

# MAHATMA GANDHI UNIVERSITY

PRIYADARSHINI HILLS,

KOTTAYAM - 686 560



**CURRICULUM FOR BACHELOR'S PROGRAMME**

**IN**

**FAMILY AND COMMUNITY SCIENCE**

**(HOME SCIENCE)**

*Under Choice Based Credit System (CBCS)  
(2017 Admissions Onwards)*

# MODEL-1

**FAMILY AND COMMUNITY SCIENCE**

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*Prepared by*

***BOS and Faculty of Science  
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### ***Introduction***

#### **ABOUT FAMILY AND COMMUNITY SCIENCE (HOME SCIENCE)**

Home Science has contributed a great deal towards national development by training students to take up leadership roles in extension and community outreach programs. The students are encouraged to develop

a scientific temper. Familiarizing them with the use of newer technologies, methods in family and community linkages, and sustainable use of resources for human development are the hall mark of education in Home Science. As a discipline Home Science integrates the ingredients of the sciences, social sciences and technology to facilitate the study of and enhance the quality of human life. Its approach is therefore inherently interdisciplinary. Traditionally, Home Science has adopted an ecological approach in its curriculum that engages the student through teaching, research and extension. The education process in Home Science underscores the importance of the individual's dynamic relationship with his/her family, community and society as a whole, as well as with the resources in the environment. Higher education learning in Home Science subjects provides students the opportunity to sharpen their capacities with a sense of social responsibility.

In contemporary times, Home Scientists promote capacity building of individuals and communities for social and economic empowerment. They train community women and youth from various strata of society for entrepreneurship. They gain and provide employment in research organizations, food and textile industries, dietetic practice, education and child development domains, accreditation of green buildings, strategic planning and communication technologies

#### GOAL OF HOME SCIENCE

Home Science aims to provide an integrated and multidisciplinary education, which develops and provides professional skills. The goals could be summarized thus:

1. Professional training and skill enhancement in order to provide and widen employment opportunities for women through a continuously updated curriculum, addressing contemporary issues.
2. Equally, updating the process of teaching, networking and developing educational materials based on innovative, interactive and participatory communication strategies.
3. Strengthening linkages with international organizations, government agencies, non-governmental academic institutions, policy makers and the general public with a view to providing employment opportunities for students and enriching the database in research in all fields.
4. Extension education in the field of nutrition and health , women and child development, apparel and fabric design, consumer education and public awareness with a view to better family and community living

#### **HOME SCIENCE- A DISCIPLINE AND PROFESSION**

Home Science covers a few areas of specialization such as Food and nutrition, Communication and Extension, Resource Management, Human Development, Fabric and Apparel science.

Family and Community Science (Home Science) comprises of five branches and are as follows:

1. Foods, Nutrition and Dietetics
2. Child Development/Human Development and Family Studies

3. Home Management/ Family Resource Management
4. Clothing and textiles
5. Home Science Extension Education

The subject of family and Community Science offers a wide range of subjects at the UG level and hence it forms the basis for a variety of courses after graduation. During the course of the U G programme, the students would get ample time and opportunities to decide on their course of study for post graduation.

Options of higher education

Masters Degree in

- Food Science & Nutrition
- Human Development/Child Development
- Family Resource Management
- Food Service Management &Dietetics
- Food Technology
- Textiles & Clothing
- Hospital Administration(MHA)
- Business Administration (MBA)
- Human Resource Management(MHRM)
- Social work(MSW)
- Women's Studies
- Guidance & Counselling
- Extension Education
- Journalism &Mass Communication PG Diploma in
- Clinical Nutrition &Dietetics
- Interior /Landscape Designing
- Fashion Designing
- Clinical Child Development
- Early Childhood Care &Education
- Computer Aided Textile Designing
- Consumer Guidance &Protection

The scope of Family and Community Science (Home Science) is not limited to the activities within the home but has a wider perspective that forms the basis of challenging professions in various fields. The following is a list of career a person can opt for after Post Graduation.

## Career Options

### Technical Research & Development

- Scientists
- Food Quality Controllers
- Research Coordinators/Project Officers/Assistants of health & Nutritional Programmes, Welfare Programmes of government/NGOs, agencies of National & International repute-ICMR,ICAR,NIPCCD,CFTRI,UNICEF,WHO.

### Production

Managers/Supervisors in garment/Food Industries, Production units of hotels

### Education &Administration

- Teaching faculty in Colleges & Schools
- Administrators
- Special Educators
- Remedial Teachers in Rehabilitation Centres
- Teacher Trainers
- Extension Officers.

### **Product Design & Development**

- Fashion Designers
- Interior /Land Scape Designers
- Textile Designers.
- Product Developers.

### **Marketing and Sales**

- Apparel Merchandisers
- Sales Promotion Personnel of Food Products, Medical Supplements, Educational Materials, Home appliances.

### **Guidance and Counselling**

Counsellors in Schools/Colleges and Child Guidance Clinics, De-addiction and Child Care Centres, Family Courts.

### **Service Jobs**

- Dieticians in Hospitals
- Diet Consultants in Hotels, Industrial Canteens, Fitness Centres and geriatric Clinics, Health Resorts
- Housekeeping Personnel
- Consumer Awareness Campaigners
- Front Office Managers.

### **Entrepreneurship Ventures**

- Food Business
- Garment Manufacturing
- Early Childhood Care and Education
- Consultancy Services.

## **MARK DISTRIBUTION FOR EXTERNAL EXAMINATION AND INTERNAL EVALUATION**

### **1. For projects**

- a) Marks of external Examination : 80
- b) Marks of internal evaluation : 20

Components of External Evaluation of Project	Marks
Dissertation (External)	50
Viva-Voce (External)	30

Total	80
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All the four components of the internal assessment are mandatory.

Components Internal Evaluation of project	Marks
Punctuality	5
Experimentation/Data collection	5
Knowledge	5
Report	5
Total	20

## 2. Assignments

Assignments are to be done from 1<sup>st</sup> to 4<sup>th</sup> Semesters. At least one assignment should be done in each semester for all papers.

## 3. Seminar/Viva

A student shall present a seminar in the 5<sup>th</sup> semester for each paper and appear for Viva-voce in the 6<sup>th</sup> semester for each paper.

## Project

All students are to do a project in the area of core course. This project can be done individually or in groups (not more than five students) for all subjects which may be carried out in or outside the campus. The projects are to be identified during the II semester of the programme with the help of the supervising teacher. The report of the project in duplicate is to be submitted to the department at the sixth semester and are to be produced before the examiners appointed by the University. External Project evaluation and Viva / Presentation is compulsory for all subjects and will be conducted at the end of the programme.

There will be no supplementary exams. For reappearance/ improvement, the students can appear along with the next batch.

A student who registers his/her name for the external exam for a semester will be eligible for promotion to the next semester.

A student who has completed the entire curriculum requirement, but could not register for the Semester examination can register notionally, for getting eligibility for promotion to the next semester.

A candidate who has not secured minimum marks/credits in internal examinations can re-do the same registering along with the University examination for the same semester, subsequently.

## STRUCTURE OF BACHELOR'S PROGRAMME IN FAMILY AND COMMUNITY SCIENCE

**TOTAL CREDITS-120**

### Semester I

**Total Credits -20**

No	Course Title	Hrs/ Week	Credits
1	Common Course -English - 1	5	4
2	Common Course -English - 2	4	3
3	Common Course 3-Second Language – 1	4	4
4	Core Theory - I Methodology of Home Science and food Science	2	2
5	Core Practical - I Methodology of Home Science and food Science	2	1
6	1st Complementary Course- Chemistry I	2	2
7	1 <sup>st</sup> Complementary Course -1 Chemistry Practical I	2	1
8	2 <sup>nd</sup> Complementary Course -Zoology I	2	2
9	2 <sup>nd</sup> Complementary Course Practical- Zoology I	2	1
	<b>Total</b>	<b>25 hrs</b>	<b>20</b>

### Semester I I

**Total Credits -20**

No	Course Title	Hrs/ Week	Credits
1	Common Course 4-English 3	5	4
2	Common Course 5-English 4	4	3
3	Common Course 6- Second Language -2	4	4
4	Core Theory - 2 – Human Physiology and Microbiology	2	2
5	Core Practical - 2-Human Physiology and Microbiology	2	1
6	1 <sup>st</sup> Complementary Course Chemistry II	2	2
7	1 <sup>st</sup> Complementary Course Chemistry Practical II	2	1
8	2 <sup>nd</sup> Complementary Course -Zoology II	2	2
9	2 <sup>nd</sup> Complementary Course Practical –Zoology II	2	1
	<b>Total</b>	<b>25 hrs</b>	<b>20</b>

**Semester I I I**

**Total Credits -20**

No	Course Title	Hrs/ Week	Credits
1	Common Course 7- English 5	5	4
2	Common Course 8- Second Language 3	5	4
3	Core Theory - 3 - Human Development	3	3
4	Core Practical -3 – Human Development	2	1
5	1 <sup>st</sup> Complementary Course - Chemistry III	3	3
6	1 <sup>st</sup> Complementary Course Practical -Chemistry III	2	1
7	2 <sup>nd</sup> Complementary Course -Zoology III	3	3
8	2 <sup>nd</sup> Complementary Course Practical -Zoology III	2	1
	<b>Total</b>	25 hrs	20

**Semester IV**

**Total Credits -20**

No	Course Title	Hrs/ Week	Credits
1	Common Course -9 English -6	5	4
2	Common Course -10 Second language 4	5	4
3	Core Theory - 4- Family Dynamics	3	3
4	Core Practical - 4- Family Dynamics	2	1
5	1 <sup>st</sup> Complementary Course – Chemistry 4	3	3
6	1 <sup>st</sup> Complementary Course - Chem. Practical-4.	2	1
7	2 <sup>nd</sup> Complementary Course - Zoology -4	3	3
8	2 <sup>nd</sup> Complementary Course- Practical.-Zoology -4	2	1
	<b>Total</b>	25 hrs	20

**Semester V**

**Total Credits -20**

No	Course Title	Hrs/ Week	Credits
1	Core Theory 5- Environmental studies and Resource Management	4	5

	<b>Practical -5 - Environmental studies and Resource Management</b>	<b>2</b>	
<b>2</b>	<b>Core Theory 6-Human Nutrition and Biochemistry</b>	<b>3</b>	<b>3</b>
	<b>Practical -6- Human Nutrition and Biochemistry</b>	<b>2</b>	<b>1</b>
<b>3</b>	<b>Core Theory- 7 Textile Science</b>	<b>3</b>	<b>3</b>
	<b>Practical -7 Textile Science</b>	<b>2</b>	<b>1</b>
<b>4</b>	<b>Core Theory 8-Dynamics of Extension</b>	<b>3</b>	<b>3</b>
	<b>Practical -8- Dynamics of Extension</b>	<b>2</b>	<b>1</b>
<b>5</b>	<b>Open Course(For Other Streams)</b>	<b>4</b>	<b>3</b>
	<b>Elective- 1 – Interior Decoration and related arts</b>		
	<b>Elective 2 – Life Skill Strategies and techniques.</b>		
	<b>Elective 3 – Nutrition for wellness.</b>		
	<b>Elective 4 –Self Empowerment Skills</b>		
	<b>Total</b>	<b>25 hrs</b>	<b>20</b>

### Semester VI

Total Credits -20

No	Course Title	Hrs/ Week	Credits
<b>1</b>	<b>Core Course -9- Interior Decoration</b>	<b>3</b>	<b>4</b>
	<b>Practical -9- Interior Decoration</b>	<b>2</b>	
<b>2</b>	<b>Core Course – 10 Clinical Nutrition and Dietetics</b>	<b>3</b>	<b>3</b>
	<b>Practical-10 Clinical Nutrition and Dietetics</b>	<b>3</b>	<b>1</b>
<b>3</b>	<b>Core Course- 11 Fashion Designing and Apparel Production</b>	<b>3</b>	<b>3</b>
	<b>Practical-11 Fashion Designing and Apparel Production</b>	<b>3</b>	<b>1</b>
<b>4</b>	<b>Core Course -12 Communication in Extension.</b>	<b>3</b>	<b>3</b>
	<b>Practical-12 Communication in Extension.</b>	<b>2</b>	<b>1</b>
<b>5</b>	<b>Core Course Choice based (Electives)</b>	<b>3</b>	<b>3</b>
	<b>Elective I – Food Safety</b>		
	<b>Elective 2 – Early Childhood care and Education</b>		
	<b>Elective 3- New trends in Family and Community Science</b>		
<b>6</b>	<b>Project work</b>	<b>Nil</b>	<b>1</b>
	<b>Total</b>	<b>25 hrs</b>	<b>20</b>

## Scheme: Core Course

SEMESTER I

CourseCode	Course Title	Hours/week	Number of Credits	Total Credits	Total Hours/Semester
HS1CRT01	Methodology of Home Science and food Science	2	2	3	72
HS1CRP01	Practical	2	1		

### SEMESTER II

CourseCode	Course Title	Hours/week	Number of Credits	Total Credits	Total Hours/Semester
HS2CRT02	Human Physiology and Micro Biology	2	2	3	72
HS2CRP02	Practical	2	1		

### SEMESTER III

CourseCode	Course Title	Hours/week	Number of Credits	Total Credits	Total Hours/Semester
HS3CRT03	Human Development	3	3	4	90
HS3CRP03	Practical	2	1		

### SEMESTER IV

CourseCode	Course Title	Hours/week	Number of Credits	Total Credits	Total Hours/Semester
HS4CRT04	Family Dynamics	3	3	4	90
HS4CRP04	Practical	2	1		

### SEMESTER V

CourseCode	Course Title	Hours/week	Number of Credits	Total Credits	Total Hours/Semester

HS5CRT05	- Environmental studies and Resource Management	4	5	5	108
HS5CRP05	Practical	2	-		
HS5CRT06	Human Nutrition and Biochemistry	3	3	4	90
HS5CRP06	Practical	2			
HS5CRT07	Textile Science	3	3	4	90
HS5CRP07	Practical	2	1		
HS5CRT08	Extension Education	4	4	4	108
HS5CRP08	Practical	2	-		
HS5OP1	Open Course(For Other Streams) Elective- 1 – Interior Decoration and related arts				
HS5OP2	Elective 2 – Life Skill Strategies and techniques.	3	3	3	54
HS5OP3	Elective 3 – Nutrition for wellness				
HS5OP4	Elective 4 –Self Empowerment Skills				

### SEMESTER VI

CourseCode	Course Title	Hours/ week	Number of Credits	Total Credits	Total Hours/Semester
HS6CRT09	Interior Decoration	3	4	6	90
HS6CRP09	Practical	2	2		
HS6CRT10	Clinical Nutrition and Dietetics	3	3	5	108
HS6CRP10	Practical	3	2		
HS6CRT11	Fashion Designing and Apparel Production	3	3	5	108
HS6CRP11	Practical	3	2		
HS6CRT12	Communication in Extension	3	3	5	90
HS6CRP12	Practical	2	2		
	<b>Choice Based Courses</b>				
HS6CBT01	1 Food Safety	3	3	3	54
HS6CBT02	2. Early Childhood care and Education				
HS6CBT03	3. New trends in Family and Community Science				
HS6PR	Project	Nil	1	1	--

### EXAMINATION SCHEME: CORE COURSE

Semester	Title of the Course	No. of credit	Total hours	Exam Durati	Total Marks
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		s	per semester	on	Internal	External
1	Methodology of Home science and Food science	2	36	3	20	60
	Practical	1	36	-	-	-
2	Human Physiology and Microbiology	2	36	3	20	60
	Practical	1	36	3	20	40
3	Human Development	3	54	3	20	60
	Practical	1	36	-	-	-
4	Family Dynamics	3	54	3	20	60
	Practical	1	36	3	20	40
5	Environmental studies and Resource Management	3	54	3	20	80
	Practical	1	54	-		
	Human Nutrition and Biochemistry	3	54	3	20	80
	Practical	1	36	-		
	Textile Science	3	54	3	20	80
	Practical	1	36	-	-	-
	Dynamics of Extension	3	54	3	20	80
	Practical	1	36	-	-	-
	Open Course Paper					
	Elective- 1 – Interior Decoration and related arts	3	54	3	20	80
	Elective 2 – Life Skill Strategies and techniques.	3	54	3	20	80
	Elective 3 – Nutrition for wellness.	3	54	3	20	80
	Elective 4 –Self Empowerment Skills					
6	Interior Decoration	3	54	3	20	80
	Practical	1	36	3	20	80
	Clinical Nutrition	3	54	3	20	80
	Practical	1	54	3	20	80
	Fashion Designing	3	54	3	20	80
	Practical	3	54	3	20	80
	Communication in Extension	3	54	3	20	80
	Practical	2	36	3	20	80
	Choice Based Courses					
	1.Food Safety	3	54	3	20	80
	2.Early Childhood Care and Education					
	3.New trends in Family and Community Science					
7	Project	1	--		20	80

**SYLLABI  
OF  
CORE COURSE**

Bachelor Programme in Family and Community Science

# (Home Science)

## SEMESTER I

### METHODOLOGY OF HOME SCIENCE AND FOOD SCIENCE

#### CORE THEORY-1

Course Code: HS1CRT01

Total lecture hours: 2 hrs/week (36 Hrs./Sem. )

Credit: 2

Objectives: Enable the student to

- Obtain knowledge of different food groups, nutritive value and importance in diet.
- Study the different methods of cooking , its merits and demerits
- Understand the composition, chemistry of foods and their applications in food preparations
- Study principles and methods of food preservation
- To acquaint with the recent advances in the field of food science and to enable to plan diet for healthy life style

Course Content

#### **Module 1: Methodology of Home Science**

**(6 hrs)**

(a) Concept and Scope of Home Science

Brief introduction on scope of each specialisation in home science – Human Development, Family Resource Management, Nutrition and Dietetics, Textile Science and Fashion Designing and Extension Education

(b) Basic of research in Home Science .

- Types of research designs - survey and experimental.
- Tools for data collection- check list, rating scale, questionnaire, and Interview schedule.
- Sampling techniques – definition, types –Random sampling- simple & systemic random sampling .
- Non- random sampling- Purposive, Stratified, Convenience and snow ball sampling.
- Tabulation – definition, parts of a table

- Graphic presentation- line, bar, pie, pictograph
- Components of a project report – Introduction, Review, Methodology, Results and Discussion, Summary and Conclusion , References

## **Module 2:**

(a) Food groups and Food preparation (6 hrs)

Food groups: Functions of foods, food groups (Basic food group system – (ICMR)

(b) Food preparation: Objectives, Methods of cooking- moist heat, dry heat and combination methods, merits and demerits of each methods.

(c) Food preservation –Principles and Methods

(d) Developments in the field of food science, Basic concepts of Genetically modified foods, Organic foods, Functional foods.

## **Module 3: Study of macro nutrients in foods** (6 hrs)

Carbohydrates

Definition, composition and classification. Starch – Structure, Effect of cooking. Stages of sugar cookery and its applications. Role of carbohydrates in food preparation

### **Proteins**

Structure, nutritional classification of (complete, partially complete, incomplete) proteins and classification of amino acids (essential and nonessential), Denaturation of protien , Food sources of proteins- plant, animal sources and Non-traditional proteins- single cell(yeast), leaf proteins, whey protein, textured vegetable protein.

### **Lipids**

Definition, composition, classification. Lipids in foods (visible and invisible), fatty acids (saturated, unsaturated; essential fatty acids ) Rancidity- types, factors leading to rancidity, prevention. Hydrogenation of fats , Applications of lipids in food preparation.

## **Module 4: Study of Plant Foods** (11 hrs)

Cereals

Basic structure of a cereal grain, nutritive value and cereal –pulse combination; common cereals and millets in India. Gluten formation, factors affecting gluten formation, Parboiling merits and demerits.

Pulses

Nutritive value, Germination, Fermentation, advantages, Anti nutritional factors (trypsin inhibitors, lathyrism). Common pulses used in India.

Fruits and Vegetables

Classification, Nutritive value, Pigments, effect of acid and alkali. Enzymatic browning- methods of prevention.

Flavour components, organic acids and enzymes, Changes in fruits during ripening, Antioxidant role of fruits and vegetables .

Nuts and oil seeds

Nutritive value, Common nuts and oil seeds .Aflatoxins

Spices

Health benefit of spices. Major spices of India

## **Module 5: Study of Animal Foods**

(11 hrs)

Milk and milk products

Composition and nutritive value, pasteurisation, and homogenisation, Types of milk and milk products.

Egg

Structure, composition and nutritive value, Deterioration in egg quality, Evaluation of egg quality .White foaming-stages, factors affecting foaming.Culinary role of eggs, Designer eggs.

Meat and poultry

Structure of meat ,composition and nutritive value.Rigor mortis, Effect of cooking on meat.Types of meat and products.

Fish

Classification, Nutritive value, Fish spoilage.Fish products

Core Readings

*Benion M (1995) Introductory Foods, 10th Ed, USA.: Prentice Hall.*

*Gopalan. C. , Ramasastry, S.V. And Balasubramanium. S.C. (2008).Nutritive Value Of Indian Foods, Hyderabad.:National Institute Of Nutrition, Shakuntala Manay, N. Shadaksharaswamy M. (2001). Food Facts and Principles, 2nd Edition. New Age International.*

*Srilakshmi, B( 2002). Food Science, New Delhi .:New Age International p Ltd,*

*Swaminathan .M. (2003). Advanced Textbook on Food and Nutrition, The Bangalore Printing and Publishing Co., Ltd., 2ndEd,*

*Usha Chandrasekhar (2002), Food Science and its Applications in Indian Cookery, New Delhi .: Phoenix Publishing House.*

## **FOOD SCIENCE - PRACTICAL**

<b>CORE PRACTICAL-1</b>
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Course Code: HS2CRP01 PRACTICAL-1

Teaching hours: 2 hours/week (36 Hrs. /Sem.)

Credit: 1

- |  |         |
|--|---------|
| 1. Gelatinization temperatures of various types of starches  | (6 hrs) |
| 2. Stages of sugar cookery                                   | (3 hrs) |
| 3. Evaluation of gluten content in a cereal flour            | (2 hrs) |
| 4. Components of an egg                                      | (2 hrs) |
| 5. Stages of egg white foam formation                        | (5 hrs) |
| 6. Effect of cooking on vegetable pigments                   | (2 hrs) |
| 7. Enzymatic browning, Methods to prevent browning in fruits | (6 hrs) |
| 8. Non enzymatic browning                                    | (2 hrs) |
| 9. Food preservation techniques                              | (8 hrs) |

## SEMESTER 2

### HUMAN PHYSIOLOGY AND MICROBIOLOGY

#### CORE THEORY-2

Course Code: HS2CRT02

Teaching hours: 2 hrs/week (Hrs./Sem.36)

Credit: 2

Objectives to

- Understand the integrated functions of the various systems of the human body.
- Understand the economic importance of microorganisms.
- Understand the principles of various methods used in the prevention and control of micro-organisms.
- Study the food standards and role of various agencies in maintaining quality control

#### Course Content

#### **Module 1: Respiratory and Cardiovascular System** (7 hours)

Structure of respiratory system, hypoxia, lung volume and capacities

Composition and functions of blood, Haemoglobin, Coagulation of blood, Blood groups

Structure of heart, Circulation (Systemic, pulmonary, coronary and portal system) Cardiac cycle, Cardiac output, Blood pressure, Myocardial infarction.

#### **Module 2: Digestive and Excretory System** (7 hours)

Structure and functions of stomach. Digestion and absorption of CHO, protein and fats. Liver, Gallbladder, Pancreas, function and regulation of gastric intestinal secretion.

Structure and function of kidney, Nephron, Mechanism of Urine formation

#### **Module 3: Endocrine and Reproductive System** (7 hours)

Endocrine glands and hormones in brief, Action and disorder of pituitary, thyroid, Adrenal and pancreatic hormones.

Structure of uterus, ovary, ovary gland (hormones) and their functions

**Module 4: Basic concepts of Microbiology**

(8 hours)

Classification of microorganisms, important microorganisms- Structure and economic importance of microorganism-bacteria, yeast. Factors affecting the growth of micro organisms, Culture media and culture techniques, Isolation and identification, Gram staining.

Sterilization and disinfection- definition and methods

**Module 5: Infection and Immunity**

(7 hours)

Sources of microorganisms, Transmission of infection, bacterial infections in man- typhoid, Pneumonia. Viral infections – Hepatitis, AIDS.

Natural defences of the body—primary and secondary defence mechanisms. Immunity types, Immunization followed for various diseases, allergy. Hypersensitivity

**Core Readings:**

*Jain, A.K., (2003), Textbook of Physiology, Volume I, New Delhi. Avichal Publishing Company*  
*Vidya Rattan., (2004), Handbook of Human Physiology, 7th edition, New Delhi.: Jaypee Brothers Medical Publishers(p) Ltd.,*

*Ross and Wilson. (2006). Anatomy and Physiology in Health and Illness, 10th edition. London. Elsevier limited,*

*Joshua A.K., (1994), Microbiology, Popular book Depot Publishers.*

*Anathanarayan, R and Panicker, C.K.J. (2009). Text book of Microbiology, 8th edition New Delhi.: Universities Press (India) pvt. Ltd.,*

**Advanced References:**

*Guyton: Medical Physiology*

*C.C. Chatterjee: Human Physiology, Vol I and II.*

**CORE  
PRACTICAL-2**

Course Code: HS2CRP02

Teaching hours: 2 hrs/ week (Hrs./Sem.36)

Credit: 1

1. Determination of Blood groups and Rh factor,Haemoglobin. (4hrs)
2. Preparation of wine and curd (Economic importance of micro organisms). (8 hrs)
3. Identification of micro organisms by gram staining. ( 8hrs)
4. Report of visit to a diagnostic laboratory/Microbiology lab(ST). (8hrs)
5. Assesment of Blood pressure. (8hrs)

( A record of the entire practical should be maintained)

**SEMESTER III**

**HUMAN DEVELOPMENT**

Course Code: HS3CRT03

Teaching Hours: 3hrs/Week (Per Sem 54)

**CORE  
THEORY-3**

Credit: 3

Objectives :

- To impart knowledge on the principles & pattern of growth & development of children from conception to old age .
- To create an awareness on the factors that stimulate growth and development
- To expose the students on the different aspects of personality development .
- To create an awareness on the different concerns and issues during adolescence.

### **Course Content**

#### **Module 1 : Introduction to Human development ( 8 Hrs)**

Human development- significance & Scope

Methods of child study – Anthropometry, observation , interview , questionnaire , case study , projective techniques, psychological tests, sociometry, longitudinal & cross sectional approach.

Growth & development – Definition, principles, stages, areas, factors influencing, heredity – environment interaction.

Personality development – definition, types, determinants of personality

#### **Module 2: Pre - natal development & Neonate (15Hrs)**

A) Prenatal development – conception, stages, factors influencing, complications / hazards during pregnancy, Prenatal care, child birth.

B) Neonate- definition, physical characteristics, abilities, adjustments, New born care – Feeding, immunization, Health Assessment using Growth Chart. Baby friendly Hospitals. APGAR test, At risk babies. Needs & Rights of children.

#### **Module 3: Development during childhood years. (15 Hrs)**

Physical, motor, intellectual, emotional, social & language development during infancy, babyhood, early childhood and late childhood. Factors influencing.

#### **Module 4: Development during Adolescence . (8 Hrs)**

Definition, characteristics, developments during adolescence- Physical, cognitive, emotional & social development. Identity formation & identity crisis. Different issues and concerns during adolescence- anorexia nervosa, Bulimia, obesity, depression, suicidal behavior, substance abuse, adolescent stress, peer pressure, Adolescent pregnancy, personal problems. Causes, consequences & management of each

**Module 5: Discipline & guidance for children,**

**(8 Hrs)**

**Discipline** – essentials, techniques and its effects on children

**Play** – importance, types, selection of toys, indigenous toys.

**Habit formation-** definition, principles.

**Core Readings:**

*Berk, L.E. (2000) child development (8<sup>th</sup> Edn) PHI learning Pvt Ltd, New Delhi. Devadas ,R and Jaya,N. (2005) , A Text book on Child development.*

*Hurlock, E.B. (2008), Developmental Psychology – A life span approach,5<sup>th</sup> Edn. Marshall ,J and Stuart S (2001) Child Development, Heinemann Educational Pub.*

*Sandrock,J.W (2010) Child development – An Introduction ,12<sup>th</sup> Int. Edn,New York, McGraw Hill.*

*Minett ,P.(2005) . Child Care & Development, 5<sup>th</sup> Edn. John Murray Pub. Ltd.*

*Shaffer,D.R. and Kipp ,K.(2007) Developmental Psychology: childhood and adolescence, 7<sup>th</sup> Edn, Thomson Wadsworth. Australia.*

*Suriakanthi,A.(2009). Child Development – An Introduction,4<sup>th</sup> Edn. Kavitha Publications*

## HUMAN DEVELOPMENT – PRACTICAL

Course Code: HS3CRP03

Teaching Hours: 2hrs/Week (Per Sem 36)

Credit: 1

**CORE  
PRACTICAL-3**

1. Study of physical & motor, Intellectual, emotional and social( Any one ) development of a Pre-school child. **(10 Hrs)**
2. Preparation of growth enhancing material/ play materials/ toys for infants / toddlers/ Pre-school children. **(10 Hrs)**
3. Growth monitoring of a child below 5 years using growth chart. **(6 Hrs)**
4. Preparation of a brochure/ leaflet /folder/chart on any related topic in Human development.

**OR**

5. Preparation of an illustrated album / a power point presentation on any topic related to Human development. **(10 Hrs)**

## SEMESTER IV

### **FAMILY DYNAMICS**

Course Code: HS4CRT04

Teaching Hours: 3hrs/Week (Per Sem 54)

Credit: 3

**CORE  
THEORY4-**

#### **Objectives:**

- To orient the students about the different aspects of marriage and the factors leading to Successful marriage.

- To create an awareness on the different aspects of family , family interactions and the current issues affecting family.
- To help the students to develop a positive attitude towards the critical family situations and to equip them with the coping strategies.
- To create an awareness in the youth about the Needs & problems of the elderly and to develop in them a positive attitude towards the care of the aged.

### **Course Content :**

#### **Module 1. Marriage (8 Hrs)**

Definition, Functions, types .Marital adjustment -Areas of Adjustment. Factors leading to successful married life.

#### **Module 2. Family (12 hrs)**

a. **Family**- the basic social institution, functions of family. Types-Joint, Nuclear, extended, lone-parent, reconstituted families. Family Interactions (Husband –wife & parent – child) and its influence on child development. Responsible parenthood. (Marshel & Stewart (2001)

b. **Contemporary issues affecting family**- maternal employment, Lone parenthood, reconstituted families, electronic media.

#### **Module 3: Critical family situations and the coping strategies (20 Hrs)**

a) **Family Crisis** - Meaning, and types - Death, divorce, desertion, suicide, prolonged illness, imprisonment, unemployment, dowry, alcoholism, drug addiction, war separation, economic depression. Consequences & coping strategies

b) **Children with special needs** -Definition, general classification, characteristics, general causes, role of family towards children with special needs.

c) **Children with Behaviour problems**- definition, causes , methods of handling

#### **Module 4. Population education( 7 Hrs)**

Definition. Overpopulation – definition & its problems.Methods of family planning.

Sex education.

#### **Module 5: Old age (7 Hrs)**

Physical & psychological changes during old age. Needs, problems of the elderly.

### **Core Readings :-**

*Devadas, R and Jaya, N. (2005), A Text book on Child development.*

*Hurlock, E.B. (2008), Developmental Psychology – A life span approach, 5<sup>th</sup> Edn. Marshall, J and*

*Stuart S (2001) Child Development, Heinemann Educational Pub.*

*Minett, P. (2005). Child Care & Development, 5<sup>th</sup> Edn. John Murray Pub. Ltd.*

*Suriakanthi, A. (2009). Child Development – An Introduction, 4<sup>th</sup> Edn. Kavitha Pub*

## **FAMILY DYNAMICS- PRACTICAL**

Course Code: HS4CRP04

Teaching Hours: 2hrs/Week (Per Sem 36)

CORE

PRACTICAL -4

Credit: 1

1

Visit to an Old age Home/ pakal veedu and interact with the inmates to assess their (problems / interests/ desires) and report(ST) . (8hrs)

2

Study on the characteristics of a child with any behaviour problem. (8hrs)

3

Preparation of a brochure/ leaflet /folder/chart on any topic related to family Dynamics (10hrs)

4

Preparation of a power point presentation on any related topic of your study. (10hrs)

## SEMESTER V

### ENVIRONMENTAL STUDIES AND RESOURCE MANAGEMENT

Course Code: HS5CRT05

CORE-5  
THEORY-5

Teaching hours: 4 hrs/week (Per Sem: 72)

Credit: 5

**Objectives:**

- To create an understanding in the students about the principles of management and its application in the individual and family context
- To acquire scientific skills in the management of resources
- To recognize the significance of resource management and thereby improve the quality of life.
- To create awareness of consumer rights and the need for consumer education
- To recognize the importance of waste management.

**Module 1**

**Unit 1 : Multidisciplinary nature of environmental studies**

Definition, scope and importance

(2 hrs)

Need for public awareness.

**Unit 2 : Natural Resources :**

Renewable and non-renewable resources : Natural resources and associated problems.

a) **Forest resources** : Use and over-exploitation, deforestation, case studies.

Timber extraction, mining, dams and their effects on forest and tribal people.

b) **Water resources** : Use and over-utilization of surface and ground water,

floods, drought, conflicts over water, dams-benefits and problems.

c) **Mineral resources** : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) **Food resources** : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) **Energy resources**: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, Case studies.

f) **Land resources**: Land as a resource, land degradation, man induced landslides, soil erosion and desertification

➤ Role of individual in conservation of natural resources.

➤ Equitable use of resources for sustainable life styles.

( 10 hrs)

### **Unit 3: Ecosystems**

➤ Concept of an ecosystem

➤ Structure and function of an ecosystem

➤ Producers, consumers and decomposers

➤ Energy flow in the ecosystem

➤ Ecological succession

➤ Food chains, food webs and ecological pyramids.

➤ Introduction, types, characteristic features, structure and function of the given ecosystem:- Forest ecosystem

( 6 hrs)

## **Module 2**

### **Unit 1: Biodiversity and its conservation**

➤ Introduction

➤ Biogeographical classification of India

➤ Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.

➤ India as a mega-diversity nation

➤ Hot-spots of biodiversity

➤ Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts

➤ Endangered and endemic species of India

( 8 hrs)

### **Unit 2: Environmental Pollution**

Definition

Causes, effects and control measures of: -

a. Air pollution

b. Water pollution

c. Soil pollution

d. Marine pollution

e. Noise pollution

f. Thermal pollution

g. Nuclear hazards

➤ Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

➤ Role of an individual in prevention of pollution

➤ Pollution case studies

- Disaster management: floods, earthquake, cyclone and landslides. (8 hrs)

### **Unit 3: Social Issues and the Environment**

- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people: its problems and concerns, Case studies
- Environmental ethics: Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion , nuclear accidents and holocaust, Case studies
- Consumerism and waste products
- Environment Protection Act
- Air ( Prevention and Control of Pollution) Act
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness (10 hrs)

### **Module 3: Introduction to Management and consumer education (10 Hours)**

**Management Basics** – Steps Involved in the Process of Management – Planning, organizing, Controlling and Evaluation. Decision Making –Role of Decision Making in Management, Steps in Decision Making, types. Methods of Resolving Conflicts, Motivating factors in management-Values, Goals and Standards, Stages of Life Cycle, Qualities of a Good Manager. **Consumer Education** – Meaning, Consumer Problems, Rights and Responsibilities of a Consumer, Consumer Aids, Consumer Protection, Consumer Redressal Procedure and Better Buying Practices.

### **Module 4: Management of Human Resources (10 hours)**

**Family Resources:** Meaning and Classification, Characteristics of Resources, Factors Influencing Resource Management, Means to Optimize Satisfaction in Resource Management. **Management of Time:** steps in making time plan, Tools and Aids in Time Management - time norm, time cost, peak load, work curve, Leisure time and its utilization. **Management of Money:** Family Income as a Resource – Types of Income, Guidelines in money management, Family Budget – Types of Budget, Steps in Making Family Budget, Engel’s Laws of Consumption ; Account keeping, Financial Records – Types, Purpose and Advantages ; Savings and Investments – Meaning, Saving Institutions and Schemes, Supplementing family income. **Management of Energy:** Energy as Resource, Significance of Energy Management, Energy Requirements for Various Household Activities, Work Curve or production curve, Fatigue – Classification, Causative Factors and Alleviating Techniques, Work Simplification- – Meaning and Techniques, Mundell’s Classes of Change. **Labour Saving Equipments** - Principle, Use and Care of the Equipments Such as Cookers, Mixers and Grinders, Refrigerator, Washing Machine and Dish Washers.

### **Module 5 Human rights (10 hours)**

## Module – V

**Unit 1- Human Rights**– An Introduction to Human Rights, Meaning, concept and development, Three Generations of Human Rights (Civil and Political Rights; Economic, Social and Cultural Rights).

**Unit-2 Human Rights and United Nations** – contributions, main human rights related organs - UNESCO, UNICEF, WHO, ILO, Declarations for women and children, Universal Declaration of Human Rights.

**Human Rights in India** – Fundamental rights and Indian Constitution, Rights for children and women, Scheduled Castes, Scheduled Tribes, Other Backward Castes and Minorities

**Unit-3 Environment and Human Rights** - Right to Clean Environment and Public Safety: Issues of Industrial Pollution, Prevention, Rehabilitation and Safety Aspect of New Technologies such as Chemical and Nuclear Technologies, Issues of Waste Disposal, Protection of Environment

**Conservation of natural resources and human rights:** Reports, Case studies and policy

formulation. Conservation issues of western ghats- mention Gadgil committee report,

Kasthuriengan report. Over exploitation of ground water resources, marine fisheries, sand

mining etc.

(8 Hrs)

### REFERENCES

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)
3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
4. De A.K.Environmental Chemistry, Wiley Eastern Ltd.(Ref)
5. Down to Earth, Centre for Science and Environment (Ref)
6. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge University Press 1140pb (Ref)
7. Jadhav.H & Bhosale.V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p (Ref)
8. Mckinney, M.L & Schock.R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p (Ref)
9. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB)
10. Odum.E.P 1971. Fundamentals of Ecology. W.B. Saunders Co. USA 574p (Ref)
11. Rao.M.N & Datta.A.K. 1987 Waste Water treatment Oxford & IBII Publication Co.Pvt.Ltd.345p (Ref)
12. Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016 (TB)
13. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
14. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (Ref)
15. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (Ref)
16. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
17. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref)
18. (M) Magazine (R) Reference (TB) Textbook

### **Human Rights**

1. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.
2. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)
3. Law Relating to Human Rights, Asia Law House, 2001.

4. Shireesh Pal Singh, Human Rights Education in 21<sup>st</sup> Century, Discovery Publishing House Pvt.Ltd, New Delhi,
5. S.K.Khanna, Children And The Human Rights, Common Wealth Publishers,1998. 2011.
6. Sudhir Kapoor, Human Rights in 21<sup>st</sup> Century,Mangal Deep Publications, Jaipur,2001.
7. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

## ENVIRONMENTAL STUDIES AND RESOURCE MANAGEMENT -PRACTICAL

**Course Code: HS5CRP05**

**Teaching hours: 2hrs/week (Per sem: 36 hrs)**

**Credit: 2**

**Course Content**

<b>CORE PRACTICAL 5</b>
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**Module1: Management of Time and Energy (12 hours)**

Time schedule: Preparation of time plan for college girl / homemaker and its evaluation, Work study:  
Determination of working height in vertical and horizontal planes.

**Module 2: Management of money and material resources (10 hours)**

Budget Planning - preparation of a model family budget for your family / budget suitable for various categories

**Energy Conservation** - Visits to organizations/institutions involved with Alternate energy programmes,  
Study of Devices/ Techniques for Conservation of Energy / Renewable Energy

Devices (Solar Devices and Biogas) (ST)

**Waste Management** - Study of waste management practices in your house/locality, Development of wealth from waste.

**Module 3: Consumer Education (4 hours)**

Development and evaluation of Labels / Advertisements for consumer products, Preparation of a consumer complaint for any consumer product

**Module 4: Event Management (10 hours)** Planning, organizing, implementing and evaluating a group activity (Party/Exhibition/ tour) Or Residence stay for a week incorporating principles of management(ST)

**Internal: Field study**

- Visit to a local area to document environmental grassland/ hill /mountain
- Visit a local polluted site – Urban/Rural/Industrial/Agricultural Study of common plants, insects, birds etc
- Study of simple ecosystem-pond, river, hill slopes, etc

(Field work Equal to 5 lecture hours)

(A record of the entire practical should be maintained)

## HUMAN NUTRITION AND BIOCHEMISTRY

Course Code: HS5CRT06

Teaching hours: 3hrs/week (Per sem: 54)

<b>CORE THEORY 6</b>
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Credit: 3

Objectives To: Obtain an insight into the chemistry of major nutrients and ph important compounds

Understand the role of nutrition in different stages of life cycle

Enable the students to plan menus in accordance with basic concepts for nutrition

### Course Content

Module I. Introduction to Nutrition Science (5 hrs)

Definition of nutrition, RDA, Factors affecting RDA, RDA for different nutrients(ICMR2010), Indian reference man and woman.

Module 2. Human Energy Requirements (6 hrs)

Definition of energy, Measurement of BMR, factors affecting BMR, Thermic effect of food. Measurement of basal metabolism -Direct calorimetric- Bomb calorimeter, indirect calorimetric method- benedict's oxy calorimeter. Energy requirements.

Module 3. Macronutrients and their metabolism(15hrs)

a. Carbohydrates- Metabolism of CHO ,Glycolysis ,TCA cycle and its energetics. Types of dietary fibre, physiological and metabolic effects of dietary fibre and potential health benefits.

b) Proteins – Classification of proteins and amino acids, functions-to physiology . Metabolism – Transamination, Deamination, Decarboxylation) Protein turnover, methods of evaluating protein quality-Biological value, net protein utilisation, digestibility coefficient.

c) Lipids – Composition, function, Metabolism–(Beta-oxidation, ketone body formation).

d) Water: Functions, Distribution of body water, Factors influencing water distribution, Regulation of water balance, requirements of water, dehydration, edema.

#### Module 4. Vitamins and Minerals

(15 hrs)

Fat soluble vitamins A, D, E and K

a. Fat soluble vitamins- Classification, Food sources, functions, deficiency/toxicity

b. Water soluble vitamins (Vitamin B complex and C)

Classification, food sources, functions, deficiency/toxicity.

c. Macro minerals – Functions, food sources, deficiency/toxicity of calcium, phosphorus, sodium, potassium.

d. Micro minerals – Factors affecting absorption of minerals, functions, food sources, deficiency of iron, iodine, fluorine and zinc.

#### Module 5: Principles of Human Nutrition (13hrs)

a) Assessment of nutritional status

i. Anthropometry – measurements of height, weight, head and chest. Circumference, mid arm circumference, skin fold thickness, interpretation of measurements and comparison with standards (NCHS, ICMR), classification according to grades of malnutrition.

ii. Clinical signs and symptoms of Vitamins and Minerals deficiencies

iii. Biochemical parameters for assessing the nutritional status

iv. Dietary Assessment – oral questionnaire (24 hour recall method), weighing method

b) Nutrition in Infancy

Nutritional requirement, breast feeding- advantages, Weaning and types of supplementary Foods.

c) Nutrition in Preschool Age

Nutritional requirements, nutrition related problems, feeding patterns, Diet plan.

d) Nutrition in school children

Nutritional requirement, dietary guidelines, packed lunches, school lunch programme – mid day meal programme, diet planning.

e) Nutrition in Adolescence

Nutritional requirements, factors influencing dietary habits, Eating disorders.

f) Nutrition in adulthood –

Nutritional requirements, Dietary Recommendations for Adults, factors affecting diet planning.

g) Nutrition in Pregnancy

Physiological changes during pregnancy, nutritional requirements, complications in pregnancy- gestational diabetes, toxemia, infections, effect of maternal malnutrition on foetus

h) Nutrition in Lactation

Nutritional requirements, human milk composition and importance, lactagogues, diet planning.

i) Nutrition in old age

Factors affecting food intake and nutrient use, nutrient needs, diet planning.

**Core Readings:**

- *Srilakshmi, B. (2008). Nutrition Science, 3rd edn, New Delhi.: New Age International (p) Ltd. Publishers.*
  - *Bamji M.S., Krishnaswamy, K., and Brahmam G.N.V.( 2009). Textbook of Human Nutrition, 3rd edn. New Delhi.: Oxford and IBH Publishing Co. Pvt. Ltd.,*
  - *Park, K. (2005).Park's Textbook of Preventive and Social Medicine, 18th edn. India: M/s Banarsidas Bhanot Publishers, Jabalpur,.*
  - *Swaminathan,M. (2001).Principles of Nutrition and Dietetics. Bangalore.: The Bangalore Printing and Pub,Co,Ltd,,*
  - *C. Gopalan, B.V. Ramasastri and S.C. Balasubramanian. (2007). Nutritive value of Indian Foods. Hyderabad.: NIN, ICMR*
- .Nutrient Requirements and Recommended Dietary Allowances for Indians –I.C.M.R. Publication 1999.*

## HUMAN NUTRITION AND BIOCHEMISTRY-PRACTICAL

Course Code: HS5CRP06

Teaching Hours: 2hrs/Week (Per Sem: 36)

CORE

PRACTICAL-6

Credit: 1

### Course Outline

I. Food Analysis (18hrs)

1. Qualitative tests for carbohydrates, protein, calcium, phosphorus and iron

2. Quantitative tests for

a. Lactose in milk

b. Vitamin C in food stuffs

c. Calcium in foods

II. Planning, preparing and serving normal diets for (18hrs)

1. Infancy

2. Preschool age

3. School going age

4. Adolescence

- 5. Adult/Labourer
- 6. Pregnancy
- 7. Lactation
- 8. Old age

## TEXTILE SCIENCE

Course Code: HS5CRT07

Teaching Hours: 3 hours/week (Per Sem: 54)

Credit:3

CORE  
THEORY-7

Objectives To:

- Gain knowledge about Textile fibres and their uses.
- Develop an understanding about various kinds of traditional and modern fabrics, their structure and the utility.
- Impart knowledge about Textile dyeing and printing.
- Develop skill in understanding textiles available in the market.

Course Content:

### Module I: Study of Fibres

(14hrs)

Definition, properties of textiles fibers –primary and secondary classification. Production, properties and uses of Textile fibres- cotton linen, wool, silk, rayon, nylon, and polyester. A brief introduction to jute, bamboo, spandex and organic cotton. Methods of identification of textile fibres- visual test, microscopic test and burning test.

### Module 2: Study of yarns

(10hrs)

Definition, process of making fibre in to yarn. Hand spinning, Mechanical Spinning, (Ring spinning and Openend spinning) and chemical spinning. Classification of yarns-based on type, number of parts, count and twist. Textured yarns, bi-components yarns, Blends and mixtures

### Module 3: Fabric structure

(12hrs)

Weaving- parts of a Loom and basic weaving operations, a brief introduction to shuttle less looms- projectile, rapier, air jet and water jet looms. Basic weaves- plain, twill and satin. Fancy Weaves pile, jacquard, dobby, lappet, clip spot, crepe and double cloth. Characteristics of woven fabrics –warp and weft, grain, selvedge, thread count and balance. Other methods of fabric construction- knitting, felting, lace making, bonding, and braiding.

**Module 4: Dyeing, Printing**

(10hrs)

Classification of dyes: Natural, artificial- acid, basic, disperse, vat, naphthol, pigment, sulphur, and mordant. Methods of dyeing-stock, yarn, piece, product, cross and union dyeing-Printing:-Direct- roller, block, screen and stencil . Resist- tie & dye, batik and Discharge.

**Module 5: Fabric Finishes and new trend in textiles**

(8hrs)

Definition ,purpose, classification, and types-singeing, bleaching, mercerization, calendaring, shrinkage control, sanforizing, crabbing, beetling, sizing, weighting, shearing, fulling, schrienerizing, crepe, Special finishes-water proofing, flame proofing ,and anti bacterial finish.

New Trends in Textiles-Brief introduction to Technical textiles, medicinal Textiles , nano textiles and geo textiles.

**Core Readings:**

*Corbman.B.P. (2005). Fibre to Fabric.Singapore.:Mc.Graw Hills book.co. Kadolf S.J*

*(2008) Textiles, Anne Langford, Prentice Hall*

*Gokarneshan U (2005) Fabric Sturcture and Design, New Age International Publishers Well's K*

*(2002) Fabric Dyeing And Printing, Conran Octopus*

*Smith J.L (2006) Textile Processing, Chandigarh , Abhishek Publications*

*Wingate (1978) Textile Science and their Selection, Prentice Hall.*

*Dantysi S (2008) Fundamentals of Textiles And Their care, Orient Longman.*

## TEXTILE SCIENCE- PRACTICAL

Course Code: HS5CRP07

CORE PRACTICAL-7
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Teaching Hours: 2 hours/week (Per Sem: 36)

Credit:1

1. Collection of different fibres (Cotton, Silk, Polyester, Nylon, wool and rayon)

Testing of fibers: - Visual Inspection, Burning and Microscopic, 10 hrs

2. Fabric structure: Basic weaves- Collect samples for all the Basic weaves and their variations.

Fancy weaves-Collect samples for (Pile, Dobby, Jacquard, Leno, Clip spot,

Lappet and Double cloth) 12 hrs

3. Thread count :- Collect samples for low medium and high count fabric. 4 hrs

4

Prepare samples for Block, Batik and Tie & Dye (any two variations) 5hrs

4

Visit to Mills /Shops(ST). 5 hrs

A record of the entire practical should be maintained.

Course Code: HS5CRT08

CORE

Teaching hours:4hrs/week (Per sem: 54)

THEORY-8

Credit: 3

## Objectives

To enable the students to

- Understand the widening concept of extension
- Appreciate the role of extension, especially home science extension in community development.
- Orient students to the socio cultural and economic environment of rural, urban and tribal communities.
- Develop skill in planning, implementing and evaluating an extension programme.

## Course Content

### **Module1: Extension Education**

(10 hrs)

Definition, meaning, need and objectives of extension in India, Difference between formal, informal and extension education. Role and qualities of an extension worker. Home Science extension education and its contribution towards the development of community

### **Module2: Community Development**

(10 hrs)

Community Development-definition .Objectives of community development and extension programme in India.

Special features of rural, urban and tribal communities in India

Basic Rural institutions (Panchayats, cooperatives and schools) in Community Development

Leadership -Concept and definitions, types of community leaders-Professional leader and lay leaders; autocratic,democratic and laissez-faire leaders

Methods of identifying community leaders. Leadership for community development

### **Module 3: Community Development set up**

(20hrs)

At the national, state, district, block and Village levels. Democratic Decentralization-Panchayathi Raj-meaning, set-up and functions.

Community Development Programmes and organizations in India-

Ongoing rural development programmes for women and children implemented by the Government of India-Development of Women and Children in Rural Areas (DWCRA), Integrated Child Development Service (ICDS) and Indira Mahila yojana ( Swayam Sidha) .

Non-Governmental organization in community/rural development in India-

Central Social Welfare Board(CSWB), State Social Welfare Board(SSWB), Council for Advancement of People's Action and Rural Technology(CAPART) ,Self Help Groups (SHG).

#### **Module4: Programme planning, implementation and evaluation in extension (12 hrs)**

Objectives, principles and steps involved.

Plan of work- components of a plan of work, developing a plan of work, factors to be considered.

Implementation and evaluation- Methods and tools for evaluation

Motivation in extension education- types and techniques.

#### **Module 5: Basics in Project report writing (20 hrs)**

Research project – definition, importance of research . Types- survey and experimental. Selection of research topic. Research trends in Home Science

Tools for data collection- check list, rating scale, questionnaire, and Interview schedule.

Sampling techniques – definition, types –Random sampling- simple & systemic random sampling .

Non- random sampling- purposive, stratified, Convenience and snow ball sampling.

Tabulation – definition, parts of a table

Graphic presentation- line, bar, pie, pictograph

Components of a project report – Introduction, Review, Methodology, Results and Discussion, Summary and Conclusion in brief, References

#### **Core Readings**

*Reddy,A.[1987] .Extension Education. Bapatha, Andra Pradesh, India.: Sreelekshmi Press.*

*Dahama, O.P., & Bhatnagar, O.P. [1988]. Education and Communication for Development.*

New Delhi. : Oxford and IBH Publishing Co. Pvt .Ltd.

Patnayak, R. [1990]. *Rural Development in India*. New Delhi.: Vikas Publishing House. Jain Gopal, I.[1997].*Rural Development*. Jaipur.: Mangal Deep Publications.

Waghmare, S.K .[1980]. *Teaching Extension Education*. Vallabha, Vidhya Nagar.: Prasant Publication .

Supre, A.N.(1983).*An introduction to Extension Education*. Delhi.: Oxford IBH Publishing Company.

Maimun, N. (2006).*Understanding Extension Education* .Delhi.: Kalpaz Publications.

Devadas, R.P. (1980).*Text Book of Home Science*. New Delhi.: NCERT

C.R. Kothari.(2004) .*Research Methodology, Methods and Techniques*. New Delhi.: New Age International Publishers.

R.T.Kumar. (2011).*Research Methodology, A Step-by –Step Guide for Beginners*. New Delhi.: Sage Publishers.

#### *Journals*

*The Indian Journal of Extension Education* .The Indian Society of Extension Education. Division of Agricultural Extension, IARI, New Delhi.

*Journal of rural development(JRD)* , National Institute of Rural Development,Rajendranagar,Hyderabad.

*Kurukshetra*.Ministry of Rural Development. New Delhi.

## **EXTENSION EDUCATION –PRACTICAL**

Course Code: HS5CRP08

Teaching hours: 2hrs/week (Per sem: 36)

Credit: 1

Course Content:

CORE

PRACTICAL-8

1 Extension Education (9hours)

Interview an extension worker to find out his/her role.

2. Community Development (9 hours)

1. Visit any one community organization (Panchayat/Cooperatives /School /Krishy Vigyan Kendra ) to find out its role in community development and record the services rendered(ST).

2. Interview a lay leader in a community and find out his/her role in community development.

3. Community Development Programmes and organizations in India (8 hours)

Observe the working of any one community development programme in your community and record its features.

4. Programme planning in Extension (10 hours)

Prepare a plan of work for any one community development programme with tools for evaluation.

(All the topics should be related to Family and Community Science (Home Science). A record of the entire practical should be maintained.)

## INTERIOR DECORATION AND RELATED ARTS

**Course Code: HS5OP1**

**Teaching hours: 4hrs/week (Per sem: 72)**

**Credit: 3**

**OPEN  
COURSE-1**

Interior decoration is one area of specialization which focuses attention on the functional and aesthetic aspects of residences, commercial establishments and work spaces. This subject has grown so much in scope and career and is attracting students for pursuing a lifelong career.

- To enable students to-
- Learn to appreciate art
- Understand elements and principles of art and design
- Develop skill in creating designs and making art objects
- Gain knowledge in principles of planning different residential spaces
- Develop skills in selection of furnishings fabrics, art objects, accessories
- Understand the principles of furniture arrangement and lighting.

### Course Outline

#### Module 1

Introduction to Interior decoration: definition, concept, importance of good taste in interior decoration (4hrs)

#### Module 2

Design:-definition and types: structural and decorative, Elements of design-line form, shape, texture, space pattern, light.Principlesof design-proportion, balance, harmony, emphasis, rhythm. (17hrs)

#### Module 3

Colour and Lighting in the home:- Prang colour system, qualities of colour, colour harmonies, use and effects of various colour in interiors. Importance of lighting for interiors- Types of lighting- natural and artificial, lighting requirement for different room. (18hrs)

Module 4 Furniture and furnishing:-fundamentals of furniture arrangement ,guidelines for selection of furniture, types-dual ,multipurpose, furniture requirements for various rooms. Furnishings :selection, classification, use of furnishings in a house (curtains and draperies, upholstery, floor, bed and table linen and others),planning curtain styles for different types of rooms. (15hrs)

Module 5 Accessories:-Types and their role in interiors. Flower arrangement-principles of flower arrangement,different styles, basic shapes. Indoor gardening-selection types and care, suitability of plants. (18hrs)

### Core Readings

*Anna H Rutt- Home furnishing, John Wiley Eastern Pvt. Ltd New York, 1961*

*Faulkner.R and Faulkner.S.- Inside Today's Home, Holt Rinehart and Winston Inc , New York. 1974.*

*Goldstein .H. and Goldstein .V. Art in Everyday Life<, Macmillan Company, New York, 1976*

*Craig H.T. and Rush.C.D.- Homes with character, Doc. Heath and company Boston 1962*

*remavathy S and Parveen P. Interior design and Decoration, CBS publishers, Newdelhi,2010*

*PremlathaMulick- text Book of Home Science, Kalyani Publishers, Ludhiana.*

*Sally. A. -Enjoy flower arranging, Faber and faber, 24 Runnel square, London*

## LIFE SKILL STRATEGIES AND TECHNIQUES

**Teaching hours: 4hrs/week (Per sem: 72)**

**Credit: 3**

**Objectives:**

- To empower young people to effectively meet the challenges of everyday life
- To enable learners to acquire knowledge and to develop attitudes and skills which lead to healthy behaviour patterns
- To lay the foundation for a responsible lifestyle, sound relationships and safe habits

**Module-1: Communication and Interpersonal Relationships**

Verbal and Non-verbal Communication  
Active Listening

Negotiation and assertiveness

Advocacy skills

(12 hours)

**Module 2: Adolescent Health and Nutrition**

Physiological Aspects of growth and development during adolescence  
Nutrient needs and recommended dietary intakes

Problems of adolescent nutrition-Obesity, Anorexia Nervosa, Bulimia, Binge eating disorder, under nutrition.

Food guide pyramid and dietary guidelines for adolescents

Changing trends in \food habits-Fast foods, junk foods.

(12 hours)

**Module 3: Enhancing Personality Through Clothing and Grooming**

Essentials in good grooming  
Expressing individuality through costume selection

Design elements of good costume

Selection of costumes for various occasions and wardrobe smartness. □(12 hours)

**Module4: Personal and Community Resource Management**

Time Management for adolescents- Significance and techniques  
Work simplification for energy management

Income management through supplementation and savings

Environmental pollution-causes and consequences

waste management techniques

Rain water harvesting

Role of individuals in conserving environmental resources

(12 hours)

Module5: Career Enhancement

*Goal setting*

*Job Application process*

*Interview and Group discussion*

*Presentationskills*

(12 hours)

**Core Readings:**

*Varghese, M. A, Ogale, N. N and Srinivasan, K. Home Management (2001). New Age International (P) Ltd. New Delhi.*

*Nickel, P and Dorsey, J. M. 1997. Management in family living. Wiley Eastern Ltd.*

*Nambiar, R. K. Text book of Environmental Studies. SCITECH Publication, New Delhi.*

*Newman, H and Newman, R. Development through life. US. Wadsworth Publishing company.*

*Sigelman, C. K and Rider, E. A. Life Span Human Development. US. Thomas Wadsworth Publishing Company.*

*Krause, M. V and Mahan. (2005). Food Nutrition and Diet Therapy. WS Saunders Co.,Philadelphia.*

*Srilakshmi, B. (2010) Dietetics. New Age International (P) Ltd, Chennai*

## **NUTRITION FOR WELLNESS**

**Course Code: HS5OP3**

**OPEN**

**COURSE-3**

**Teaching hours: 4hrs/week (Per sem: 72)**

**Credit: 3**

### **Objectives**

To enable students to:

Understand the relationship between nutrition and health

Modify diets in order to promote health and reduce the risk of deficiency and chronic diseases

Assess the nutritional status of individuals in different stages of life.

## **Course Outline**

hours)

Introduction, Classification of foods (based on origin, chemical composition predominant function, nutritive value, ICMR Food Groups) Relation of food and health, food and its functions, Digestion, absorption and utilization of food.

Module2: Food Choices and Nourishment (18 hours)

Nutrients and their function: Proteins, fats, carbohydrates, Energy, Vitamins, Minerals and Trace element:-sources, functions, Recommended dietary allowances, deficiency, prevention and treatment

Module3: Planning a healthy diet (18 hours)

Factors affecting meal planning, balanced diet, steps in planning balanced diet, Life cycle nutrition :Nutritional requirements and planning diets during pregnancy, lactation ,Infancy, preschool ,school age, adolescents, adults and old age.

Module4: Modified Diets (18 hours)

Introduction- Purpose of diet therapy, classification of modified diets, Diets for selected disorders: Diabetes Mellitus, cardiovascular diseases-

Atherosclerosis, hypertension; cancer and weight management (Obesity and Underweight).

Module5: Assessment of Nutritional Status: (8hours)

The methods of assessment of nutritional status - Anthropometry, Biochemical changes, Clinical examination of signs, Dietary Analysis.

Core Readings:

Insel P, Turner E.R and Ross D, *Discovering Nutrition*, American Dietetic Association, Jones and Bartlett Publishers, London, 2003

*Smolin L.A and Grosvenor M.B, Nutrition Science and its Applications, Second edition, Saunders College Publishing, New York, 1997*

*Park K, Park's Textbook of Preventive and Social Medicine, 20th Edition, Banarsidas Bhanot Publishers, Jabalpur, India, 2009*

*Joshi S.A, Nutrition and Dietetics, third Edition, Tata McGraw Hill Education Pvt.Ltd, New Delhi, 2010.*

*Srilakshmi B, Dietetics , New Age International (p) Ltd, Publishers, New Delhi, 2010*

*Gopalan C, Ramasastry, B.V and Balasubramanian S.C, Nutritive value of Indian Foods, NIN, Hyderabad 2007*

*Sreelakshmi B. Nutrition Science , New Age International (p) Ltd, Publishers, New Delhi, 2010.*

## **SELF EMPOWERMENT SKILLS**

**Course Code: HS4OP4**

**Teaching hours: 4hrs/week (Per sem: 72)**

**Credit: 3**

**Objectives:-**

- To develop Pleasing Personalities and to make them efficient in life.
- To develop Resource Management skills.
- To develop effective communicative skills.
- To enhance self empowerment
- To mould students as sociable persons
- To transform students graceful to the family & society.

## Course outline

Module1;Personality Development ( 10 hrs)

Personality -Definition, Determinants.

Types based on temperament & body build and Type A & B.

Tips to develop a positive personality

Self esteem – definition, types , importance , steps to improve self esteem

Module2: Resource Management skills. (10 hrs)

Resources – definition, Types

Management- definition, Steps in management process, Decision making

Time management- Time Schedule, techniques for time management

Money Management – Steps in making Budget . Account keeping.

Energy management – Types of fatigue, Causes of fatigue, Work simplification.

Module3:s Soft Skills (12 hrs)

Intelligent Listening, Effective speaking,

Impressive writing skills- letters, note taking.

Facing Interviews, Participating in group discussions.

Learning Skills-Intelligence – definition, areas of intelligence , Memory techniques.

Scientific learning. Tips for writing examinations.

Social skills- Definition . Different social skills. Qualities that make a person successful.

Family life skills- Marriage – definition, Areas of Marital adjustment. Factors influencing .

Reproductive health – diet , personal hygiene. Stress management

Module 5: Aesthetic & Income generating skills. (10 hrs)

Interior decoration- Types, Elements & principles of design , Colour combinations

Flower Arrangement – materials needed, styles.

Meal planning- principles .Table Etiquettes.

Waste management - Wealth from waste

Core Readings:-

□ *Mitter, S. & Aggarwal ,S.C. (2002). How to develop Your Personality & Potentialities. Sultan Chand & sons , New Delhi*

□ *Khera Shiv (2002). You Can Win .Macmillan Pub. New Delhi.*

## SEMESTER VI

### INTERIOR DECORATION

CORE  
THEORY-9

Course Code: HS6CRT06

Teaching hours: 3hrs/week (Per Sem: 54 hours)

Credit: 4

#### **Objectives:**

To enable the students:

To use and understand the elements and principles of design,

To develop basic skills for a career option in Interior Designing,

To gain the basic knowledge of furniture arrangement and furnishing the residential interior and exterior space.

Module 1: Art and Design (12 hours)

Introduction to Interior Designing, Importance of good taste, Concept and objectives of interior decoration, Definition, Types of design, Elements of design-line, shape, texture, colour, pattern, light and space ; Principles of design- proportion, balance, rhythm, emphasis, harmony.

Module 2: Colour (9 hours)

Qualities of colour, Prang colour system, Colour harmonies and schemes; Use and effects of various colours, colour schemes for various rooms.

Module 3: Home Lighting

(6 hours)

Importance of home lighting, Sources of lighting- natural and artificial, types of lamps and types of lightings- Direct, Indirect, semi direct and semi indirect. Lighting for different rooms. Physical and Psychological aspects of lighting.

Module 4: Furniture, Furnishing and Accessories

(15 hours)

Furniture requirement for various rooms, guidelines for selection and arrangement of furniture, Classification and selection of soft furnishings, Types of windows, window treatments - curtain styles, selection and care of rugs and carpets. Accessories - Classification and their role in interiors, flower arrangement - principles, different styles, and basic shapes, drying techniques and dry flower arrangement, indoor gardening and bonsai

Module 5: Interior and Exterior Space Organisation

(12 hours)

Space requirement for various activities in various rooms; storage for living, dining and bed rooms, Principles of space planning; space saving techniques ; Kitchen- types of kitchen, modular kitchen, working areas and work triangle. Objectives and principles of landscape gardening, Types-formal, informal; Styles, Garden components and routine duties in gardening

**Core Readings:**

*Rutt, A.H. (1963) Home furnishing. John Wiley & Sons, Inc.;*

*Teresa, P. Lancker. (1960). Flower Arranging: Step-by-step Instructions for Everyday Designs. Florist Review*

*Craig, H.T. and Rush, O.D. (1966). Homes With Character. Heath, 1966*

*Goldstein. H & Goldstein V. (1954). Art in Everyday Life Macmillan Publishers.*

*Faulkner, R. & Faulkner, S. (1961) Inside Today's Home. Rev. ed. © Holt, Rinehart & Winston, Inc.*

*Supriya, K.B.(2004). Landscape gardening and designing with plants. Pointer Publishers,*

## **INTERIOR DECORATION (PRACTICAL)**

Course Code: HS6CP06

Teaching hours: 3hrs/week (Per Sem: 54 hours)

CORE

PRACTICAL-9

Module 1. Design and colour

(12 hours)

Application of various types of design, elements of design and principles of designs;

Application of motif in a design suitable for furnishing / accessories

Preparation of colour charts and application of colour schemes in a design/ room

Module 2. Flower Arrangement, table setting and napkin folding

(8 hours)

Demonstration of basic shapes in flower arrangement, Dry flower arrangement, Ikebana,

Artificial flower making and arrangement, Bouquet making. Table setting, Napkin folding.

Module 3. Furnishings

(6 hours)

Curtain Styles : Illustration of various curtain styles,

Module 4. Evaluation of Interiors

(2 hours)

Photographic evaluation of any two rooms (Living room, dining room, bed room, bath room, kitchen etc.)

Module 5. Creative arts

(8 hours)

Creation of art objects Any decorative/ functional accessory.

A record of the entire practical should be maintained

Core Readings:

*Kasu, A (2005) Interior design, Ashis Book Centre, Mumbai Rutt, A.H. (1963) Home furnishing. John Wiley & Sons, Inc.;*

*Teresa, P. Lancker. (1960). Flower Arranging: Step-by-step Instructions for Everyday Designs. Florist Review*

*Craig, H.T. and Rush, O.D. (1966). Homes With Character. DC Health and Company, Boston*

*Goldstein. H & Goldstein V. (1954). Art in Everyday Life Macmillan Publishers. New York Faulkner, R. & Faulkner,S. (1961) Inside Today's Home. Rev. ed. © Holt, Rlnehart & Winston, Inc.*

*Supriya, K.B.(2004). Landscape gardening and designing with plants. Pointer Publishers.*

## CLINICAL NUTRITION AND DIETETICS

Course Code: HS6CRT10

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

Objectives To:

- Impart knowledge in the clinical nutrition.
- Prevention, dietary management and diet counselling in common degenerative disorders.
- Understand the consequences of nutritional problems in the society.

CORE  
THEORY-10

### Course Content

Module 1: Concept of Dietetics (10 hours)

- a.Purpose and Principles of Therapeutic diets.
- b. Definition of Nutrition care Process and Team Approach to nutritional care.
- c.Role of Dietitian
- d. Classification of Therapeutics diets.

- 1.Progressive diets – clear fluid, full fluid, soft and regular
2. Special feeding methods – Enteral and parenteral feeding.

Module2:Nutritional Management of common disorders (15 hours)

Aetiology, Clinical features and Nutritional Management of the following:

- a) Fevers-Clasification of fevers –Acute and chronic (Typhoid and TuberculosisInfections-HIV/AIDS)
- b) Gastrointestinal disorders: Peptic Ulcer, Constipation, Diarrhoea

Module 3: Nutritional Care in Weight Management, Diabetes Mellitus and Coronary heart diseases (14 hours)

Aetiology, Clinical features, Diagnosis, Complications and Nutritional life style modifications and management in:

- a) Weight Management: 1) Overweight and obesity2) Underweight.

- b) Diabetes Mellitus. Type I and Type II.

c) Coronary Heart Diseases: Atherosclerosis and Hypertension.

Module 4: Dietary Management of Liver, Renal disorders and Cancer.

(15 hours)

Aetiology, Clinical features, Symptoms and dietary Management of:

- a) Liver Diseases: Infective Hepatitis, Cirrhosis.
- b) Renal Disorders: Acute and Chronic Nephritis, Nephrotic Syndrome.
- c) Cancer.

Module 5: Nutritional Problems of the community. (14hrs)

A) Prevalence, Causes, Consequences, Prevention and Control of:

1. PEM

2. Iodine Deficiency Disorders

3. Iron deficiency Anaemia

4. Vitamin A deficiency

Core Readings

Bamji MS, Krishnaswamy K and Brahmam GNV (2009). Textbook of Human Nutrition, 3rd Edition.: Oxford & IBH Publishing Co Pvt Ltd.

Joshi SA. (2010). Nutrition & Dietetics. 3rd Edition.: Tata McGraw- Hill Education Pvt. Ltd. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S. (1997). Textbook of Nutrition and Dietetics.: Phoenix Publishing House Pvt. Ltd.

Mahan L K and Escott-Stump S. (2008). Krause's Food & Nutrition Therapy, 12th ed. Saunders-Elsevier.

Stacy Nix. (2009). William's Basic Nutrition and Diet Therapy, 13th Edition.: Elsevier Mosby.

## CLINICAL NUTRITION AND DIETETICS (PRACTICALS)

Course Code: HS6CRP10

Teaching hours: 3hrs/week (Per sem: 54)

CORE

PRACTICAL-10

### Course Content

1. Calculation of BMI using height-weight measurements

2. Preparation of Therapeutic Recipes (8 Hours)

Types of Therapeutic Diet Normal

Soft, Fluid – Full Fluid and Clear Fluid Diets (18 hours)

3. Diet plan for

Fever patient (Typhoid/Tuberculosis) (28 Hours)

Cancer- breast cancer

Diabetic Mellitus

CHD (Atherosclerosis)

Peptic Ulcer

Hepatitis

Cirrhosis

Nephritis

Obesity

Under weight

PEM (Kwashoiorokor)  
Iron Deficiency Anaemia

4. Visit to a feeding programme / Diet clinic. (4 Hours)  
(A record of the entire practical should be maintained)

## FASHION DESIGNING AND APPAREL PRODUCTION

Course Code: HS6CRT11

CORE  
THEORY-11

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

Objectives To:

- Gain knowledge in fundamentals of fashion designing.
- Understand the pattern making process.
- Gain practical knowledge in designing garments for different figure types.
- Understand the organisation of garment industry.

Module I: Introduction to Fashion (10hrs)

Fashion Terminologies, Fashion evolution – Fashion cycles, consumer groups in fashion cycles –fashion innovators, adopters, laggards. Adoption of Fashion – trickle down , trickle up and trickle across theory .Fashion forecasting .Principles and factors influencing fashion. Seasons of Fashion

Module 2: Fundamentals of Fashion Designing (12hrs)

8 -head theory. Basic body shapes. Design- definition and types – structural and decorative design, requirements of a good structural and decorative design. Elements of design – line, shape or form, colour , size and texture. Principles of design- balance – formal and informal, rhythm- through repetition, radiation and gradation, emphasis, harmony and proportion. Designs suitable for various figure types.

Module 3: Introduction to Pattern Making (12hrs)

Body measurement –importance, guidelines for measuring, ladies and children’s measurements. Pattern making –method of pattern making – (Drafting and Draping -merits and demerits. Principles of Pattern drafting , pattern alteration-lengthening and shortening of bodice block, skirt and sleeve block.

Module 4: Garment Construction. (10hrs)

Preparation of fabric for cutting. pattern layout, marking, cutting, stitching and finishing of garments. Parts and functions of a single needle machine, tools and equipments used for sewing.

Module 5: Introduction to Garment industry (10hrs)

Brief introduction to functions of various departments in garment industry- design department, marketing department, finance department, purchasing department, production department and operation department. Marketing - definition, marketing mix, Merchandising- definition, role of merchandiser.

Core Reading

Mathews, M., (2008) Practical Clothing Construction, Part II, Bhattaramís Reprographics (P Ltd, Chennai. Mullick. P.,(2002) Garment Construction Skills, Kalyani Publishers, New Delhi.

Sumathy, G.H (2002) Elements of fashion and Apparel Design New Age International (p) Ltd, New Delhi  
Heannette. A., Jarnow et-al., Inside the Fashion Business-, macimilan Publishing Company, New York.  
Frings, G.S., Fashion –From concept to consumer –, 6th edition, prentice Hall (1999). 3. Inside the fashion business –Bennett, Coleman & o ,Mumbai(1998).

Cooklin, G., Garment Technology for Fashion Designers, Blackwell Science Ltd

Armstrong, H. J (1997) Pattern making for Fashion Design, Harper& Row publication

Riter. J. (1998) Hand book for Fashion Designing, Best Drafting Techniques, Mital publication.

Cooklin .G.,(1988) Introduction to Clothing Manufacture, Blackwell Science, New Delhi Ireland P.J.  
(2007) New fashion Figure Templates, Anova Books Co. Ltd, London

Narang. M(2007). Fashion Technology Hand Book, Asia Pacific Business Press, New Delhi Zarapkar  
K.R.(2008) Zarapkar System of Cutting, Navaneet Publications India Ltd., Gujarat. Dickerson. K.G  
((2009) Inside the fashion Business.

## FASHION DESIGNING AND APPAREL PRODUCTION-PRACTICAL

Course Code: HS6CRP11

CORE

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 1

PRACTICAL-11

### Course Content

Module 1: Garment Designing (10hrs)

a. Illustrating fashion figure - 8 heads female

b. Sketching of party wear suitable for children and adolescents using croquis (two styles each)

Module 2: Sewing Techniques (20hrs)

c. Hand and embroidery stitches – Basting, Hemming, overcasting and minimum 5 embroidery stitches.

d. Seams and finishes – Plain seam, French seam, flat fell seam, top stitched seam, piped seam., double stitch finish.

e. Fullness by gathers, pleats(knife, box, inverted), darts, tucks.

f. Placket – One piece placket, two piece placket

g. Bias and its application - joining bias, bias facing, bias binding, shaped facing

h. Hems – Narrow machine stitched hem, stitched and turned hem

i. Fasteners – Button and button hole, press buttons, hook and eye

Module 3: Garment Construction (24hrs)

j. Preparation of paper pattern and construction of A-line frock with any type of sleeve and collar for a preschool child.

k. preparation of paper pattern and construction of churidar/salwar and kammeeze for and adolescent girl.

# DEVELOPMENT COMMUNICATION

Course Code: HS6CRT12

CORE  
THEORY-12

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

Objectives: To enable the students to

- Understand the process of Development communication in Home Science Education.
- Sensitize students towards identifying materials and methods for effective Communication 
- Develop skills in preparing and using audio – visual aids in development awareness.
- Familiarize with the latest technologies in communication for development.
- Aids for development programmes for women and children.

## Course Content:

Module 1: Communication (10hrs)

Definition, functions, elements, process and problems/barriers in communication.

Four levels of communication-Intrapersonal, Inter personal, Group and Mass level.

Importance of Home science education in development communication .

Module 2: Teaching and learning in extension (8hrs)

Elements of teaching-learning situation, Criteria for effective extension teaching, steps in extension teaching. Concept of extension education process.

Module 3: Communication Methods (Methods of community outreach) (11hrs)

classification according to form and use. Individual, Group and Mass methods. Advantages and limitations of each method. Factors guiding the selection and use of methods.

Module 4: Audio-visual aids (15hrs)

Definition and role of audio-visual aids in Home Science teaching. Classification of audio-visual aids/ cone of experience-merits and demerits. Different types of some of the visual aids-leaflet, pamphlet, posters, different types of charts, flannel graph, flip chart, flash cards and mobiles. A brief study on Out door mass media-exhibitions, fairs, street drama and Folk Media-

(Traditional)-puppet show, folk songs, folk dances, drama etc. Characteristics and use Factors guiding the selection and use of audio- visual aids

Module 5: Recent trends in communication (10 hrs)

ICT tools – print and electronic media, Method to write simple articles in a news paper, script writing for TV and Radio programmes in Development communication. Computer based technologies-email.

mobiles, social networking, blogs, pod casts, video sharing, video and tele conferencing.

### Core Readings

*Dubey, V.K and Bishnoi I (2009). "Extension Education and Communication", Delhi. New Age International Pvt Ltd Publishers,*  
*Dahama.O.P and Bhatnagar .O.P [1988]. Education and Communication for Development, New Delhi. Oxford and IBH Publishing Co.Pvt .Ltd*  
*AndalNandRangarajan, C .(2005). "Communication theories and models".NewDelhi.:Himalaya Publishing House,.*  
*Aggarwal, R. (2008). "Communication- today and tomorrow", New Delhi.: Sublime Publications,.*  
*Kumar, K,J. (2008). "Mass Communiucation in India". New Delhi.:Jaico Publishing House. Aggarwal, R .(2008). "Effective Communication Skills". New Delhi.: Sublime Publications.*  
*Shinde, P.S.(1997). "Communication patterns in Extension Education", Jaipur.:Rawat Publications.*  
*Pamar&Sryam. (1976). Traditional folk media in India.New Delhi.:Geka books.*

### Journals

Social Welfare, Central Social Welfare Board, SamajKalyanBhavan, B-12 Tana Crescent, Institutional Area, South of IIT, New delhi-110016  
Indian Journal of extension, The Indian Extension Education, Division of Agricultural Extension IARI, New Delhi-110012.  
Journal of Educational Research and Extension, Sri Ramakrishna Mission Vidyalaya College of Education, Coimbatore, Tamil Nadu, India.

## DEVELOPMENT COMMUNICATION -PRACTICAL

Course Code:HS6CRP12

Teaching hours: 2hrs/week (Per sem: 36)

Credit: 1

CORE

PRACTICAL - 12

### Course Outline

Module 1: Teaching and learning in extension  
(4hrs)

Applying the roles of teaching and learning –conduct a session in relevant topic

Module 2: Communication Methods  
(10hrs)

Develop a script for street drama / puppet show / street play .  
Select a theme based on the content of home science and write a folk song

Module 3: Audio-visual aids (10 hrs)

Collection and evaluation of visual aids(Any five different aids)  
Preparation of visual aids.(Leaflet, pamphlet, poster and two types of charts.)

Module 4: Recent trends in communication. (5 hours)

Review of media on selected development issues and report its characteristics (a news paper article, Radio and TV message)

Module 5: Writing for development/communication. (7hours)

write a simple news article for a news paper.

Write a simple script on selected developmental issue connected with Home Science for Radio and TV programme.  
(For 5 minutes)

(All topics should be related to Family and Community Science (Home Science).A record of the entire practical should be maintained.)

## CHOICE BASED CORE COURSE (ELECTIVES)

### FOOD SAFETY

Course Code: HSCBT01

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

Objectives:-

The course will enable the students to:

- know the importance of quality assurance in food industries
- know the various tests and standards for quality assessment and food safety
- Know various tests used to detect food adulterants
- Be familiar with the fundamentals that should be considered for successful quality
- control programme developments in food safety and quality systems

ELECTIVE

THEORY-1

### Course Content

Module 1: Introduction to quality assurance and food safety assurance (8 hours)

Current concepts of quality control Food quality, Quality control- parameters followed in quality control, important considerations, principles of quality control

Module 2: Food safety (10 hours)

Food Sanitation and Hygiene-

- Water- potable water, sources of contamination, treatment of water
- Food – Food handling and the sources of contamination, safe food practices (buying food, storing food, preparing food, cooking food, serving food)
- Practical rules for food sanitation

Module 3: Food Toxins/Contamination of food (12 hours)

Main Groups of Food Toxins – prevention/control

Classification of toxic chemicals in foods-

Natural toxicants in foods – (i)Toxic amino acids , (ii) Toxic alkaloids, (iii) Cyanogenic glycosides,(iv) Trypsin inhibitors, (v) Haemagglutinins, (vi) Flatulence factors

Natural toxicants entering through contaminants:- (i) Plant origin, (ii) Microbial Origin, (iii) Biological origin

Chemical toxicants of external origin;- (i) Toxic metals, (ii) Residues of pesticides and Agrochemicals, (iii) Contamination from processing practices, (iv) Contamination from packaging materials (v) Accidental contaminants, (vi) Contaminants from Environment.

Module 4: Food borne diseases /illness : (10 hours)

Causes, symptoms and control

Food borne infections:- (i) Bacterial Diseases- Typhoid fever, Salmonellosis (ii) Viral diseases:- Viral hepatitis, Gastroenteritis and (iii) Infections due to parasites;- Taeniasis, Amoebiasis, People risk of food borne illness

Module 5:- Food Adulteration and Labelling, Food Laws and Food standards: (14 hours)

Food Adulteration and Labelling

Common Adulterants, Effects of Food Adulteration, simple tests to detect adulterants in foods, prevention of food adulteration, Nutritional Labelling (Importance, effective labelling)

Food Laws and Food standards

(i) International food laws and standards:- Codex Alimentarius, Food, Drug and Cosmetic Act (ii) Indian Food laws and standards: - (a) Compulsory standards- Prevention of Food Adulteration Act, 1954 (PFA), Essential commodities Act, 1954 – brief listing of the Control Orders under this Act Viz. The Fruit Products Order, 1955 (FPO), Meat Products Control Order, 1973, Milk and Milk Products Order, 1992, Solvent extracted oils, De-l oiled meal and Edible Flour Control Order 1967 and Vegetables Products Control Order, 1976; and Standards on weights and measures (Packaged Commodities) Rules, 1977. (b) Voluntary Standards- Bureau of Indian Standards (BIS), The Agricultural Products (Grading and marking) Act, 1937, FSSAI, HACCP

Core Readings

*Kalia M. (2002), Food Analysis and Quality Control, Kalyani Publishers, New Delhi.*

*Frazier, W.C. and Westhoff, D.C., (2008), Food Microbiology, Fourth Edn., Tata McGraw-Hill Publishing Co. Ltd, New Delhi*

*Joshi, S.A. (2010), Nutrition and Dietetics, Third Edn, Tata McGraw-Hill Publishing Co. Ltd, New Delhi*  
*Paul Insel, Don R, Kimberley Mc and Melissa B., (2014), Nutrition, Fifth Edn, Jones &*

*Bartlett Learning Company, Burlington.*

*Sari E., (2006), Nutrition in Public Health, a handbook for developing programs and services, Second edn, Jones and Bartlett publishers, Sudbury.*

*Potter, N.N and Hotchkiss, J.H., (1996), Food Science, Fifth Edn, CBS Publishers, New Delhi. Mudambi, S.R and Rajagopal, M.V. (2001), Fundamentals of Foods and Nutrition, New Age International Publishers, New Delhi*

*Srilakshmi B. (2008), Food Science, New Age International Publishers, New Delhi Marwaha, K (2007), Food Hygiene, Gene-Tech Books, New Delhi.*

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# EARLY CHILDHOOD CARE AND EDUCATION

## ELECTIVE THEORY-2

**Course Code: HSCBT02**

**Teaching hours: 3hrs/week (Per sem: 54)**

**Credit: 3**

### **Objectives :**

- To become aware about the role of environmental stimulation for the all round development of children
- To know the different early stimulation programmes
- To create a positive attitude about the Care of children with special needs.
- To make the youth aware about the safety issues of children
- To inspire the students with the pros and cons of pre-school education.

Module 1: Early stimulation for children (14 hrs)

Definition, Environmental stimulation for physical & motor, intellectual, emotional, social & language development. (Marshall & Stewart (2001). Role of environmental stimulation for the all round development of children.

Module 2. Looked after children (10 Hrs)

Residential care for children. foster care. Adoption. day care provisions. Care of children with special needs (deaf & dumb, blind , mentally challenged , learning disabled) (Marshall & Stewart (2001),Minet (2005)

Module 3. Child safety (10 Hrs)

Common accidents during childhood years. Safety measures inside & outside the home.

Safety issues -safety of child related products, toy safety, safety of children's nightwear, personal safety.

Module 4: Early childhood education. (20 Hrs)

Preschool education- definition, objectives, importance, types.

Pre-school programme – definition, principles in programme planning, short & long term planning, daily programme

Pre school organization- physical arrangement, equipment needed, maintenance of records, preschool personals, home –school relationships

## Core Readings

Marshall, J and Stuart S (2001) Child Development, Heinemann Educational Pub. Minett ,P.(2005) . Child Care & Development, 5th Edn. John Murray Pub. Ltd.

Suriakanthi,A.(2009). Child Development – An Introduction,4th Edn. Kavitha Pub

## NEW TRENDS IN FAMILY AND COMMUNITY SCIENCE

Course Code: HSCBT03

ELECTIVE  
THEORY-3

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

### Objectives

- To make students aware about the new developments in Family and Community Science.
- To know the new research results in Human Development.
- 3.To give an awareness on recent developments in textiles and clothing.
- 4.To enlighten the students with new communication techniques and Nutritional advancement
- 5.To inspire the students with the new trends in housing and interior decorations

### Course Content

Module – 1 New trends in Human development (12hrs)

Management of differently abled children, Life skill education, guidance and counseling in schools. career clinics, school counselors, special and innovative approaches with children, Transactional analysis, play therapy, music therapy, art therapy, biblio therapy, horticultural therapy, yoga and meditation, stress management techniques, aptitude tests, performance tests,

advances in detection and assessment of problems, stem cell and therapy, baby friendly detection

hospitals, neonatal clinics, mental health clinics, adolescent clubs, RCH, adolescent health, youth, adult and geriatric health care.

Module – II: New trends in Textiles (10hours)

Textile fibres- coolmax, thermostat, lycra, oasis fibre, tactel, lyocell, lencell. An introduction to Nano Textiles, microtextiles, technical textiles, smart textiles, agro textile, geo textiles and medical textiles. Eco-friendly production and processing to textiles with special reference to organic and naturally coloured cotton, natural dyes and detergents etc. Indian and International environmental legislations.Eco labelling.

Module – III: New trends in Communication (10 hours)

Information kiosks, interactive video and tele conferencing, tele text, virtual learning, tech talks, pod cast, multimedia presentations, smart classes, e-learning and e-resources. Cyber Extension – definition, advantages and limitations.

Module – IV Nutritional Advances

(10 hours)

Nano foods, Zero calorie foods, GM foods, Fortified foods, Nutrigenomics, Nutrigenetics, Nutraceuticals. Defence, High altitude nutrition, Space and Sports Nutrition.

Module – V New trends in Resource Management

(12 hours)

Modular kitchen, ergonomic furniture's for home, school, institutions and community. Modern trends in landscaping, window decorations and furnishings and accessories. Recent trends in housing – green housing, geriatric housing. Eco concerns and Management: Pollution-soil, land, air, water, noise. Waste- Unscientific Agricultural practices- Green house effect, global warming, major health hazard. Water management, Environmental protection- practices and programmes, Organic farming, safe food, environmental protection programmes

Core Readings/References

All the relevant Resources from periodicals, Journals, Website, News papers etc.