To understand the methodology of determining the various blood parameters
- To identify the various tissues
- To assess the bleeding and clotting time
- To interpret the biochemical lab reports.

**COURSE OUTCOME**

The students will able to

1. Identify the various tissues of the body.
2. Illustrate and describe the blood cells.
3. Determine the hemoglobin level and blood pressure
4. To determine clotting time, bleeding time and blood grouping

**UNIT-I HISTOLOGY [5 HRS]**

Histology - Details of the various tissues — identification of slides a) Alimentary tract - Stomach, intestines, Liver and Pancreas
b) Lungs
c) Kidney
d)Endocrine glands
e) Nervous system
f) Skin

**.UNIT-II BLOOD CELLS [10 HRS]**

Blood Cells — Fresh mount and stained, Differential Count

**UNIT-III RBC & WBC COUNT [10 HRS]**

RBC and WBC count using Neubauer's counting chamber.

**UNIT-IV HAEMOGLOBIN ANALYSIS & BLOOD GROUPING[10 HRS]**

Determination of haemoglobin — Sahli's Method.Blood grouping.

**UNIT-V BLOOD COAGULATION & BLOOD PRESSURE [10 HRS]**

Estimating the Clotting, bleeding time ; ESR rate

Recording pulse rate and measurement of blood pressure. Interpretation of blood examination reports

**REFERENCES:**


1. Best, C.H., and Taylor, R.B( 1975) *The Physiological Basis for Medical Practice*; The William and Wilkinson Scientific Book Company, Kolkata.
2. Chatterjee C. C (1988) *Text book of Medical physiology*, W B Saunder's Co, London.
3. S.Subramanian and S.M.Kutty ( 1971)*Text Book of Physiology*, Orient Longman.
4. Guyton,A.C,andHall,J.B.(2010).*TextBookofMedicalPhysiology*,9th Editio n, W.B. Sanders Company,Prime Books (Pvt.) Ltd.,Bangalore.


**WEB REFERENCES:**

www.cvphsysiology.com - Comprehensive explanation of basic cardiovascular conceptssimple.wikipedia.org/wiki/Digestion - 17k

www.medicalnewstoday.com/articles/11949.php - 59k

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Identify the various tissues of the body |
| CO 2 | Illustrate and describe the blood cells |
| CO 3 | Determine the hemoglobin level and blood pressure |
| CO 4 | Determine clotting time, bleeding time and blood grouping |
| CO 5 | interpret the biochemical lab reports |

# I B.Sc. HOME SCIENCE WITH FOOD BIO TECHNOLOGY

## SEMESTER –I

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UG-UAHS | 19NINME1 | BASICS OF NUTRITION | Lecture | 2 | 2 |

**COURSE DESCRIPTION**

This course helps to understand the basic concepts on health, nutrition and deficiency diseases of various nutrients

**COURSE OBJECTIVES**

- Understand the components of health, nutrition and deficiency diseases of various nutrients
- To gain knowledge on various cooking methods

**UNITS**

**UNIT –I NUTRITION AND HEALTH (6 HRS.)**

Definition – Health, Nutrition, Malnutrition, Adequate Nutrition, Balanced Diet, Nutritional status, Definition of Fitness, Components of Fitness, Types of physical activity and their energy consumption level.

**UNIT –II FOOD (6 HRS.)**

Definition of Food, Functions, Food groups and their Nutrient contribution (Basic 5), Food pyramid, Definition of Nutrient, Classification.

**UNIT –III MACRO NUTRIENTS AND HEALTH (6 HRS.)**

Definition, Functions, Deficiency diseases and their important signs and symptoms, Food sources of carbohydrate, protein and fat.

**UNIT –IV MICRO NUTRIENTS AND HEALTH (6 HRS.)**

Definition, Functions, Deficiency diseases and their important signs and symptoms, Food sources of vitamin A, D, E, K, $B_1$, $B_2$, $B_3$, $B_6$, $B_{12}$, C and folic acid. Minerals – Ca, P, I, Zn, Na, Fl.

**UNIT –V COOKING AND HEALTH (6 HRS.)**

Definition, Glossary and Preliminary preparation and cooking methods – , Merits and Demerits, Conservation of nutrients.

**REFERENCES:**


1) Benion Marion (1980). *Introductory foods*, Macmillan, New York,
2) Gitanjali Chatterjee, ,(1999) *Handbook of Nutrition*, Rajat Publications.
3) Srilakshmi.B.(2010). *Food Science*, New age International Pvt.Ltd., New Delhi.
4) Anjana Agarwal, Shobha A Udipi (2014) Text book of Human Nutrition, Jaypee Brothers Medical Publishers.
5) Dr.M.Swaminathan (2010), Handbook of Food and Nutrition, The Bangalore Press, Bangalore.


**WEB REFERENCES :**

**www.nutrition.gov**

**www.eatright.org**

**www.nutritionfacts.org**

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Define the terminologies related to nutrition and health |
| CO 2 | Describe the functions of food, food groups and food guide pyramid |
| CO 3 | Identify the symptoms of deficiency disease of nutrients |
| CO 4 | Classify micro nutrients and identify the impact on health |
| CO 5 | Choose the appropriate cooking methods to conserve the nutrients |

# I B.Sc.Home Science with Food Biotechnology

## SEMESTER –II

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N2CC4 | HUMAN NUTRITION | Lecture | 5 | 4 |

**COURSE DESCRIPTION**

The course offers the classification, metabolism, functions and deficiency disorders of macro and micronutrients.

**COURSE OBJECTIVES**

- To enable the students to gain knowledge of nutrients, their metabolism and functions.
- To adapt the knowledge gained to modify their daily meal pattern.
- To understand the terminologies related to antioxidants, nutrigenetics and nutrigenomics.

**UNITS**

**UNIT –I ENERGY (12 HRS.)**

Energy - Determination of energy content of foods, physiological fuel value, gross energy value, Thermic effects of foods, basal metabolic rate, factors influencing BMR, determination of energy requirements in man – Human Respiration Calorimeter.

**Self study: Sources and requirements.**

**UNIT –II MACRONUTRIENTS (12 HRS.)**

Carbohydrates - Classification, functions, digestion, absorption, metabolism.
Proteins - Classification, functions, digestion and metabolism, essential amino acids, deficiency –, sources.
Lipids – Classification, functions, digestion, absorption, essential fatty acids, functions, effects of deficiency, sources.

**Self study:Protein Energy Malnutrition, *Sources and Requirements of Carbohydrates, Proteins & Lipids.***

**UNIT –III MICRONUTRIENTS (12 HRS.)**

Minerals – their role in nutrition, functions, requirements, sources, deficiency – Calcium, phosphorous, sodium, potassium, copper, iron, iodine, fluorine, zinc.
Vitamins - their role in nutrition, functions, requirements, sources, deficiency – Fat soluble vitamins – A,D,E,K, water soluble vitamins - Thiamine, Niacin, Riboflavin, Folic acid , Ascorbic acid.

**Self Study**: **Vitamin $B_6$, Vitamin $B_{12}$.**

**UNIT –IV WATER AND FIBRE (12 HRS.)**

Water: Functions, requirements, sources, balance, dehydration and rehydration.

Fibre: Functions, clinical role in human nutrition.

**Self Study**: **sources and requirements**.

**UNIT –V ANTIOXIDANTS AND NUTRIGENOMICS (12 HRS.)**

Antioxidants – Sources and effects of free radicals, Antioxidant defense systems, Antioxidant & diseases, Sources of antioxidants.

Nutrigenomics- Basics of Nutrigenomics- Tools of Nutrigenomics- Chronic Disease and Nutritional Genomics.

**REFERENCES:**


1. 1. B. Srilakshmi (2016). *Nutrition Science*" New Age International Publishers.
2. Anita F.P. (1989). *Chemical Nutrition Dietetics*, Oxford University Press.
3. Gulthrie .A (1979). *Introductory Nutrition*, The AVI. Mospy Company.
4. Passmore R. Eastinood M.A. (1986). *Human Nutrition and Dietetics*, Longman Group Ltd.
5. Robinsion C.H., Lawler M.R. (1990). *Normal and Therapeutic Nutrition*, Oxford and IBH Publisher
6. Swaminathan.M (1988). *Advanced trend took on Food and Nutrition*, Vol I and Vol II, The Bangalore Printing and Publishing Co. Ltd.


## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Define the units and concepts of energy |
| CO 2 | Classify and explain the macro and micro nutrients. |
| CO 3 | Describe the nutrients with respect to the excess, deficiency and RDA for each nutrient. |
| CO 4 | Solve the problem of identifying the nutrient quantification to sustain the energy allowance of individuals. |
| CO 5 | Explain the non nutrients – water and dietary fibre. |
| CO6 | Describe antioxidants, nutrigenetics and nutrigenomics |

# I B.Sc.Home Science with Food Biotechnology

## SEMESTER –II

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UG-UAHS | 19N2CC5 | FOOD SCIENCE | Lecture | 4 | 3 |

**COURSE DESCRIPTION**

The course emphasizes on the composition of foods and the changes that occur during processing.

**COURSE OBJECTIVES**

- Gain knowledge on the nutritive value of different foods and understand the classification of foods.
- Develop skills to prepare acceptable foods with regards to appearance palatability and nutritive value

**UNITS**

**UNIT –I BASIC CONCEPTS AND RECENT TRENDS IN FOOD SCIENCE**

**(12 HRS.)**

Concept of Food Science – definition of foods and food science; functions and classification of foods. Food groups and their nutrient contribution – Basic 5 (ICMR). Methods of cooking – merits and demerits of moist heat methods and dry heat methods. Recent trends in food science – genetically modified foods & Nutraceuticals.

**Self Study: Solar cooking and microwave cooking**

**UNIT –II CEREALS, PULSES, FRUITS & VEGETABLES (12 HRS.)**

Structure, Nutritive value, changes during preparation

a) Cereals – structure of cereal grains, their nutritive value, milling and parboiling of cereals and its advantages, enrichment and fortification of cereals.

b) Pulses - Their nutritive value, importance of vegetarian diets. Improvement of the protein pulses, toxic constituents, values of geminated pulses.

c) Fruits and vegetables - Classification, nutritive value, pigments, importance in the diet. Conservation of nutrients during preparation and cooking.

**UNIT –III MEAT, POULTRY &FISH (12 HRS.)**

Flesh foods – Meat, Poultry, Fish - Composition, nutritive value and its role in cookery

**UNIT –IV EGG, MILK & MILK PRODUCTS (12 HRS.)**

a) Eggs - Structure and nutritive value – Role of egg in cookery.

b) Milk and milk products: Nutritive value, different types of milk and its products.

**UNIT –V SPICES, CONDIMENTS, NUTS, OILSEEDS & BEVERAGES**

**(12 HRS.)**

1. Spices and condiments – uses and abuses
2. Nuts and oilseeds –their nutritive value and importance of the diet.

**Self study: Beverages– Classification and its role in daily diet.**

**REFERENCES:**

1) Avantina Sharma (2010). *Food Science and Technology,* International Book Distributing Company.

2) Benion Marion (1980). *Introductory foods*, Macmillan, New York.

3) Fox B.A., Cameron A.G.(1982) *Food Science a Chemical Approach* Hodden and Stoughton Ltd., Great Britain.

4) Peckham G.C (1978) .*Foundations of Food preparation* Macmillan Co, New York.

5) Potter N.N.(2007) *Food Science*, The AVI Publishing Company INC, USA

6) Shankuntala O.Manay (2005). *Food: Facts and Principles,* New age International Pvt.Ltd, NewDelhi.

7) Srilakshmi.B (2018). *Food Science*, New age International Pvt.Ltd, NewDelhi.

**JOURNAL REFERENCES:**

1. Journal of Food Science
2. Journal of Food Science and Technology
3. International Journal of Food Science and Nutrition
4. Trends in Food Science and Technology
5. Critical Reviews in Food Science and Nutrition

**WEB REFERENCES :**

**www.nin.res.in**

**www.cftri.res.in**

**www.iifpt.edu.in**

**www.afsti.org**

**www.icfost.org**

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Define the basic concept and recent trends in food science and nutrition |
| CO 2 | Classify the cooking methods |
| CO 3 | Describe the composition of food groups |
| CO 4 | Choose the suitable cooking methods for various food groups |
| CO 5 | Identify the role of foods in Indian cookery |

# I B.Sc.Home Science with Food Biotechnology

## SEMESTER –II

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UG-UAHS | 19N2CC6 | FOOD SCIENCE AND NUTRITION LAB | Practical | 3 | 2 |

**COURSE DESCRIPTION**

This course provides culinary knowledge and imparts practical skills in food preparations.

**COURSE OBJECTIVES**

- To learn basic safety and sanitation practices related to food preparation.
- To practice accurate measuring techniques of the ingredients.
- To apply appropriate food preparation techniques in preparing recipes from different food groups.
- To identify and estimate sugars, protein and minerals in food samples.

**UNITS**

**UNIT I EXPERIMENTAL COOKERY AND PREPARATION OF RECIPES(10 HRS.)**

- Cereal cookery – Gelatinization, Dextrinization, cooking methods of rice, recipe preparations.
- Pulse cookery – Factors affecting cooking quality, recipe preparations.
- Vegetable cookery – Effect of cooking on pigments- Chlorophyll and Carotenoids, recipe preparations
- Fruit cookery – Factors affecting enzymatic browning, recipe preparations
- Milk & Egg cookery –Factors affecting cooking quality of egg, recipe preparations
- Fleshy foods cookery - recipe preparations

**UNIT –II QUALITATIVE ANALYSIS OF MONOSACCHARIDE (10 HRS.)**

Monosaccharide - Glucose, Fructose, Galactose

**UNIT –III QUALITATIVE ANALYSIS OF DISACCHARIDES (10 HRS.)**

Disaccharide - Sucrose, Lactose and Maltose

**UNIT –IV QUALITATIVE ANALYSIS OF NUTRIENTS (5 HRS.)**

- Protein
- Minerals

**UNIT –V QUANTITATIVE ANALYSIS OF NUTRIENTS (10 HRS.)**

- Reducing sugar
- Vitamin C

**REFERENCES:**

1. Thangam E.Philip (1995). *Modern Cookery,* Orient Longmans Limited, New Delhi.
2. Benion Marion (1980). *Introductory foods*, Macmillan, New York.
3. Fox B.A., Cameron A.G. (1982) *Food Science a Chemical Approach* Hodden and Stoughton Ltd., Great Britain.
4. Peckham G.C (1978) .*Foundations of Food preparation* Macmillan Co, New York.

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Recall the principles of various cooking methods. |
| CO 2 | Classify edible and non-edible portions of food stuffs |
| CO 3 | Plan the preparation of recipes based on different food groups |
| CO 4 | Distinguish the factors affecting the food components during cooking process |
| CO 5 | Identify sugars, protein and minerals present in food samples |
| CO6 | Explain the quantitative analysis of reducing sugar and ascorbic acid |

**II B.Sc. HOMESCIENCE**

**SEMESTER –III**

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3CC7 | EXTENSION EDUCATION AND COMMUNICATION | Lecture | 5 | 4 |

**COURSE DESCRIPTION**

This course create awareness on principles of extension education and extension teaching methods

**COURSE OBJECTIVES**

- To understand the concept of community development and panchayat raj.
- To create awareness on women welfare scheme
- To impart knowledge on communication methods
- To develop skill in preparing audio-visual aids
- To understand different extension teaching methods.

**UNITS**

**UNIT – I EXTENSION EDUCATION [20 HRS]**

Meaning, objectives and Principles of Extension and definition of Home science extensionAllied concepts - Formal, Non-formal, Qualities, Role and Functions of Extension Workers

History of CDP in India, Panchayat Raj – Three tier system, Program Planning.

**UNIT – II WOMEN WELFARE PROGRAMMES [15 HRS]**

RMK, IMY, MGNREGS, PMRY & National livelihood programme, National Rural livelihood mission, National Social Assistance Scheme

**UNIT – III COMMUNICATION [15 HRS]**

**Self study - Communication - Definition, Meaning, Objectives & Principles**

Elements of communication, barriers to communication

**UNIT – IV EXTENSION TEACHING METHODS [20 HRS]**

Meaning and teaching, Classification of extension teaching methods

i. Individual methods: Farm & home visit, farmer's call & personal letters.

ii. Group methods: Result demonstration, method demonstration, group meetings, study tour.

iii. Mass methods: Publications – Leaflet, Pamphlet, Folder ,mass meetings, exhibition, campaign, newspaper, Radio and T.V.

**UNIT – V AUDIO - VISUAL AIDS [20 HRS]**

Definition, Classification**,** criteria for selection and evaluation of audio-visual aids & Cone of Experience.

***Audio Aids:*** E-Communication methods, Public address system, Radio

***Visual Aids:***

i. Projected: Slides, filmstrip, opaque projection, overhead projection.

ii. Non - projected: Chalkboard, Bulletin board, flannel graph, flash card, poster- diagram, map, chart, graph, specimen and models.

***Audio - visual aids*:** Television, Motion pictures, Drama, Puppet show

**REFERENCES**

1. Adivi Reddy.( 1973) *Extension Education*, Lakshmi Pub, Andrapradesh.
2. Dhaina & Batnagar O.P.( 1980) *Education and communication for Development*, Oxford Pub., New Delhi.
3. Roy, G.L. (1994).*Extension Communication and Management*, New Delhi,

**Web Reference**

1. http://www.wanterfall.com/Downloads/Communication.pdf
2. http://www.slideshare.net/pria87/audio-visual-aids

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Define the concepts of Home Science Extension Education. |
| CO 2 | Describe the various welfare programmes for women |
| CO 3 | Explain the principles and models of communication |
| CO 4 | Classify the extension teaching methods. |
| CO 5 | Construct audio –visual aids. |

# II B.Sc. – HOME SCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –III

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3CC8 | FIBRE TO FABRIC | Lecture | 4 | 3 |

**COURSE DESCRIPTION**

This course enlightens the students on the various steps in the conversion of fibre into fabric. It also deals with the dyeing and printing techniques.

**COURSE OBJECTIVES**

- The course will make the students
- To gain knowledge on the various textile fibres, their manufacture, spinning and weaving operations.
- To understand the basic and functional finishes applied on fabrics and the qualities imparted.
- To develop skill to choose appropriate dyes and printing technique for a given fabric.

**UNITS**

**UNIT –I CLASSIFICATION AND MANUFACTURING PROCESS OF TEXTILE FIBRES (15 HRS.)**

Classification of textile fibres blends and mixtures. Manufacturing process of:

1. Natural fibres Cotton, Linen, Wool Silk and Asbestos
2. Man made fibres Rayon, Nylon, Polyester, Acrylic and Glass

**Self Study: Minor fibres – Jute, Hemp, Kapok, Coir.**

**UNIT –II FIBRE IDENTIFICATION, PROPERTIES AND SPINNING (10 HRS.)**

1. Identification of textile fibres

2. Physical properties of fibres

3. Yarn making Spinning

4. Types of yam simple, complex and novelty.

**Self Study: Mechanical and Chemical spinning**

**UNIT –III FABRIC MANUFACTURING TECHNIQUES (15 HRS.)**

1. Weaving basic plain, twill, satin; Fancy weaves Pile, Dobby and Jacquard.
2. Non woven Knitting, felting and bonding

**UNIT –IV FABRIC FINISHING ( 10 HRS.)**

1. Basic singeing, scouring, bleaching, mercerizing, sizing, calendering, tentering.
2. Functional water proofing, water repellency, fire proofing, moth proofing, sanforising, crease recovery.

**UNIT –V DYEING AND PRINTING ( 10 HRS.)**

1. Classification of dyes, application to different fibres, stages of dyeing.
2. Printing: Hand: Resist, stencil, screen and block.
3. Machine: Rotary Screen Printing, Roller Printing

**REFERENCES:**

1.Dantyagi, S. (1996). Fundamentals of textiles and their care. Orient Longman Limited, New Delhi.

2.Gordon Cook, J. (2001). Handbook of Textile Fibres. Woodhead Publishing Ltd, England.

3.Howard L.Needles. (2001). Textile Fibres, Dyes, Finishes and Processes. Standard Publishers Distributors, Delhi.

4.Lord, P.R. & Mohamed, M.H. (2001) Weaving: Conversion of yarn to Fabric. Woodhead Publishing Ltd, England.

5.Rattan, J.B. (2001). Modern Textile Technology. Abhishek Publications, Chandigarh.

6.Sara J Kadolph. (2009). The Textiles. Dorling Kindersley India Pvt., Ltd.

7.Vidyasagar, P. V. (1998). Handbook of Textiles. Mittal Publications.

8.Murphy, W.S. (2003). Handbook of Weaving. Abhishek Publications, Chandigarh.

**WEB REFERNCES :**

1. www.fibre2fabric.com
2. www.fibretofashion.com

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Classify the textile fibres and describe the manufacturing process of natural, manmade andminor textile fibres. |
| CO 2 | Identify the fibre content of the fabric. |
| CO 3 | Illustrate and give examples of yarns and weaves. |
| CO 4 | Choose the basic and functional finishes based on the end use of the material. |
| CO 5 | Restate in own words the pros and cons of natural and synthetic dyes. |
| CO 6 | Describe the hand and machine printing techniques. |

# II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –III

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3CC9 | BASICS OF CLOTHING CONSTRUCTION LAB | Practical | 3 | 2 |

**COURSE DESCRIPTION**

This practical paper aims at imparting skill in the basics of stitching a garment.

**COURSE OBJECTIVES**

- To familiarize students with the parts and functions of the sewing machine.
- To impart skill in constructing seams, darts, tucks, pleats and gathers.
- To make the students apply appropriate edge finishes to garments.
- To develop skill in attaching pockets and yokes to dresses.

**UNITS**

**UNIT –I (5 HRS.)**

Parts and functions of the sewing machine, use and care.

**UNIT –II (10 HRS.)**

Seams and seam finishes: plain seam, flat fell seam, French seam, single top stitching, double top stitching.

**UNIT –III (10 HRS.)**

Fullness: Darts, tucks, pleats, gathers and shirrs.

**UNIT –IV** **( 10 HRS.)**

Edge finishing: Bias binding, facing and hems.

**UNIT –V** **( 10HRS.)**

Pockets and yokes.

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Identify the parts and functions of the sewing machine. |
| CO 2 | Construct various seams and seam finishes. |
| CO 3 | Build samples for introducing fullness in a garment. |
| CO 4 | Choose and apply appropriate edge finishes like binding, facing and hems. |
| CO 5 | Illustrate and develop pockets and yokes |

# II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –III

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3AC1 | CATERING AND HOTEL MANAGEMENT | Lecture | 3 | 3 |

**COURSE DESCRIPTION**

This course describes the role of front office and housekeeping in Hotel Management

**COURSE OBJECTIVES**

- Learn the functions of the front office and House keeping
- Understand their importance in increasing the revenue of hotels

**UNITS**

**UNIT –I INTRODUCTIONTO HOTEL INDUSTRY (9 Hrs.)**

Hotel – Definition, Evolution of Hotel industry, Types of hotels, Organization chart of a hotel – small and large, Types of catering establishment, Star classification and its features.

**UNIT –II FRONT OFFICE MANAGEMENT (9 Hrs.)**

Front office- Definition, Importance of front office, Front office organization layout, sections of front office. Duties and responsibilities of front office staff, Types of room, Types of plans, Types of room rates.

**UNIT–III HOTEL RESERVATION AND RECEPTION (9Hrs.)**

Reservation – Definition, Types of reservation, Reservation- procedure, Sources of reservation, Modes of reservation.

Reception - Duties and responsibilities of lobby manager, Guest luggage handling procedure, C- form.

Front office accounting – Definition, Types of account, Types of posting in a guest account, Safe guard of hotel credit facility, Foreign currency exchange

Registration - Check in and Checkout procedure, Guest cycle.

**UNIT –IVHOUSEKEEPING MANAGEMENT (9 Hrs.)**

Housekeeping department- Definition, Importance , Organization chart, Duties and responsibilities of housekeeping staff, Interdepartmental

relationship of front office and house Keeping.

Bed making- Procedure of bed making. Room report- Preparation of room report, Check lists. Linen- Classification of linen, Modes of obtaining linen. Furnishings- Soft furnishings, Floor furnishings-Carpets and Wall covering.

**UNIT –V CLEANING AND LAUNDRY MANAGEMENT (9 Hrs.)**

Laundry procedures, Laundry equipments,Stain removal.

Cleaning– Methods, Cleaning agents- Classification, Selection of cleaning equipments,

**Self study: Uniform- Selection, Code and maintenance of staff uniform.**

**REFERENCES:**


1. Allen D.M. (1992).*Accomodation and cleaning service*, Vol II Management
2. Andrews.S.(1995).*Hotel Front Office Training Manual*, Tata McGraw Hill, New Delhi.
3. Andrews.S.( 1982).*House Keeping Training Manual*, Tata McGraw Hill, New Delhi.
4. Negi Jagmohan (2007).*Managing Hotel and Restaurants*, Authors Press .


**WEB REFERENCES:**

1. http://setupmyhotel.com
2. http://works.chron.com
3. www.tutorialspoint.com

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Identify the different types of catering establishments and front office management. |
| CO 2 | Explain the functions of front office department. |
| CO 3 | Plan reservation and registration procedure. |
| CO 4 | Describe the management and functioning of housekeeping department. |
| CO 5 | Classify the cleaning agents and equipments. |

# II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –III

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3AC2 | CATERING AND HOTEL MANAGEMENT - LAB | Practical | 2 | 2 |

**COURSE DESCRIPTION**

This course gives a practical knowledge and hands on experience on the front office Management and housekeeping skills.

**COURSE OBJECTIVES**

- Filling of various documents used in front Office
- Registration procedures
- Handling reservations and telephone Manners
- Use of cleaning equipments and cleaning agents for various surfaces
- Bed making procedures

**UNITS**

**UNIT –I HOTEL ORGANIZATION (6 HRS.)**

Identification of organization structure of different star hotels.

**UNIT –II RESERVATION AND REGISTRATION (6 HRS.)**

Reservation and registration procedure.

**UNIT–III BED MAKING (6HRS.)**

Bed making procedure.

**UNIT –IV FRONT OFFICE OPERATION (6 HRS.)**

Exhibiting front office process.

**UNIT –V HOUSEKEEPING**

UnderstandingCleaning equipments and agents of different hotels. **(6 HRS.)**

**REFERENCES:**


1. Allen D.M. (1992). *Accomodation and cleaning service*, Vol II Management
2. Andrews.S.(1995). *Hotel Front Office Training Manual*, Tata McGraw Hill, New Delhi.
3. Andrews.S.( 1982). *House Keeping Training Manual*, Tata McGraw Hill, New Delhi.
4. Negi Jagmohan (2007). *Managing Hotel and Restaurants*, Authors Press .


**WEB REFERENCES:**

1. http://setupmyhotel.com
2. http://works.chron.com
3. www.tutorialspoint.com

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Recall organization structure and management |
| CO 2 | Plan reservation and registration procedure |
| CO 3 | Illustrate bed making procedure |
| CO 4 | Exhibiting front office process |
| CO 5 | UnderstandingCleaning equipments and agents of different hotels |

# II B.Sc. HOME SCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –III

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/ WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N3SB1 | ENTREPRENEURIAL SKILLS – SURFACE ORNAMENTATION | Lecture / Practical | 2 | 2 |

**COURSE DESCRIPTION**

This skill based paper aims at imparting hand embroidery and fabric painting techniques.

**COURSE OBJECTIVES**

• To develop skill in making hand embroidery stitches.

• To encourage students to apply embroidery on table cloth, hand kerchief, tops and blouse.

•To in culcate fabric painting technique in students and make them use this skill on clothing and household linen.

**UNITS**

**UNIT –I ( 6 HRS.)**

Development of design from a basic motif applying the elements and principles of design.

**UNIT –II (6 HRS.)**

Embroidery – Basic hand stitches like chain, satin, long and short, feather, back.

**Self Study: Lazy daisy, French knot, bullion knot, Herring bone, Button hole.**

**UNIT –III ( 6 HRS.)**

Application of embroidery stitches on table cloth, hand kerchief, tops and blouse.

**UNIT –IV ( 6 HRS.)**

Fabric painting study of paints & brush available, different methods of painting.

**UNIT –V (6 HRS.)**

Application of fabric painting technique on place mats, pillow cover, saree and kameez.

**REFERENCES:**

1.Creative Craft in Fabric and Yarn . (1979). Gallery Press, London.

2.Gladys Cunnigharn. (1969). Singer Sewing Book. Golden press, New York.

3.Julia Barton. (1989). The Art of Embroidery. Merchurst Ltd., London.

4.Pamela Cabburn. (1976). The Needle Work's Dictionary. William and Morrow and Company, Inc. New York.

5.Reader's Digest. (1955). Complete Guide to Needlework.

6.Simon and Schuster. (1960). McCall's Treasury of Needle craft. Schuster Publishing, New York.

7.The ultimate Design Source Book for Crafters. (2007). Search Press Ltd, Kent, Australia.

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Illustrate a basic motif . |
| CO 2 | Recognise the basic hand stitches and prepare samples. |
| CO 3 | Choose and apply appropriate embroidery stitches on various products. |
| CO 4 | Describe different methods of painting on fabrics. |
| CO 5 | Plan the fabric painting technique for clothing and household linen. |

**IIB.Sc. HOMESCIENCE**

**SEMESTER –IV**

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

| PROGRAMME CODE | COURSE CODE | COURSE TITLE | CATEGORY | HRS/WEEK | CREDITS |
|---|---|---|---|---|---|
| UAHS | 19N4CC10 | BASICS OF FOOD BIOTECHNOLOGY | Lecture | 5 | 4 |

**COURSE DESCRIPTION**

This course describes the concepts of biotechnology, role of microorganism in food industry

**COURSE OBJECTIVES**

- To enable students to understand the concepts of biotechnology
- To gain knowledge on role of microorganism in food industry

**UNITS**

**UNIT –I BIOTECHNOLOGICAL APPOARCHES IN FOOD PROCESSING (15HRS.)**

Biotechnology –Definitions – Branches - Biotechnology in India.

Food Biotechnology - Scope, Importance and applications in fields of medicine, agriculture, industry and environment. Microorganisms associated with food biotechnology – Bacteria, Yeast, Mould

**Self Study:applications in fields of medicine, agriculture**

**UNIT –II BASICS OF MICROBIOLOGY (15 HRS.)**

Spoilage, contamination and preservation of foods

Factors affecting microbial growth, Microbial kinetics

**UNIT –III PRODUCTION OF CULTURES FOR FOOD FERMENTATION ( 15HRS.)**

Culture of food microbes - Preparation of nutrient media, Sterilization and disinfection, inoculation techniques, Staining methods, Microbial examination.

**UNIT –IV FERMENTATION TECHNOLOGY ( 15 HRS.)**

Fermentation – Definition, Fermentation process, Fermented food Products – Yoghurt, Cheese, Tempeh, saurkraut, Idli, Dosa. Advantages of fermented products

**Self Study: Advantages of fermented products**

**UNIT –V SINGLE CELL PROTEIN ( 15HRS.)**

Single cell Protein: Definition, Microorganisms used for SCP production, Substrates, procedure for production of SCP, Biomass recovery, Advantages of SCP, Limitations of SCP.

**REFERENCES:**

1. Frazier, (1989) .*Food Microbiology*, THM Publications
2. Gupta, P.K. (1995).*Elements of Biotechnology*, Rastogi Publications, Meerut.
3. Jay, (1987). *Modern Food Microbiology,* CBS Publishers,
4. Rita Singh. ( 2004).*Food Biotechnology*, Global Vision Publishing House, Delhi.
5. Singh, B. D (2004). *Biotechnology Expanding Horizons*, Kalyani Publishers, Ludhiana.
6. Sri Ram Sridhar (2005). *Enzyme Biotechnology*, Dominant Publishers and Distributors, New Delhi.

**WEB REFERNCES**

1. http://www.businessdictionary.com/definition/food-biotechnology.html
2. http://www.mrothery.co.uk/genetech/genetechnotes.htm
3. http://www.wpi.edu/Pubs/E-project/Available/E-project-031405-135846/unrestricted/IQP.pdf
4. http://www.sciencedaily.com/articles/t/transgenic_plants.htm

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Define the concepts of biotechnology, its branches and scope |
| CO 2 | Classify the food microorganisms and to Identify the factors affecting the microbial growth |
| CO 3 | Explain the techniques of preparation of culture media, sterilization, inoculation and staining |
| CO 4 | Build knowledge on fermentation process and its application |
| CO 5 | Infer the production of single cell protein |

# 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 | 19N4CC11 | CLOTHING AND FASHION | Lecture | 4 | 3 |

**COURSE DESCRIPTION**

This course aims at imparting knowledge on basics of clothing construction, clothing selection, care and wardrobe planning. It also deals with fashion industry, fashion promotion and fashion illustration.

**COURSE OBJECTIVES**

- To enable students to develop skills in clothing construction and care of clothes.
- To introduce the concept of fashion.
- To develop fashion sketching techniques.

**UNITS**

**UNIT –1 BASICS OF CLOTHING CONSTRUCTION (10 HRS.)**

a) Preparation of fabric,
b) Techniques of patterns making – drafting, draping and flat pattern
c) Pattern layout.

**Self Study: Importance of body measurement**

**UNIT –II CLOTHING SELECTION, CARE AND WARDROBE PLANNING ( 15HRS.)**

1. Wardrobe planning – principles, clothing inventory, spending plan, shopping skill and accessories.
2. Water – hardness, methods of softening.
3. Soaps and detergents
4. Bleaching agents
5. Dry cleaning.

**Self Study: Factors influencing the choice of clothes – age, sex, income, family size, occupation, customs and tradition, climate, fashion, occsion and suitability.**

**UNIT –III INTRODUCTION TO FASHION (10 HRS.)**

a) Definition of Fashion, Style Classic, Fad.
b) Terms related to fashion industry – Mannequin, Boutique, Fashion shows, Apparel, Catalogue, Haute Couture, forecasting.
c) Fashion – origin, concept, fashion cycle and trends.

**UNIT –IV FASHION INDUSTRY AND FASHION PROMOTION(10 HRS.)**

a) Structure of the Fashion industry

b) Structure of the Fashion market
c) Techniques for fashion promotion – fashion advertising, fashion conferences, trade fairs, Exhibition, fashion shows, fashion journalism and window display.

**UNIT –V FASHION ILLUSTRATION (15 HRS.)**

a) Elements and Principles of design
b) Designing casual wear using templates
c) Designing party wear using templates
d) Designing kids wear using templates

**REFERENCES:**

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.
7. Sharon Lee Tate. (2004). Inside Fashion Design. Pearson Education.
8. Tracy Diane & Tom Cassidy. (2005). Colour Forecasting. Blackwell Publishing.

**WEB REFERNCES :**

1. www.fibretofashion.com
2. www.businessoffashion.com

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Identify the different techniques of pattern making and pattern layout. |
| CO 2 | Explain the principles of wardrobe planning and factors to be remembered in the selection of clothes. |
| CO 3 | Summarize the laundering agents. |
| CO 4 | Recall the terms related to fashion industry, fashion cycle and fashion trends. |
| CO 5 | Describe the structure of fashion industry, fashion market and fashion promotion techniques. |
| CO 6 | Illustrate and apply elements and principles of design on casual wear, party wear and kids wear. |

# 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 | 19N4CC12 | CLOTHING AND FASHION - LAB | Practical | 3 | 2 |

**COURSE DESCRIPTION**

This course makes the students to become skillful in constructing garments and creating fashion sketches.

**COURSE OBJECTIVES**

- To impart skill in drafting and construction of garments.
- To train students in fashion illustration.

**UNITS**

**UNIT –I** **( 12 HRS.)**

Drafting paper pattern and construction of

(i) Baby's Night Gown

(ii) Six Gore Saree petticoat

**UNIT –II** **(12 HRS.)**

Drafting paper pattern and construction of

(i) Nighty

(ii) Salwar Kameez

**UNIT –III** **( 7 HRS.)**

Drawing flesh figure using 8 head theory.

**UNIT –IV** **( 7 HRS.)**

Drawing shoes, handbags, hats and hairstyles.

**UNIT –V** **(7 HRS.)**

Developing sketches based on themes

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Construct baby garment and saree petticoat. |
| CO 2 | Plan drafting and construct nighty and salwar kameez. |
| CO 3 | Build flesh figure using 8 head theory. |
| CO 4 | Choose and draw different hairstyles and accessories. |
| CO 5 | Illustrate casual wear, party wear and festive wear based on themes. |

# 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 | 19N4AC3 | FOOD PRODUCTION AND SERVICE | Lecture | 3 | 3 |

**COURSE DESCRIPTION**

This course provides knowledge on the production of food in different styles and the service procedure.

**COURSE OBJECTIVES**

- To understand the concept of Catering and Food Production.
- To learn different types of cuisine and service types.

**UNITS**

**UNIT –I CLASSIFICATIONOF RAW MATERIALS( 9HRS.)**

Aims and objectives of cooking Food – Classification of Raw Materials
**Self study: Pre preparation of Ingredients – Methods of mixing Foods – cooking methodology for Indian, Continental and Chinese Cookery.**

**UNIT –II SOUPS , SAUCES AND SALADS ( 9 HRS.)**

Stocks and Sauces -Definition, Types of stocks and Roux
Derivatives- Soups and Sauces- Types of soups and sauces
Salads -– Definition, classification and preparation- Recipes for simple and compound salads, salad Dressings –Preparation of Salad Dressing.

**UNIT –III STANDARDIZATION AND MENU PLANNING ( 9 HRS.)**

Selection procedures for Meat (pork, mutton, Beef), Poultry, Fish, Cuts of Meat, Poultry, Fish.
Standardization of recipes, quality standards and portion control, Utilization of left over.
Menu – Definition, Types of menu, Menu planning

**UNIT –IV FOOD AND BEVERAGE SERVICE ( 9HRS.)**
Food and Beverage Service – Introduction, Definition, various outlets for

food and beverage services.
Type of service - Russian, French, English and Indian, Etiquettes of service staff. Qualities of a waiter, waiting at the table. Table setting – buffet setting. Table wares -Crockery, cutlery and hollow wares. Napkin folding.

**UNIT –V MANAGEMENT OF FOOD AND BEVERAGE PRODUCTION DEPARTMENT ( 9 HRS.)**

Management for food and beverage of food production department– Principle and functions of management. Organizational chart ,Tools of management.

**REFERENCES:**


1. Andrews.S (1982). *Food and Beverage Service Training Manual* , Tata McGraw Hill, New Delhi,
2. Jitendar ,M.D.( 2000). *Catering Management*, Denumant Publication, New Delhi.
3. Jomes & Merricks (1995). *The Management of Food Service operation,* Cassell Publication, London.
4. Sethi & Mathan.(1997).*Catering Management* – An integration approach, New Age International, Chennai,
5. Thangam Phillip (1992). *Modern cookery*, Orient Longman, Mumbai,


**WEB REFERNCES :**


1. http://www.cocktailtimes.com
2. http://www.Food and beverages skills.org
3. http://www.wpi.edu/Pubs/E-project/Available/E-project-031405-135846/unrestricted/IQP.pdf
4. http://www.sciencedaily.com/articles/t/transgenic_plants.htm


## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Recall the methods of cooking |
| CO 2 | Plan and prepare different types of soups and salads |
| CO 3 | Describe the selection procedure for flesh foods |
| CO 4 | Categorize different styles of food services |
| CO 5 | Explain the organization and management process in hotel industry |

# 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 | 19N4AC4 | FOOD PRODUCTION AND SERVICE LAB | Practical | 2 | 2 |

**COURSE DESCRIPTION**

This practical course develops the skills on the production and service of the food.

**COURSE OBJECTIVES**

- To acquire the skill on planning the course menu
- To prepare the food on various styles

**UNITS**

**FOOD PREPARATION**

**UNIT –I** Preparation of soups, salads and desserts [6 HRS.)

**UNIT –II** Main dish (Indian, Continental and Chinese) [6HRS.)

**UNIT –III** Side dish (Indian, Continental and Chinese)(6 HRS.)

**UNIT –IV** Course menu (6 HRS.)

**FOOD SERVICE**

**UNIT -V** Types of service, Cover laying, Table setting and

Napkin folding (6 HRS.)

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | **COURSE OUTCOMES (CO)**<br><br>Plan and prepare starters and desserts |
| CO 2 | Choose and prepare main dishes of different cuisines |
| CO 3 | Identify and prepare suitable side dishes |
| CO 4 | Construct the course menu for Indian, Continental cuisine |
| CO 5 | Organize different types of service |

# 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

## COURSE OUTCOMES

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

| NO. | COURSE OUTCOMES |
|---|---|
| CO 1 | Illustrate the basic silhouettes of garments. |
| CO 2 | Plan the colour and design based on the type of garment |
| CO 3 | Identify the areas for the application of transparent effect |
| CO 4 | Choose appropriate pleat, fold and accessories |
| CO 5 | Organize the designed garment against a background |

# III B.Sc. HOMESCIENCE WITH FOOD BIOTECHNOLOGY

## SEMESTER –V

### CRECHE AND PRESCHOOL MANAGEMENT – N5CC11

**HRS/WEEK: 6** **CREDITS: 6**

**OBJECTIVES:** To develop the ability of managing the pre-school and to provide pre-school teacher training

**UNIT I: EARLY CHILDHOOD CARE AND DEVELOPMENT (18Hrs)**

Importance of children's environment, early childhood care and development, Psychological, Nutritional and health care of preschool children

**UNIT II: CRECHE MANAGEMENT (18Hrs)**

Need for crèche – a supportive Agency. Role of a care taker – planning activities for children, care of an infant – sleep, feeding, and hygienic aspects Prevention of accidents, special requirements – furniture, rooms, play equipments and utensils

**UNIT III: PRESCHOOL EDUCATION (18Hrs)**

Who are preschool, preschool – Meaning, Objectives, Significance, Functions. Views of educationists – Rousseau, Pestalozzi, Froebel, Dewey, Montessori

**UNIT IV: PRESCHOOL PROGRAMME (18Hrs)**

Preschool programme- Principles involved, a day's schedule Preschool curriculum – types – child controlled, teacher controlled, child teacher mutually controlled

**UNIT V: ORGANISATION OF A PRESCHOOL CENTRE (18Hrs)**

Physical setup – building equipment, Play Definition, importance of play Play equipment for preschool children -Selection and maintenance Preschool staff and personnel, Records and reports maintained in preschool Home school relationship

**PRACTICALS:***

**PLANNING PROGRAMMES FOR VARTIOUS - SETTINIGS:**

1. Plan 3 activities for children. List – Objectives, Select and Organize the instructional and learning material – Teacher's role, preparation of evaluation sheets.
2. Observations in various ECCE settings. (e.g.) Daycare centre, preschools and primary school.

**REFERENCES**

1. Chowdhry. A & Chowdhry. R, Pre-school children – Development care and Education, New Age International CP Limited, NAIP publishing, Chennai, 2002.
2. Devadas R.P. & Faya 1991, Textbook of Child Development, Macmillan India limited, India.
3. Paul Chowdry- Child Welfare Manual

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**FAMILY RESOURCE MANAGEMENT- I – N5CC12**

**HRS/WEEK: 6**

**CREDITS: 6**

**OBJECTIVES**

To help the learner

- 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.

**UNIT I: ART IN HOME (15 hrs)**

Design-Meaning, Types, Characteristics

Elements of Design – Line, Shape, Form, 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.

**UNIT IV: HOUSING AND ITS 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 SCHEMES IN INDIA (20 hrs)**

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

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**


1. Mullick.P., " Text Book of Home Science", Kalyani Publishers, Ludhiyana.2007
2. Goldstein H. and Goldstein V., Art in Everyday life, The Macmillan Company, New York, 1978.
3. Park J.C. and Park, Text Book of social and preventive medicine
4. Faulkner, R and Faulkner. S, Inside Today's Home, Rinc Hart and Winston Inc. New York, 1960.
5. Bettar and Lockarty, Design for you, Jotiss Wiley & Sons, Inc., New York, 1961.
6. Rutt, A.H., Home Furnishing,s Wiley Easters Private Ltd., New Delhi, 1967.
7. Rogesis, J. Flower Arrangement, Paul Hamlyass Limited, 1964.
8. Gross I.H., and Grandall E.W. and Knoll H.M., Management for modern families, 1975.
9. Nickell and Dorsey, J.N., Management in Family Living, Indian Edition, 1976.

**Web Reference**

10. http://en.wikipedia.org/wiki/Interior_design
11. http://www.gautamshah.in/PDF/SFIJul07.pdf
12. http://www.gautamshah.in/DM2.html
13. http://freshome.com/
14. http://pinterest.com/concept2design/interior-design-notes/

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**EXTENSION EDUCATION AND COMMUNICATION -N5CC13**

**HRS / WEEK: 6** **CREDITS: 6**

**UNIT I: EXTENSION EDUCATION [20 Hrs]**

Meaning and objectives of Extension and definition of Home science extension and agricultural extension.

Allied concepts - Formal, Non-formal, Adult and Continuing Education

Qualities, Role and Functions of Extension Workers

Vocational courses and career opportunities in Home science

**UNIT II: WOMEN WELFARE PROGRAMMES [15 Hrs]**

SGSY, RMK, IMY, SHG, MGNREGS, JRY, SABLA, PMRY & National livelihood programme.

**UNIT III: COMMUNICATION [15 Hrs]**

Communication - Definition, Objectives, Principles, barriers to communication

**UNIT IV: EXTENSION TEACHING METHODS [20 Hrs]**

i) Individual methods: Farm & home visit, farmer's call & personal letters.

ii) Group methods: Result demonstration, method demonstration, group meetings, study tour.

iii) Mass methods: Farm publication, mass meetings, exhibition, campaign, newspaper, Radio and T.V.

**UNIT V: AUDIO - VISUAL AIDS [20 Hrs]**

Definition, Classification**,** criteria for selection and evaluation of audio-visual aids & Cone of Experience.

Audio aids: Tape records, Public address system

Visual Aids:

i) Projected: Slides, filmstrip, opaque projection, overhead projection.

ii)Non-projected: Chalkboard, Bulletin board, flannel graph, flash card, poster- diagram, map, chart, graph, specimen and models.

Audio - visual aids

i) Projected: Motion picture, video

ii) Non-projected: Drama & Puppet show folk media.

**REFERENCES**

1. Adivi Reddy, Extension Education, Lakshmi Pub, Andrapradesh, 1973.

2. Dhaina & Batnagar O.P., Education and communication for Development, Oxford Pub., New Delhi.

3. Roy, G.L. Extension Communication and Management, New Delhi, 1994.

**Web Reference**

4. http://www.wanterfall.com/Downloads/Communication.pdf

5. http://www.slideshare.net/pria87/audio-visual-aids

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**TECHNICAL TEXTILES – N5ME1**

**HRS/WEEK - 5** **CREDITS - 5**

**OBJECTIVES:**

- To acquaint students with the concept of technical textiles and its scope.
- To know the applications of various types of technical textiles.

**UNIT I**: **INTRODUCTION TO TECHNICAL TEXTILES** **(10 Hrs)**

Definition and scope of technical textiles, milestones in the development of technical textiles, textile processes and applications.

**UNIT II: GEO TEXTILES** **(15 Hrs)**

Introduction, types, essential properties- mechanical, filtration and chemical resistance. Natural fibre geotextiles, applications for natural geotextiles.

**UNIT III**: **MEDICAL TEXTILES** **(20 Hrs)**

Introduction, areas of application, fibres used, nonimplantable materials, extracorporeal devices, implantable materials, healthcare/ hygiene products.

**UNIT IV: PROTECTIVE TEXTILES** **(15 Hrs)**

Introduction, types, short term survival- drowning and extreme low temperatures, ballistic protection, protection from fire.

Long term survival - extreme weather conditions, high temperatures and associated hazards, chemical, microbiological and radiation hazards.

**UNIT V**: **TRANSPORTATION TEXTILES** **(15 Hrs)**

Introduction, textiles in passenger cars, textiles in other road vehicles- heavy goods vehicles, buses and coaches. Rail applications, Textiles in aircraft, Marine applications.

**REFERENCES:**

1. A.R. Horrocks and S. C. Anand, Handbook of Technical Textiles, WoodHead Pub. Ltd., England

2. w.w.w.technicaltextiles.com

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**FOOD BIOTECHNOLOGY –II – N5ME2**

**HRS/ WEEK: 5** **CREDITS: 5**

**OBJECTIVES:**

To enable the students to gain knowledge on the scope, importance and the basic aspects of biotechnology relating to foods.

**Unit I : Enzymes** **(10 hrs)**

Definition, Properties of enzymes, Microorganisms producing enzymes, Methods of enzyme production, Enzymes produced - ∝-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 : Organic acids and Sweeteners** **(15 hrs)**

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

Sweeteners - Production of HFCS and glucose syrup

**Unit IV : Genetic Engineering** **(20 hrs)**

Definition of gene cloning, basic concepts of DNA structure, Steps in gene cloning, Tools used for gene cloning. Gene Therapy approaches for diseases-Immune deficiencies, Hereditary blindness, Hemophilia, Blood disorder-Anemia, Cancer, Diabetes Mellitus, CVD.

**Unit V : Food and Biotechnology** **(15 Hrs)**

Application of Plant and Animal Biotechnology in Food industry –

Approaches of genetic engineering in foods-

Fruits and Vegetables, Milk Products

Milled Corn Product and Milled Soy Products,

Modification of starch and Oilseeds

Golden rice.

**Practicals**

1. Sterilization Techniques
2. Preparation of media
3. Preparation of inoculums
4. Preparation of slant and stab culture
5. Dilution plating with drinking water
6. Enumeration of microbial load in food products.

**References:**

Text book: Course Material

1. Sriram Sridhar, 2005, Enzyme Biotechnology, Dominant Publishers and Distributors, New Delhi
2. Trevor Palmer, 2004, Enzymes: Biochemistry, Biotechnology and Clinical chemistry; Affiliated East West press pvt ltd., New Delhi.
3. Rita Singh, 2004, Food Biotechnology, Global Vision Publishing House, Delhi.
4. P.K.Gupta,1995,Elements of Biotechnology,Rastogi Publications,Meerut.
5. Primrose,S.B.,1987,Modern Biotechnology,Oxford Blackwell
6. Dubey. R.C., 1996, A textbook of Biotechnology, S. Chand and company ltd., New Delhi

**Web Reference**

http://www.businessdictionary.com/definition/food-biotechnology.html

http://www.mrothery.co.uk/genetech/genetechnotes.htm

http://www.wpi.edu/Pubs/E-project/Available/E-project-031405-135846/unrestricted/IQP.pdf

http://www.sciencedaily.com/articles/t/transgenic_plants.htm

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**SKILL BASED ENTRERENEURIAL SKILLS**

**BAKING, ADULTERATION AND PRESERVATION- N5SB3**

**HRS/WEEK: 2** **CREDITS: 2**

**OBJECTIVES:**

To enable students

- To understand the principles of food preservation.
- Developed skills for setting up production unit.

**Unit I: Introduction to Bakery and Bakery Techniques (6 Hrs)**

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, Tutty fruity

**Unit IV: Food Adulteration (6 Hrs)**

Types of Adulterants and Methods of Adulteration

**Unit V: Food Additives**

**(6 Hrs)** Additives – functions, uses, importance - antioxidants, coloring matter, emulsifying agent and stabilizers.

**PRACTICALS**

1. Visit to Bakeries and Food processing Units.
2. Preparation of following items.

   Cakes, Biscuits, Jams - 3 type each.
3. Visit to regional Adulteration Unit

**REFERENCES**

1. Thangam E. Philip, (1981). Modern Cookery, Vol I, Orient Longman, Mumbai.
2. Parvinder S. Bali (2009). Food Production Operations, Oxford University Press, New Delhi.
3. Lai G. Sideleappa G.B. (1987), Preservation of Fruits and Vegetables

ICAR, New Delhi.

4. Dearosier. N.N(1975). The Technology of Food Preservation.

5. Sudesh Jood & Neelani (2002) Food Preservation.

6. Srilakshmi. B, (2008), Food science, New age international publishers.

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**ENTREPRENEURIAL SKILLS**

**APPLIED ARTS AND CRAFTS – N5SB4**

**HRS / WK: 2**

**CREDITS: 2**

**OBJECTIVES**

- To acquaint students with arts and crafts.
- To impart skill in embroidery and painting.

**PRACTICALS**

**Unit I:** Drawing and painting techniques. **(5 hrs)**

**Unit II:** Painting on different materials **(10 hrs)**

a. Fabric

b. Ceramic

c. Pot

d. Terracota

e. Glass

**Unit III:** Preparation of bed linen and table linen using **(5 hrs)**

a, Hand embroidery

b. Applique

c. Trimmings.

**Unit IV:** Preparation of art items **(5 hrs)**

a. Wall hanging

b. Paper Mache work

c. Innovative art object

d.Flower bouquet

**Unit V:** Soft Toy making **(5 hrs)**

**REFERENCES**

1. I . Creative crafts in Fabric and yara - Galley Press, Hongkong (I 979)
2. Julia Barton (1990) : The art of embriodery, Merchust, London.
3. Constance Talbot (1949): The complete book of sewing, The Greystone Press, NewYork.

4. Verla Birrel (1959) : Textile Arts, Harper and Brothers' Publishers, NewYork
5. Juliet Bawden (1993): Fun with Fabric, Hamilayan Children's Book, London.

**III B.Sc HOME SCIENCE WITH FOOD BIO TECHNOLOGY**

**V SEMESTER**

**RESOURCE MANGEMENT – N5CC14**

**CREDIT: 1**

**OBJECTIVES**

- To gain practical experience in Home Management.
- To take up various responsibilities of Home Maker

Residence experience by performing Home Management activities dividing the responsibilities under the guidance of the lecturer in groups of seven to eight

The students are evaluated on the various jobs they performed during the Residence course such as Hostess, Treasurer, Head Cook, Assistant Cook, Dish Washer, and Maid. Group Performance items other than jobs are next included such as, leadership, Co-operation and Contribution to the Group, Personal Development, Acceptance of differences, Innovative, Responsibility and so forth. Management of resources like money, time, energy, and material goods are also taken into account for evaluation. No external evaluation for this Resource Management experience.

**PATTERN OF INTERNAL EVALUATION**

| | | |
|---|---|---|
| Ability to manage duties | - | 60 marks |
| Decision making capacity | - | 10 marks |
| Adjustment capacity | - | 10 marks |
| Record / Report maintenance | - | 10 marks |
| Originality in Planning & Execution of Plant | - | 10 marks |
| Total | - | 100 marks |

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER – VI**

**FAMILY RESOURCE MANAGEMENT – II - N6CC15**

**HOURS/WEEK: 5** **Credits: 5**

**OBJECTIVES:**

To help the learner

- 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.

**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. 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.

**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.

**UNIT V CONSUMERISM [15 Hrs]**

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.

**REFERENCES:**

1. Maneesh.S., "Home Management and Family Finance", Dominant Publishers and Distributors, New Delhi. 2006.
2. Mullick.P., " Text Book of Home Science", Kalyani Publishers, Ludhiyana.2007
3. Bigelow H.P., "Family finance", J.B. Lippincott Co.1953
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5. Gisban, L.B., "Economics of Consumers", American book Co, 1971.
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7. Gross, I.H., and Crandall, E.W. and Knoll, H. M. "Management for Madern Families", 1975.
8. Nickell and Dorsey, "Management in Family living", Indian Edition, 1976.
9. Swarison, V. "Introduction to Home Management", Mac Milan and Co., 1981.
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**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**FAMILY RESOURCE MANAGEMENT - PRACTICALS - I &11- N6CC16**

**Hours / Week: 3+3*** **Credits: 6**

1. a) Visit to a bank to know the functioning of Bank **(30 hrs)**
   b) Visit to a co-operative society to study origin and functioning,

2. Problems of consumers - survey on (**30hrs)**
   a) Buying practices
   b) Adulteration problems of consumers
   c) Evaluation of advertisements, labels and packaging
   d) Problems related to weights and measure and malpractices.

3. Visit to minimum of two houses to understand the plan and the building materials.

**(30hrs)**

a) Low income - a rural or urban low income group house
b) Middle income group urban house.
c) High income group urban or rural house.

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**CLINICAL NUTRITION AND DIETETICS – N6CC17**

**Hours/Week - 5**

**Credits – 5**

**OBJECTIVES:**

**To enable the students to**

- 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.

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

**UNIT II DIET THERAPY (15 hrs)**

Diet therapy – Objectives of therapeutic diets

I. Routine Hospital diet –

a.TPN b. EN

II. 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, diarrhea, constipation
e. Anemia – types.

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

**(15 hrs)**

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 (10hrs)**

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, NIN and NNAPP

**REFERENCE:**

1. B. Srilakshmi, Dietetics, New Age International Publishers, 2002.
2. Skinner Paul et. Al., Development of a medical nutrition therapy protocol for female collegiate alhotetes, J. AM. Diet ASS 101, 200.
3. Williams S.R. Nutrition and Diet Therapy C.V. Mospy CO. 1977.

4. Raheena Begum, A. Textbook of food, nutrition and dietetics, Stanley Publishers, 1989.
5. Gupta, L. C., Mrs. Kusium Gupta, Foods mid Nutrition, Facts and Figures, Jayapa hothas, New Delhi, 1989.
6. Passmore R. Eastwood, Human Nutrition and Dietetics, Longman Group Ltd., 1986.
7. Robinson C. H., Marilyn R. C. Normal and Athaepentic Nutrition.
8. Ghosh S., The feeding and care of Infant and Young childer, 1976.
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12. Caroll, A. Lutz, Nutrition for Diet Therapy, Edition – 2, F. A. Davis Company, Philadelphia, 1997.

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**2. journal of human** nutrition and dietetics**editor.wordpress.com/.../journal**

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4. www.who.int/mediacentre//**cardiovascular_diseases**

5. www.cdc.gov/diabetes/pubs/factsheets/**kidney**.htm

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**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**CLINICAL NUTRITION AND DIETETICS -N6CC18**

**PRACTICALS**

**Hrs/week – 3** **Credits: 3**

1. Planning meals for families at low and medium cost. (15 hours)
2. Planning, Preparation and serving of meals for (15 hours)
   a) Preschool children
   b) Adolescents
   c) Adults – Hard working
   d) Expectant woman
   e) Lactating woman
   f) Old people

3. Planning, preparation and service of diets for (15 hours)
   a) Post operative conditions
   b) Obesity
   c) Diabetes Mellitus
   d) Peptic Ulcer
   e) Hypertension, Atherosclerosis
   f) Liver disorders - Cirrhosis
   g) Renal disorders- nephrites
   h) Anaemia
   i) Kwashiokar, Marasmus
   j) Athelete
   k) Cancer

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**FAMILY DYNAMICS – N6ME3**

**No. of Hours/Week-5** **No. of Credits- 5**

**OBJECTIVES:**

- To acquaint the students with the problems associated with the marital life,
- To orient the students with the current family problems especially on the disintegration of family and the solving methods.
- To give them thorough knowledge on reproductive health education.

**UNIT I ADULTHOOD AND MARRIAGE (15Hrs)**

Adulthood - early ,middle and late adulthood characteristics and Psychological changes.

Marriage - definition, functions, types Monogamy, polygamy, and polyandry and group marriage

Marital adjustments and factors affecting marital life

Guidance and Counseling - need, method and Supportive Agencies.

**UNIT II FAMILY (15 Hrs)**

Family - Meaning, characteristics and functions -essential and non essential

Types based on - structure, Authority and Marriage.

Family disintegration -reasons, and remedial measures.

**UNIT III FAMILY CRISIS (15 Hrs)**

Crisis and crisis management – definition, Classification – usual and expected, unexpected .

Prolonged illness, Bereavement, unemployment suicide. Divorce, separation, Alcoholism and drug addiction -stress management.

**UNIT IV WELFARE OF THE AGED AND CHILDREN WITH SPECIAL NEEDS (15 Hrs)**

Welfare programs for the aged.

Welfare programs for the children with special needs – Institutions, Services, Programmes and concessions for children with special needs

**UNIT V POPULATION EDUCATION AND FAMILY WELFARE (15 Hrs)**

Population – Definition, Population growth and Population explosion, causes and effect of population explosion.

Population education, - definition, population education at various levels

Family planning methods- types adolescent reproductive health education.

**PRACTICALS**

i) A study on family structure and family problems

ii) Visit to family counseling center

iii) Visit to Old Age Home.

**REFERENCES**

1. Park.J.E and Park 1983 Text Book of Preventive & Social Medicine. MS Banarsidas Bhanot, Jabalpet, 1983

2. Devadas R.P &Jaya, Text Book of Child Development Macmillan India Ltd, Madras,1991

3. RamNath Sharma Indian Social Problems. Media Promoters and Publishers Pvt Ltd Mumbai, 1986.

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**FOOD AND DAIRY PROCESSING-N6ME4**

**Hours/week : 5** **Credits : 5**

**OBJECTIVES**

This course aims to:

- Understand sensory evaluation of food
- Enable students to use various sensory methods for evaluating variety of foods.
- Impart systemic knowledge of basic and applied aspects of food processing and technology.

**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. 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 – sundryng, drying by mechanical, froze drying.

**UNIT III – PROCESSING OF PLANT FOODS (15 Hrs)**

Cereals – Processing of wheat.

Pulses – Processing – soaking, germination, decortication, cooking, fermentation.

Fruits – classification, harvesting and storage, Fruit products and their

description – dried fruits, canned fruits, rum fruits, jam, jellies and marmalades and fruit beverages.

Vegetables – classification, harvesting and storage. Vegetable products and their description - dehydrated vegetable, canned vegetable, pickled vegetable, vegetable pastes, juice 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 and processing

**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 and Ice-cream.

**REFERENCES**

1. Sivasankar, B. (2008), Food Processing and Preservation, Prentice-Hall of India Pvt Limited, New Delhi.
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3. Manay, S.N, Shadaksharaswamy, M. (2005), Foods, facts and principles, New age international publishers, New Delhi.
4. Sudeshjood, Khetarpaul, N. (2002), Food preservation, Agrotech publishing academy, Udaipur.
5. Srilakshmi, B. (2008), Food science, New age international publishers, New Delhi.

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**Major Elective - ALTERNATE SOURCES OF ENERGY**

**N6ME5**

**Hour/Week – 5** **No.of. Credits:5**

**OB JECTIVES**

To enable the students to

- Become aware of the different sources of energy.
- Understand the methods of utilization of solar energy.
- Gain knowledge regarding biogas technologies.

**UNIT I CONCEPT OF ENERGY (15Hrs)**

Introduction- Definition- Importance of energy sources- Classification of Energy sources- Conventional energy Sources, Non-Conventional Energy Sources. Energy consumption as a measure of prosperity, World energy futures.

**UNIT II SOLAR ENERGY (15Hrs)**

Principles and uses of solar energy devices- Solar cookers, Solar Water Heaters, Solar Dryers, Solar photovoltaic cells, Solar pumping, Solar distillation-Advantages and limitations.

**UNIT-III COMMERCIAL APPLICATIONS OF SOLAR ENERGY (15 Hrs)**

Space heating- Passive heating system- Direct gain, Thermal storage wall, Roof storage and connective loop. Active space heating- Basic hot water system, Basic hot air system.

**UNIT IV SOLAR GREEN HOUSE (15Hrs)**

Introduction- Types of green house- Design principles- Parameters for plant growth- Green house environment and control- Advantages of green house, Environment parameters and control action. Green house effect.

**UNIT V BIOMASS ENERGY (15Hrs)**

Definition- Biogas generation- Anaerobic digestion. Factors affecting bio-digestion, advantages of Aerobic digestion. Biogas plant- Classification, continuous and batch types, Dome and drum types, Advantages and

disadvantages of Drum and dome plants.

**REFERENCES**

1. G. D Rai, (1999), Non-Conventional energy sources, Khanna publisher.

**Web Reference:**

2. http://en.wikipedia.org/wiki/Alternative_energy
3. https://www.wellsfargo.com/downloads/pdf/about/csr/alt_energy.pdf
4. http://www-fa.upc.es/personals/fluids/oriol/ale/eolss.pdf

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**SPECIAL CORE- NUTRITION FOR HEALTH AND FITNESS - N6ME6**

**Hours/ Week - 5** **No. of Credits – 5**

**OBJECTIVES**

This course will prepare the students to:

- Understand the components of health and fitness and the importance of nutrition in maintaining health
- Make nutritional, dietary and physical activity recommendations to achieve fitness and well being.
- Develop ability to evaluate fitness and well being.

**UNIT I HOLISTIC APPROACH TO FITNESS AND HEALTH (15Hrs)**

Introduction to fitness and health; Classification of physical activity based on energy expenditure; Assessment of nutritional status.

**UNIT II ENERGY SYSTEMS (15 Hrs)**

Aerobic and anaerobic energy system

Energy input and output

Shifts in Carbohydrate and Fat metabolism

Mobilization of fat stores during exercise

**UNIT III NUTRITION IN SPORTS (15 Hrs)**

Fuels and nutrients to support physical activity

Diet manipulation

Pre and Post game meals

Water and electrolyte balance

Losses and their replenishments during exercise and sports events

Carbohydrate Loading

Effect of dehydration

Ergogenic aids and Sports Drinks

**UNIT IV PHYSICAL FITNESS AND HEALTH INTER-RELATIONSKIPS (15Hrs)**

Significance of physical fitness and nutrition in the prevention and management Weight Control

Obesity

Diabetes Mellitus

Cardio Vascular Diseases

Disorders of bone health and Cancer

Sports Anaemia

Female Athlete Triad

**UNIT V ALTERNATIVE SYSTEMS OF HEAL WAND FITNESS (15Hrs)**

Yoga

Meditation

Vegetarianism

Herbal Medicines

**PRACTICALS**

1. Assessment of nutritional status including body composition
2. Physiological parameters like heart rate and blood pressure
3. Assessment of Energy Expenditure
4. Endurance tests - Tread Mill Test Harvard Step Test
5. Diet planning and manipulation for athletes based on their physical activity and energy expenditure
6. Diet Counselling

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER – VI**

**ENTREPRENEURIAL SKILLS – NUTRITION COUNSELLING – N6SB5**

**HOURS/ WK : 2** **NO. OF CREDITS – 2**

**Objective:**

To enable the students to get practical experience in Nutrition Counselling.

**Unit I** Diet Counselling – Definition, Counselling process and its significance (6 hrs)

**Unit II** Assessment - Assessment of needs of patients, Establishing rapport (6 hrs)

Communication process, Patient education

**Unit III** Case studies – Understanding Case Study - Clinical, Nutritional and Biochemical Profile, Therapeutic Modification of Diets, Report Writing. (6 hrs)

**Unit IV** Counselling Center - Pre requisites and preparation for setting up (6 hrs)

counselling center. Preparation of audio - visual aids for diet counselling.

**Unit V** Counselling Camps - Organizing counselling camps for specific diseases (6 hrs)

**References:**

1. B. Srilakshmi, Dietetics, New Age International Publishers, 2002.
2. Skinner Paul et. Al., Development of a medical nutrition therapy protocol for female collegiate alhotetes, J. AM. Diet ASS 101, 200.
3. Caroll, A. Lutz, Nutrition for Diet Therapy, Edition – 2, F. A. Davis Company, Philadelphia, 1997.

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**ENTREPRENEURIAL SKILL - INTERIOR DESIGN AND DECORATION-N6SB6**

**HOURS/WK: 2** **CREDITS: 2**

**OBJECTIVES**:

To enable the students to

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

**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-dinning room-Living cum Dinning room- bed room –Kitchen lay out-bath room

**UNIT III Landscaping** **(5 Hrs)**

Definition- front yard and backyard designing- accessories-care and maintenance.

**UNIT IV Window Treatments** **(5 Hrs)**

Concept- Types of Windows – Types of Window Treatments.

**UNIT V VASTU IN INTERIORS** **(5 Hrs)**

Floor plan – Basics of Vastu- Feng Shui Application –Feng Shui Accessories

**REFERENCES:**

1. Barrie Evans and James Powell,Changing Design, John Wiley Publication, New York,1992.
2. Drievex Mary and Stevenson Isabelle,The Complete Book of Interior Decoration, Greystone Press, New York, 1996
3. Faulkner ray ,Inside Today's Home, Kind Port Press, Tenesee, 1995

**JOURNALS :**

Inside Outside
Home Decors
Interiors and Exteriors
Kitchen and Bathrooms

**FATIMA COLLEGE (AUTONOMOUS), MADURAI-625018**

**SEMESTER VI**

**DIETETIC INTERNSHIP – N6CC19**

**Credits:5**

**OBJECTIVES**

- To enable students to acquire in depth understanding of the practical aspects of knowledge and skills acquired during the course work.
- To gain hands on experience for higher proficiency.

The student will be required to undergo an internship / field placement for a total duration of 15 days in hospitals of good professional standing. This program could be taken up either as a single block or in two different blocks. It is also envisaged that the participating organisation institution will give the performance appraisal of the students work.

**PATTERN OF EVALUATION**

15 days – Hospital I – 100 marks

Total - 100 marks