

# **B.SC. HOME SCIENCE**

## **SYLLABUS**

(with effect from June 2015)



**DEPARTMENT OF HOME SCIENCE**  
The Gandhigram Rural Institute – Deemed University  
Gandhigram – 624 302 Tamil Nadu

## B.Sc. HOME SCIENCE

Course Code	Title of the course	Credits	Contact Hours		CFA	ESE	Total
			Theory	Practical			
<b>I Semester</b>							
15TAMU0101	Tamil	3	3	-	40	60	100
15HIDU0101	Hindi						
15MALU0101	Malayalam						
15FREU0101	French						
15ENGU01X1	English	3	3	-	40	60	100
15NSSU0101	NSS	1	1	-	50	-	50
15SHSU0001	Shanti Sena						
15FATU0001	Fine Arts						
15SPOU0001	Sports						
15YOGU0101	Yoga	1	1	-	50	-	50
15EVSU0001	Environmental Studies	3+1	3	2	40	60	100
15HSCU01A1	Family Dynamics	4	4	-	40	60	100
15HSCU0101	Communication and Media Skills	3	3	-	40	60	100
15HSCU0102	Food Science	3	3	-	40	60	100
	Food Science and Nutrition Practical*		-	2	-	-	-
<b>Total</b>		<b>22</b>	<b>21</b>	<b>4</b>			
<b>II Semester</b>							
15TAMU0202	Tamil	3	3	-	40	60	100
15HIDU0202	Hindi						
15MALU0202	Malayalam						
15FREU0202	French						
15ENGU02X2	English	3	3	-	40	60	100
15CHIU0001/ 15CTSU0001	Core Hindi/ Core Tamil	2	2	-	20	30	50
15GTPU0001	Gandhi's Life, Thought and Work	2	2	-	20	30	50
15EXNU0201	Extension Education	2	2	-	20	30	50
15ENGU00C1	Communication and Soft Skills	2	2	-	-	-	-
15HSCU02A2	Food Chemistry	4	4	-	40	60	100
15HSCU0203	Principles of Nutrition	3	3	-	40	60	100
15HSCU0204	Food Science and Nutrition Practical*	2	-	2	60	40	100
<b>Total</b>		<b>23</b>	<b>21</b>	<b>2</b>			
<b>III Semester</b>							
15TAMU0303	Tamil	3	3	-	40	60	100
15HIDU0303	Hindi						
15MALU0303	Malayalam						
15FREU0303	French						
15ENGU03X3	English	3	3	-	40	60	100
15CHIU0002/ 15CTSU0002	Core Hindi / Core Tamil	2	2	-	40	60	100
15CSAU03A1	Computer Fundamentals and Automation	3+1	3	2	24+2 4	34+1 6	100
15EXNU03V1	VPP	2	-	-	50	-	50
15HSCU03A3	Microbiology	4	4	-	40	60	100
15HSCU0305	Family Resource Management-I	3	3	-	40	60	100
	Family Resource Management Practical*		-	2	-	-	-
15HSCU03F1	Extension/Field Visit	-	-	2	50	-	50
<b>TOTAL</b>		<b>21</b>	<b>18</b>	<b>6</b>			

<b>IV SEMESTER</b>							
15HSCU04A4	Physiology	4	4	-	40	60	100
	Non Major Elective	3	3	-	40	60	100
15HSCU04EX	Major Elective	3	3	-	40	60	100
15HSCU0406	Human Development-I	3	3	-	40	60	100
15HSCU0407	Human Development- Practical		-	2	-	-	-
15HSCU0408	Family Resource Management-II	3	3	--	40	60	100
15HSCU0409	Family Resource Management Practical*	2	-	2	60	40	100
15HSCU0410	Textiles	3	3	-	40	60	100
15HSCU0411	Textiles Practical	1	-	2	60	40	100
15EXNU04F2	Extension / Field Visit	-	-	2	50	-	50
<b>TOTAL</b>		<b>23</b>	<b>19</b>	<b>8</b>			
<b>V SEMESTER</b>							
15HSCU05DX	Skill Based Elective	2	2	-	-	-	-
	Non Major Elective	3	3		40	60	100
15HSCU05EX	Major Elective	3	3		40	60	100
15HSCU0512	Human Development -II	3	3	-	40	60	100
15HSCU0513	Human Development Practical	2	-	2	60	40	100
15HSCU0514	Normal and Therapeutic Nutrition	3	3	-	40	60	100
15HSCU0515	Normal and Therapeutic Nutrition Practical	1	-	2	60	40	100
15HSCU0516	Community Nutrition	3	3	-	40	60	100
15HSCU0517	Apparel Designing and Care	3	3	-	40	60	100
15HSCU0518	Apparel Designing and Care Practical	1	-	2	60	40	100
15EXNU05F3	Extension/Field Visit	-	-	2	50	-	50
<b>TOTAL</b>		<b>23</b>	<b>20</b>	<b>8</b>			
<b>VI SEMESTER</b>							
15HSCU06MX	Modular Course	2	-		50	-	50
15HSCU06MY	Modular Course	2	-		50	-	50
15HSCU0619	Management of Child Care Centres	3	3		40	60	100
15HSCU0620	Management of Child Care Centres Practical	1	-	2	60	40	100
15HSCU0621	Gender and Development	3	3	-	40	60	100
15HSCU0622	Programmes for Rural Families Practical	1+ 2	1	4	60	40	100
15HSCU0623	Project	4	-	8	40	40+	100
		20					
<b>TOTAL</b>		<b>18</b>	<b>7</b>	<b>14</b>			

## B.Sc. HOME SCIENCE

### Major Elective Courses

Course Code	Title of the course	Credits	Contact Hours	CFA	ESE	Total
<b>IV Semester</b>						
15HSCU04E1	Children with Special Needs	3	3	40	60	100
15HSCU04E2	Food Safety and Quality Control	3	3	40	60	100
15HSCU04E3	House Keeping	3	4	40	60	100
15HSCU04E4	Food Service Management	3	4	40	60	100
<b>V Semester</b>						
15HSCU05E1	Entrepreneurship Development	3	4	40	60	100
15HSCU05E2	Basics of Research Techniques	3	3	40	60	100
15HSCU05E3	Preparatory Course for Competitive Examinations *	3	3	40	60	100
15HSCU05E4	Food Preservation	3	4	40	60	100

\*For ESE question paper pattern is 100 multiple choice questions

### Non – Major Elective Courses

Course Code	Title of the course	Credits	Contact Hours	CFA	ESE	Total
15HSCU00N1	Basics of Nutrition	3	3	40	60	100
15HSCU00N2	Adolescence and Life Skills Education	3	3	40	60	100
15HSCU00N3	Textile Crafts	3	3	40	60	100
15HSCU00N4	Community Nutrition	3	3	40	60	100
15HSCU00N5	Programmes for Rural Families	3	3	40	60	100

### Skill – Based Elective Courses

Course Code	Title of the course	Credits	Contact Hours	CFA	ESE	Total
15HSCU05D1	Textile Crafts	2	2			
15HSCU05D2	Bakery and Confectionery	2	2			
15HSCU05D3	Production of Value Added indigenous foods	2	2			

### Modular Courses

Course Code	Title of the course	Credits	Contact Hours	CFA	ESE	Total
15HSCU06M1	Geriatric Care	2		50	-	50
15HSCU06M2	Infant Stimulation Programme	2		50	-	50
15HSCU06M3	Assessment of Nutritional Status	2		50		50
15HSCU06M4	Participatory Learning and Action	2		50	-	50

**FAMILY DYNAMICS**  
**(Allied)**

**Code: 15 HSCU01A1**

**Cr: T4+P0**

**Pd/Wk: 4**

**Marks :100**

**Objectives:**

To enable the students to

- to acquire knowledge and insights about the contemporary marriage and insights about the dynamics of contemporary marriage and family systems in India
- become acquainted with the concept, goals and areas of adjustment in marital relationships and within the family
- to become aware of the child and family welfare measures.

**Specific objectives of learning**

- To relate the factors associated with successful marital life
- To get an insight into the roles and functions of the family
- To identify the means to strengthen the intra-family relationships
- To explore the problems in families
- To trace the programmes for family welfare.

**UNITS:**

**1. Marriage**

- Marriage as an institution : goals, rituals, functions, changes and challenges
- Mate Selection ; factors influencing, considerations of exogamy and endogamy, changing trends, arranged and personal choice of mates.
- Preparation for marriage – Pre-marital guidance, Factors associated with success in Marriage

**2. The Family**

- Definitions, functions, types ( with reference to India)
- Family Life cycle – stages and sub-stages ( beginning, expanding, contracting)
- Changing trends in India and factors influencing ( social change, family values and ideologies, family structures)
- Alternate forms of family – Single parent, female headed, migrant, dual earner, reconstituted, surrogate

**3. Interpersonal relationships within the family**

- Individual roles, rights and responsibilities within the family
- Family Interaction and communication – importance and methods of improvement
- Areas of adjustment within the family at different stages of family life cycle

#### **4. Families with Problems**

- Families with marital disharmony and disruption
- Families in distress, violence and abuse, dowry victimization, violence against women

#### **5. Interventions for Families in Trouble**

- Scope, needs and assessment
- Counselling: Premarital and marital
- Welfare and rehabilitation policies and programmes
- Legal aid and family court

#### **REFERENCES :**

1. Augustine, J.N ( Ed). (1982). The Family in Transition, New Delhi. Vika publishing house
2. Burgess. W. (1982) The Family. New York: American book Company.
3. Bushan, V (2003). An Introduction to Sociology, Kitab Mahal, New Delhi.
4. Ratra Amiteshwar et al. (2006). Marriage and Family: In Diverse changing Scenario, Deep and Deep Publications Pvt. Ltd. New Delhi.
5. Rao, N. (1997). Counselling and Guidance. New Delhi: TataMcgraw Hill publishing company ltd.
6. TISS (1991). Research on Families with Problems in India; Issues and Implications. Vol I & II. Bombay: TISS.

## COMMUNICATION AND MEDIA SKILLS

**Code: 15 HSCU0101**

**Credits T3+P0**

**Pd/wk:3**

**Marks:100**

### Objectives

To enable the students to

- State the basics of communication.
- acquire skill in producing visual aids.
- select, use and prepare visual aids for non-formal education.

### Specific objectives of Learning

Understanding of communication, models of communication.

- Acquire skills in the Preparation of visual aids.
- Able to organize exhibitions at village level.
- Collect first hand information in visiting media centres.

### UNITS

1. Communication – Meaning, objectives, elements, communication models – Aristotle, Shanon Weaver, Berlo and Leagns. and barriers of communication – How to overcome barriers.
2. Methods of teaching – According to use – Individual, Group and Mass. According to form – Written, Spoken and Visual. – Objectives, advantages and limitations of all forms methods of teaching
3. Audio – Visual aids – Meaning, classification – Audio aids, visual aids, Audio visual aids. preparation and use of audio, visual and audio visual aids. Factors influencing effectiveness of audio visual aids, Cone of Experience and its importance in extension teaching.
4. Mass media – Meaning, Characteristics, types – Radio, Television, Print media, Outdoor Media. Print Media Vs Broadcast Media. New communication technologies – computers, e -mail, video conferencing, internet, cyber safes, ( elementary understanding).
5. Traditional Media – Folk songs, puppets, Street play, drama and villupattu. Comparison between traditional media and modern media.

### Related experience

1. Evaluation of readily available visual aids/poster
2. Planning, Preparation and evaluation of charts/posters.
3. Conduct an educational programme using folk media.
4. Demonstration of a scientific technique/technology.
5. Organization of an exhibition.
6. Visit to a media centre for understanding the video preparation process.
7. Preparation of flash cards, flannel graph.

### References:

1. AdiviReddy (2009). Extension Education .Baptla: Sree Lakshmi Press.
2. Chandra,A. and Anupama Joshi. (1989). Fundamentals of Teaching Home Science.
3. Ray, G.L. (1994). Extension Communication and Management. Calcutta:Maya Prakash.
4. Saundeers, J. Denys. (1979). Visual Communication Hand Book. Surrey: Lutter Worth Educational Guide Ford.

# FOOD SCIENCE

Code: 15HSCU0102

Credits: T3 + P0

Hours/Week: 3

Marks: 100

## Objectives:

To enable the students to

- Describe the importance of various foods and their nutritive value and place in daily diet.
- study the effects of processing conditions on nutritive value of the foods

## Specific objectives of learning

- To explain the basic concepts of cooking - and processing- methods applied to various types of food
- To describe the science behind the processing and preparation of food products
- To find out the importance and role of each ingredients in food product development

## UNITS:

**1. Introduction to Food Science:** Food Science definition, scope of studying food science; Basic five food groups; Food Pyramid and Balanced diet; Meaning of cooking and the objectives of cooking; Cooking methods such as moist, dry and both; Advantages and limitations of moist heat methods – boiling, steaming, poaching, stewing, simmering and pressure cooking; Advantages and limitations of dry heat methods – baking, roasting, grilling and parching. Frying-Deep fat, shallow fat; Microwave cooking merits and limitations; do's and don'ts in microwave cooking; Solar cooker function and its benefits.

**2. Cereals and Millets Processing:** Structure, composition and nutritive value of cereals; Cereal processing: Parboiling, milling and polishing; Processed cereal products; Millets: Nutritive value and processing methods; Effect of cooking and processing conditions on nutritive value of cereals; Byproducts of cereals and its utilization; Role cereals in cookery.

**Pulses and Oilseeds:** Structure, composition and nutritive value of pulses, Factors affecting nutritive value of pulses; Pulses processing methods; Pulse products; Effect of cooking and processing conditions on nutritive value of pulses; Nuts and Oilseeds: Composition and nutritive value of pulses; Nuts and oilseed processing methods; Processed nuts and oilseed products; Byproducts from pulses and oilseeds processing and its utilization; Role of pulses and oilseeds in cookery.

**3. Vegetables Processing:** Structure, composition and nutritive value of vegetables; Pigments: Classification, effects on processing of vegetables; post harvest changes in vegetables and storage; Preliminary processing of vegetables; Vegetable products: Fermented and nonfermented and its shelf life; Vegetable waste utilization; Effect of cooking and processing conditions on nutritive value of vegetables; Role of vegetables in cookery.

**Fruits Processing:** Structure, composition and nutritive value of fruits; post harvest changes in vegetables; Concept of maturity, ripening and senescence; Fruit products: fermented and nonfermented; Effect of cooking and processing conditions on nutritive value of fruits; Role of fruits in cookery.



**4. Milk and Egg Processing:** Milk types, composition, physiochemical properties; Milk processing and its storage; Milk products: Fermented and non-fermented; Effects of cooking and processing conditions on nutritive value of milk; Role of milk in cookery; Egg: Structure, composition and nutritive value of eggs; Egg quality evaluation methods; Egg processing and storage; Processed egg products; Effect of cooking and processing conditions on nutritive value of eggs; Role of egg in cookery.

**Meat Processing:** Structure, composition and nutritive value of meat, poultry and fish; Post mortem changes in meat and its quality; Meat processing and its storage; Tenderization of meat; Processed meat, poultry and fish products: Fermented and nonfermented; Effect of cooking and processing conditions on nutritive value of meat and meat products; Role of meat in cookery.

**5. Miscellaneous foods:** Composition and nutritive value of fats and oils; Methods of oil extraction and refining process; Fat/oil quality and spoilage; Role of oil/fat in cookery; Sugars: Types of sugars and its source; Sugar cookery and its application in foods; Role of sugars in cookery; Spices and Condiments: Composition of spices and condiments and their health benefits; Role of spices and condiments in cookery; Beverages: Classification; Nutritive value; Role in diet; Preparation methods.

#### **REFERENCES:**

1. Srilakshmi, B. (1997). Food Science. New Delhi: Chennai: New Age International Private Limited. Publishers.
2. Mudambi, R.S. and Rajagopal, M.Y. (1991). Fundamentals of Food and Nutrition. New Delhi: Wiley Eastern Limited.
3. Swaminathan, M. (1988). Food Science and Experimental Foods. Madras: Ganesh and Company.
4. Mudambi, R.S. and Rao. S (1987). Food Science. New Delhi: Wiley Eastern Limited.
5. Potter, N.M. and Birch, G.G. (1986). Food Science, AVI, West Port, Conn.
6. Bennion, et.al. (1985). Introductory Foods. New York: Macmillan.

## **FOOD SCIENCE AND NUTRITION PRACTICAL**

### **Hours/Week: 2**

1. Display of basic five food groups.
2. Cooking of foods by using air as medium - Roasting & baking
3. Cooking of foods by using water or steam as medium – Boiling & pressure cooking
4. Cooking of foods by using microwave
5. Effect of cooking on cereal starches and proteins
6. Preparation of sprouted legumes and malt powder
7. Effect of cooking, acid & alkali on pigments
8. Effect of cooking, acid, alkali and enzymes on milk
9. Evaluation of egg quality
10. Sugar cookery

# FOOD CHEMISTRY

Code: 15HSCU02A2

Cr: T4+P0

Pd/wk:4

Marks:100

## Objectives:

To enable the students to

- Gain knowledge regarding the physical and chemical properties of the food constituents
- Understand the chemical and physical changes that occur in food during processing

## Specific Objectives of Learning:

Students will be able to name and describe the general chemical structure of major components of foods (water, carbohydrates, protein and lipids)

- Able to explain how changes in overall composition are likely to change the reactivity of food components.
- Able to predict how processing conditions are likely to change the reactivity of food components.

## UNITS:

- 1. Physico chemical properties of food** – Methods of sampling, moisture in foods, hydrogen bonding, bound water, water activity in foods, and determination of moisture. Solid and amorphous foods, liquids and role in food products, true solutions, dispersion, sols, gels, foams and emulsion.
- 2. Carbohydrates:** Classification, structure and properties. Changes of carbohydrate on cooking – solubility, hydrolysis, caramelisation, retrogradation, Maillard reaction and gelatinization of starch.
- 3. Lipids:** Classification and Chemistry of lipids, properties and fat constant, edible fats and oils – hydrogenation, rancidity and emulsification.
- 4. Protein :** Amino acids – classification, structure, composition, physio-chemical properties of amino acids and proteins. Effect of heat, acid, alkali on animal and vegetable protein.
- 5. Gums, pectins and pigments:** Pectins, vegetable gums, fat and water soluble pigments. Action of acid and alkali on vegetable pigments.

## REFERENCES

1. Potter, N.N. and Hotchkiss, J.H. (1996). Food Science, edition 5, CBS Publishers and Distributors, New Delhi.
2. Seema Yadav, (1997). Food Chemistry, Anmol Publications Pvt.Ltd., New Delhi.
3. Meyer, (1991). Food Chemistry, AVI Publications, New York.
4. Ronsivalli, L.J. and Vieira, E.R. (1992). Elementary Food Science, 3<sup>rd</sup> Edition, Chapman and Hall, New York.
5. H.D. Belitz, W. Grosch and P. Schieberle (2009). Food Chemistry 4<sup>th</sup> edition, Springer publications
6. Srinivasan Damodaran, Kirk L. Parkin and Owen R. Fennema (2007). Food chemistry (4<sup>th</sup> edition) CRC Press.
7. John M. DeMan (1999) Principles of Food Chemistry, Springer publications.

## PRINCIPLES OF NUTRITION

Code: 15 HSCU0203

Credits: T3

Hours/Week: 3

Marks: 100

### Objectives:

To enable the students to

- understand the role of nutrients in human health
- know the health problems associated with imbalance of nutrient intake
- know the simple tests used for detection of nutrients

### Specific Objectives of Learning

- the relationship between diet and health
- the signs and symptoms of nutrient deficiency and toxicity
- the importance of diet in treatment and management of diseases

### UNITS:

**1. Carbohydrate:** Classification and functions; Digestion, absorption and utilization process;; dietary fibre meaning and the types; Physiological role and health benefits of dietary fibre, Requirements and food sources; Glycemic index of foods; Nutritional and health problems due to deficiency or excess carbohydrate in the diet.

**Proteins:** Classification and functions; Digestion, absorption and utilization; Requirements and food sources; Factors affecting protein quality; Protein quality evaluation methods; Quality difference between vegetable and animal protein sources; Nutritional and health problems due to deficiency or excess of protein in the diet.

**2. Lipids:** Classification and functions; Digestion, absorption and utilization process; Requirements and food sources; Nutritional and health problems due to deficiency or excess of lipid in the diet; Fatty acids: Types such as saturated and unsaturated; Essential Fatty Acids (EFA): Definition and functions; PUFA; Role of n-3, n-6 fatty acids in health and disease; Trans fatty acids and its association to cardiovascular diseases.

**3. Energy Metabolism:** Energy definition; Unit of measurements – Calorie & Joule; Measurement of energy value of foods by Bomb Calorimeter; Concept of energy balance; Energy expenditure components: basal and resting metabolic rate, thermic effect of food and physical activity; Factors influencing energy expenditure; Methods for determination of

energy expenditure – direct and indirect calorimetry; Estimation of energy requirements of individuals and groups: RDA, principles and the methods used for RDA measurement.

**4. Vitamins:** Classification – fat and water soluble; Fat soluble vitamins (A,D,E and K): Functions, Requirements and food sources; Nutritional and health problems due to deficiency or excess of fat soluble vitamins in the diet; Water soluble vitamins: Thiamine, riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid ascorbic acid, cyano-cobalamin, choline, inositol functions, requirements, food sources; Nutritional and health problems due to deficiency or excess of water soluble vitamins in the diet.

**5. Minerals and Water:** Macro minerals: Calcium, phosphorus, Magnesium, sodium, potassium and chloride functions, requirements, food sources, deficiency and toxicity; Microminerals: Iron, copper, zinc, manganese, iodine, fluoride. Trace Minerals: Selenium, cobalt, chromium, vanadium, silicon, boron, nickel functions, requirements, food sources, deficiency and toxicity; Interrelationship between vitamins and minerals in metabolism. Water: Body composition – extra- and intra- cellular fluid; Physiological functions; water balance and its regulation; Requirement and the sources; Nutritional and health problems due to imbalance of water intake.

#### **REFERENCES:**

1. Swaminathan, M. Essentials of Food and Nutrition. Vol. I and II, Ganesh and Company, Madras.
2. Mudambi, R.S. and Rajagopal, M.Y. (1991). Fundamentals of Food and Nutrition. Wiley Eastern Limited, New Delhi.
3. Davidson, S.R. and Pasmore (1986). Human Nutrition and Dietetics. Church Hill Livingstone, London.
4. Mahan, L.K. and Ecott-Stump, S. (2000). Krause's Food, Nutrition and Diet Therapy, 10<sup>th</sup> Edition, W.B. Saunders Ltd.
5. Whitney, E.N. and Rolfes, S.R. (2003). Understanding Nutrition, 8<sup>th</sup> Edition, West Wadsworth, An International Thomson Publishing Co.
6. Srilakshmi (2008). Nutrition Science. New Age International Publishers, New Delhi.

## **FOOD SCIENCE AND NUTRITION PRACTICAL**

**Code: 15 HSCU0204**

**Credits: 2**

**Hours/Week: 2**

**Marks:100**

1. Demonstration of Bomb Calorimeter
2. Determination of nutritive value of selected Indian recipes by using food composition table.
3. Estimation of moisture and dry matter content of the foods
4. Estimation of starch content of food by anthone method
5. Estimation of crude fibre content of the foods
6. Estimation of protein content of food by kjeldhal method
7. Determination of fat content of food by soxhlet method
8. Estimation of Vitamin C content of food
9. Determination of ash content of foods
10. Qualitative tests for minerals – Calcium, phosphorus & iron

## **FOOD MICROBIOLOGY** (Allied)

**Code : 15HSCU0 3A3**

**Credits: T4+P0**

**Pd/Wk: 4**

**Marks: 100**

### **Objectives**

To enable the students to

- Understand the role of microbes in food, health and disease.
- Study the Microbes in relation to food spoilage, food borne diseases and food preservation.

### **Specific Objectives of Learning**

- the factors influencing the growth of microorganisms in food
- the signs and symptoms of food spoilage and mode of prevention
- the importance of food safety

### **UNITS:**

- 1. Microbiology of Foods:** Concept and its history. Role of microbiology in biotechnology, Role of microorganisms in fermented foods – soyabean products, vegetable and dairy foods, baked items, other preparations, uses of microbes in industry.
- 2. Incidence and growth of microorganisms in food** - Microbes in Air, water and soil, food contamination and its sources – fruits, vegetables, milk and meat . Factors affecting the growth of microbes in food, control and its destruction – Physical and chemical methods
- 3. Food spoilage** – its causes, spoilage and its chemical changes. Spoilage in cereal, milk and its products. Meat, poultry, fish and other sea foods, fruits and vegetables, fruit juices and preserves – by yeasts, moulds and bacteria. Prevention of spoilage.
- 4. Hazards of food microbes:** Food borne diseases and its types - intoxications, infections, mycotoxins.
- 5. Examination of food borne diseases:** Receiving report and assessment, investigation, identifying causative factors, association between food items and illness, sample collection and reporting.

### **References:**

1. Frazier W.C and Westhoff D.C.(1992), Food Microbiology, Tata McGraw Hill Publishing Co., Ltd. New Delhi.
2. Annak.Joshua, (2001). Microbiology, Popular Book Depot. Chennai-15.
3. Ray, B. (2001) Fundamental Food Microbiology, 2<sup>nd</sup> Ed, CRC press, Boca raton FL

## FAMILY RESOURCE MANAGEMENT –I

Code: 15 HSCU0 305

Cr:T 3

Pd/Wk:3

Marks : 100

### Objectives

To enable the students to

- Understand the importance of management in family And personal living.
- Improve their ability in management of family Resources
- Understand and apply the basic principles of art in Interior decoration.
- Understand the elementary principles of planning a house and its interior arrangement.

### Specific Objectives of Learning.

- To define home management, time management and energy management.
- To identify goals, values and standards
- To identify the available resources
- To use the principles of design in day to day life.
- To evaluate the house plans.

### UNITS:

#### 1. Home Management

Meaning and Process. Concept of Home Management. Planning, organizing, controlling and evaluation. Managerial inputs – values, goals and standards – their inter relationship. Resources – classification and characteristics; optimizing the use of family resources. Decision making – Meaning, types – steps in decision making – ways of resolving conflicts. Characteristics of a good home manager.

#### 2. Time and energy management

Time: importance of time management – guidelines in planning time schedule.

Energy: Its importance –fatigue-types of fatigue and ways of overcoming fatigue. Work simplification – Mundel's Classes of changes. Work measurement (Basic idea).

#### 3. Applied Art

**Design:** Meaning, types, characteristics, elements of design, principles of design – harmony, proportion, balance, emphasis and rhythm. **Colour:** Qualities of colour – Prang colour system – colour harmonies. Application of the principles in simple designs.

**Flower arrangement:** Principles, types . Accessories in the home – Classification and selection.



#### **4. House Plan and Arrangement**

Site selection – factors to be considered. House Plans – types – reading of floor plans – drafting floor plans for middle and low income group families. Features of a house contributing to livability – orientation, grouping – roominess, lighting and ventilation, circulation, storage facilities, privacy, flexibility, sanitation and economy.

#### **5. Room Arrangement**

Furniture – Selection, arrangement and care. Furnishings – Type, Selection and care. Application of art principles in room arrangement. Kitchen – different types – planning of kitchen. Work triangle

#### **References:**

1. Education Planning group. (2001) Home Management. Newdelhi: Arya Publishing House.
2. Nickell,P and Dorsey,J.M (1978). Management in Family Living. New Delhi: John Wiley and Sons.
3. Goldstein, H and Goldstein,V (1958). Art in Everyday Life. Macmillan company.
4. Varghesese, M.A.etal (1994). Home Management. New Delhi: Viley Eastern. Ltd.
5. Deshpande, R.S. (1982). Cheap and Health Homes for Middle Classes. Poona: United Book Corporation.
6. Deshpande,R.S. (1982) Modern Ideal Homes for India. Poona: United Book Corporation.

## **FAMILY RESOURCE MANAGEMENT**

### **PRACTICAL**

#### **Pd/Wk:2**

- Analysis of values and goals. Experiences in individual and group decision making process.
- Analysis of the time-use pattern of students
- Evaluation of art objects.
- Exposure to flower holding containers and accessories
- Practicing flower arrangement in different style
- Preparation of hand bouquets.
- Preparations of flower arrangement, greeting cards and floor decorations
- Demonstration of path-way chart for a task
- Drawing floor plans for low and middle income group families –
- House visit to observe the different types of kitchen
- Visit to modular kitchen shop
- Visit to furniture shops to study the types and styles of furniture
- Evaluation of room arrangement.

**PHYSIOLOGY**  
**(Allied )**

**Code: 15 HSU04A4**

**Cr: T4+P0**

**Pd/Wk: 4**

**Marks:100**

**Objectives:**

To enable the students to

- understand the structure and functions of various organs in the body.

**Specific Objectives of Learning**

- the functioning of the organ systems
- bring out the influence of improper functioning of the organ system and disease

**UNITS:**

1. Introduction to Physiology: Review of cells and tissues – types. Digestive System – Structure of digestive tract and Process of digestion and absorption. Role of hormones in digestion, movements of GI tract. Liver and its functions.
2. Circulatory System: Blood-Composition and functions – RBC, WBC and Platelets. Blood groups, coagulation, blood volume. Structure and functions of heart and blood vessels, junction tissues, ECG, cardiac cycle. Blood pressure-factors influencing blood pressure.
3. Respiratory and Excretory System: Respiratory System: Structure of the respiratory system, mechanism of respiration. Exchange of Gases- Chloride Shift, respiratory volume. Excretory system: Kidney and Nephron – structure and functions, formation and composition of urine. Skin – structure and functions – regulation of body temperature.
4. Endocrine and Reproductive System: Endocrine system: Structure and functions of pituitary, thyroid, para thyroid, adrenals, Islets of langerhans and sex glands. Reproductive System: General anatomy of female and male reproductive organs. Physiology of menstruation and fertilization. Physiology of lactation.

5. Nervous System and Special Senses: Nervous systems.- Structure and functions of brain and spinal cord . Special Senses: Structure of eye, physiology of vision. Ear-Structure, physiology of hearing – organs of taste and smell.

### **Related Experiences**

1. Identification of blood cells- estimation of Hb, demonstration of blood grouping and coagulation. RBC and WBC count.
2. Recording of BP.
3. Recording of pulse rate.
4. Interpretation of a blood report.

### **References:**

1. Chatterjee,C.C. (1998). Human Physiology. Calcutta: Medical Allied Agency.
2. Evelync. Pearce, (1997). Anatomy and Physiology for Nurses, 16<sup>th</sup> Edition, New Delhi: Jaypee Brothers.
3. Joshi,D.V. (1995). Prep Manual for Under Graduate Physiology, New Delhi: B.I Churchill Livingstone.
4. Subramaniyam and Kutty.S.M. (2001). Text Book of Human Physiology. New Delhi: S.Chand & Company Ltd.
5. Winwood,R.S. and Smith,J.L. (1994). Sears's Anatomy and Physiology for Nurses London: EL BS with Edward Arnold.
6. Yadav.J. (1995). Text Book of Physiology for Dental Students. New Delhi: Jaypee Brothers, Medical Publishers Private Limited.

## HUMAN DEVELOPMENT – I

Code: 15 HSU0406

Cr : T3 +P0

Pd/ Wk : 3

Marks : 100

### Objectives

To enable the students to

- become knowledgeable about the basic concepts in Human Development
- understand the growth processes taking place from conception till early childhood childhood period and
- develop skill in different methods of child study and handling problem behaviour

### Specific Objectives of Learning

- To recognize the importance of needs and holistic development of children
- To identify the facilities for pre-natal care in their locality
- To prepare the immunization chart of infants
- To trace the domains of development during babyhood years
- To plan developmentally appropriate activities for pre-school children

### UNITS:

#### 1. Fundamental concepts:

Introduction to Human Development – Significance – Stages of Life Span Growth and Development - Meaning , principles , Factors influencing. Nature – Nurture Controversy. Methods of child study--projective technique, observation, experimentation, case study (elementary treatment). Needs of Children.

#### 2. Pre-natal Development and Child Birth

Conception, Stages of prenatal development. Signs and symptoms of Pregnancy. Common discomforts and complications of Pregnancy. Factors influencing prenatal development. Maternal mortality – Causes and prevention. Child Birth – stages and types. Post-natal care of the mother.

#### 3. Infant Development

Period of Infancy – Appearance of the new born- size – physical proportion and physiological functions; sensory abilities of the new born. Low birth weight , premature babies. Apgar test, care of the new born, Immunization. Infant feeding – Breast feeding and its advantages, bottle feeding and supplementary feeding.

#### **4. Development during Babyhood years :**

Physical, motor, cognitive, language, social, and emotional development during the first two years. Infant mortality – Causes and prevention.

#### **5. Early childhood**

Importance of the period-physical, motor, social, emotional, cognitive and language development during early childhood years. Developmental tasks. Behaviour problems and handling the problems.

#### **REFERENCES**

1. Chauba, B.P. (1986). Child Psychology. Agra: Lakshmi Narain Agarwal.
2. Devadas, R.P. and Jaya, N. (1996). A Text Book on Child Development. New Delhi: Macmillan India Limited.
3. Hurlock, E.B. (2007). Developmental Psychology A Life-Span Approach. New Delhi: Tata Mcgraw Hill Publishing Company Limited.
4. Laura . E . Berk . (1996) Child Development New Delhi : Prentice Hall of India , Pvt . Ltd .
5. Pankajam,G. (2005). Know Your Child. New Delhi: Concept Publishing Company.
- 6.Suriakanthi. A (2009). Child Development – An Introduction. Gandhigram: Kavitha Publications
- 7.Santrock, J.W. (2010) Child Development : An Introduction. (12<sup>th</sup> Edition) Newyork:McGraw hill.

## **HUMAN DEVELOPMENT Practical**

### **Pd/ Wk : 2**

1. Preparation of an album on developmental mile stones of children.
2. Visit to Maternity Ward and Ante-natal clinics.
3. Visit to Anganwadi
4. Plotting Growth Monitoring Chart and Interpretation.
5. Preparation of Immunization Card
6. Demonstration on preparation of weaning foods
7. Observation of Motor activities of a toddler.
8. Compilation of songs for finger play and lullabies suitable for infants and toddlers.
9. Preparation of a low cost toy for a pre-school child.
10. Doing a case study of a toddler.

## FAMILY RESOURCE MANAGEMENT II

**Code : 15HSU0407**

**Cr: T3+P0**

**Pd/Wk:3**

**Marks:100**

### **Objectives :**

To help the students to

- visualise the economic situation of the nation as related to families economic behaviour
- understand the commonly used economic concepts and their significance to home management
- gain training in family finance management
- instill an attitude towards good consumption habit and
- analyse and suggest remedial measures for the managerial problems of rural families.

### **Specific Objectives of Learning**

- To summarize the law related to household consumption.
- To analyse the causes for low living standards in India.
- To prepare budget for a family
- To identify the savings institutions and their schemes.
- To differentiate credit and cash purchase.
- To outline the consumer problems in India

### **UNITS:**

- 1. Household Consumption:** Family as an economic unit. Human wants and their characteristic, necessities, comforts and luxuries, concept of marginal utility and law of diminishing marginal utility and law of substitution – law of demand and supply, their application. Standard of living, causes for low living standards in India, Means of raising standards of living.
- 2. Money Management :** Family income – Types, Sources, methods of augmenting family income. Family Expenditure: Budget – meaning, types of budget, planning a family budget – steps in planning, advantages of budgeting. Factors affecting family budget. Engel’s law of consumption. Methods of handling money – family financial records – purpose and types.
- 3. Savings :** Meaning – need, saving institutions – Bank, Post Office, Insurance, Chit funds, Unit Trust of India. Investment – types and principles.



**4. Household Purchase :** Price – Factors influencing normal price – price fluctuations and its effect on various income groups. When, where and how to purchase, cash purchase Vs Credit purchase – Advantages and disadvantages.

**5. The Home Maker as a wise consumer** – Rights and responsibilities of a consumer consumer education – consumer aids – advertisements, standards, labels, price tag. Consumer problems in India – adulteration, common adulterants, faulty weights and measures, other malpractice's. Consumer Protection – Meaning, need and consumer Protection act.

**References:**

1. Arockiasamy (1989). Modern Economic Analysis. Palayamkotti: Annai Publishers.
2. Educational Planning Group (2001). Home Management. Newdelhi: Arya publishing House.
3. Ganapathy, V.(1984).Principles of Economics. Madras: Emerald Publishers.
4. Gross, I.H and Crandall, E.M (1980). Management for Modern Families. London :Prentice Hall, Inc.
5. Mann, M. (1976). Home Management for Indian Families. New delhi: Kalyan Publishers.
6. Varghese, M.A.et al (1994). Home Management. Newdelhi: Wiley Eastern Ltd

## **FAMILY RESOURCE MANAGEMENT PRACTICAL**

**Code : 15HSU0408**

**Cr: T0+P2**

**Pd/Wk:2**

**Marks:100**

- Preparation of personal expenditure record for one month using note book method.
- Visit to a bank and a post office to study the types of saving schemes
- opening and closing of accounts
- crediting money and transaction techniques.
- Comparison of the wholesale and retail prices of ten articles of regular use.
- Market survey to study the brand and content analysis of different labels and standardized marks of food products.
- Exercises on detection of adulterants by physical methods
- Examination of labels for quality and standards – studying advertisements
- Identifying the adulterants by using simple techniques for any five food samples

# TEXTILES

**Code: 15HSU0409**

**Credit:3+0**

**Marks: 100**

## **Objectives**

To enable the students to

- Under the textile fibers, their properties and uses.
- Impart knowledge on spinning, fabric production

## **Specific Objectives of Learning**

- will gain knowledge in different types of textile fibers, origin, its classifications and properties.
- able to identify different fiber types based on its physical and chemical parameters.
- acquire knowledge in dyeing and finishing.

## **UNITS:**

1. Fiber – Definition, Meaning, Classification of Textiles Fibers- Natural fiber-cotton, Flax, silk, wool- origin, manufacturing process, properties and end uses. Minor Textile fibers-, properties and uses. Regenerated fibers-Rayon and acetate-origin, manufacturing process, properties and end uses.
2. Synthetic fibers-Nylon, Dacron , Orlon and Acrylic- origin, manufacturing process, properties and end uses. Spinning –Definition, meaning, types of spinning. Yarn and Twist – Definition, counts of yarns. Meaning and Classification natural manmade of yarns and Novelty yarns. Blends and Mixtures (understanding concepts only)

### **3. Fabric Structure:**

Weaving- Definition, Meaning, parts and functions of simple loom. Types of weaves- Basic weaves and fancy weaves-Mock leno, honeycomb, huck-a-back, backed cloth, dobby,jacquard. Non-woven, knitting- Definition, Meaning, classification of knitting, Knotting, Lacing, Braiding, Bonding and Felting. (Understanding of the concepts only).

4. Textile Finishing -Basic finishes-Singeing, Desizing, Scouring bleaches, Mercerizing, Napping, Sanforizing, Special finishes –Antimicrobial, Water-repellent and Waterproof finishes, Flame Resistant, Stain Resistant, finishes suitable to Natural and manmade fibers.

5. Dyeing- Definition of Dyes, Meaning and concept of Dyes, Classification of dyes, Dyes suitability to various fibers. Methods of Dyeing- Stock dyeing, yarn dyeing, piece dyeing, cross and union dyeing. Printing – Definition, Styles of printing-Direct, Discharge, Resist. Colour Fastness

## **PRACTICAL EXPERIENCES**

1. Identification of fiber & Yarn- Burning test, solubility test & Microscopic analysis.(Laboratory Tests)
2. Identification of Fabric- Fabric swatches- plain , Twill, Satin, Sateen, Huck-a-back-dobby, jacquard.(Pick Glass Analysis)
3. Preparation of samples using- Simple hand stitches- Running, Basting, Tacking, Overcast, Buttonhole, Hemstitches, Slip stitch.
4. Preparation of samples- Seams&seam finishes- plain, flat fell, French, turned& stitched, lapped, double top, overcast & stitched.
5. Preparation of samples for Fullness- darts, gathers, pleats, tucks.
6. Preparation of samples for finishes – Bias, Facing, shaped facing, piping, binding, placket opening.
7. Preparation of Embroidery samples.
8. Preparation of samples for sleeves, collar, yokes.

## **REFERENCE:**

1. Dantyagi,S. (1996). **Fundamentals of Textiles and Their Care**. New delhi. Orient longman limited.
2. Hollen.n and Saddler.J. **Textiles** macmillan \$co., New York.
3. Joseph.M.L. (1976) **Essentials of Textiles** Holt Ripenhart of Winston, New York.
4. Tortora, P.G. (1978) **Understanding Textiles** New York Macmillan publishing.Inc.
5. Wingate, B.I.(1976). **Textiles Fabrics and their selection**. USA: Prentice Hall. Inc.
6. Joseph M, **Introductory Textile science-** 6<sup>th</sup> Ed., Fort worth Harcourt, Brace Jovanioch college publishers, 1993.
7. Clarke – **Introduction to printing**.
8. E.P.G. Gohl, L.D. Velensky, **“Textile Science”** CBS Publishers and Distributors, 2003
9. AJ. Hall. **“The standard hand book of Textiles”**, Wood head Publishing 8<sup>th</sup> edition 2004.
10. P.V. Vidyasagar, **“Hand Book of Textiles”**, A. Mittal Publications, 2005
11. Sara J. Kadolph, **“Textiles”**, Prentice Hall, 10<sup>th</sup> edition 2007

## TEXTILES PRACTICAL

**Code: 15HSU0410**

**Credit:0+1**

**Marks: 100**

### Objectives

To enable the students to

- Under the textile fibers, their properties and uses.
- Impart knowledge on spinning, fabric production

### PRACTICAL EXPERIENCES

1. Identification of fiber & Yarn- Burning test, solubility test & Microscopic analysis.(Laboratory Tests)
2. Identification of Fabric- Fabric swatches- plain , Twill, Satin, Sateen, Huck-a-back-dobby, jacquard.(Pick Glass Analysis)
3. Preparation of samples using- Simple hand stitches- Running, Basting, Tacking, Overcast, Buttonhole, Hemstitches, Slip stitch.
4. Preparation of samples- Seams&seam finishes- plain, flat fell, French, turned& stitched, lapped, double top, overcast & stitched.
5. Preparation of samples for Fullness- darts, gathers, pleats, tucks.
6. Preparation of samples for finishes – Bias, Facing, shaped facing, piping, binding, placket opening.
7. Preparation of Embroidery samples.
8. Preparation of samples for sleeves, collar, yokes.

## HUMAN DEVELOPMENT-II

**Code: 15 HSCU0511**

**Credits:T3 + P0**

**Pd/Wk:3**

**Marks: 100**

### **Objectives**

To enable students to

- know the growth process during the period of Adolescence,
- develop proper attitude towards child rearing and
- understand the adjustments to be made in adulthood

### **Specific Objectives of Learning**

- To recall the development during school years.
- To adapt to the physical and psychological changes during adolescence
- To spell out the developmental tasks of early adulthood years.
- To empathize the issues of middle adulthood years.
- To acquaint with the problems during late adulthood years.

## **UNITS**

### **1. Late childhood**

Physical, motor, social, emotional, cognitive and moral development during late childhood. Developmental tasks. Habit formation.

### **2. Adolescence**

Physical development - Prepubertal growth- changes in primary and secondary sexual characteristics in boys and girls. Mental, Social and emotional development during adolescent years. Developmental tasks.

### **3. Early adulthood**

Characteristics of early adulthood; developmental tasks; Marital adjustments;vocational adjustments. Parenthood - Preparation and Adjustment.

### **4. Middle adulthood**

Characteristics; developmental tasks; adjustment to physical changes, social adjustments and health problems.

### **5. Late adulthood**

Characteristics; developmenstal tasks; adjustment to physical changes, adjustments to retirement, adjustment to changes in Family life; living arrangements. health problems.

## **REFERENCES:**

1. Devadass . R . P , Jeya , N . , (1996) . A Textbook on Child Development . New Delhi Macmillan India ltd.
2. Hurlock , E . B . (1973). Adolescent Development . Tjokyo: Mc graw Hill Rogakush Limited.
3. Hurlock , E . B . (2007) Development Psychology a Life Span Approach. New Delhi Tata MC Graw Hill Publishing Company Ltd.
4. Papalia. E.Diane et al (2005). Human Development (9<sup>th</sup> Edn). New Delhi: Tata Mcgraw Hill.
5. Jerry.J.Bigmer (1983) Human Development a Life Span Approach.NewYork: Macmillan Publishing Co., inc.
6. Suriakanthi. A (2009). Child Development – An Introduction.Gandhigram: Kavitha Publications
7. Santrock, W.J (2007). Adolescence. Boston: Tata McGraw Hill.

## HUMAN DEVELOPMENT PRACTICAL

**Code: 15 HSCU0512**

**Credits:T0 + P2**

**Pd/Wk:2**

**Marks: 100**

1. Development of riddles for languages and concepts for school children.
2. Compilation of outdoor games and games for cognitive development.
3. Self assessment of pubertal changes.
4. Study of adolescent problems through interview.
5. Documentation of Parenting styles.
- 6.. Interaction with middle aged women on their problems.
7. Visit to old age homes.
8. Study of problems of the aged in a village.

## NORMAL AND THERAPEUTIC NUTRITION

Code: 15HSCU0513

Cr: T3+P0

Pd/Wk: 3

Marks : 100

### Objectives:

To enable the students to

- Understanding the principles involved in therapeutic diet modification, Requirements, nutrient composition of human milk, artificial feeding.
- Acquire knowledge on the clinical, biochemical changes and dietary management of various disease .

### Specific Objectives of Learning:

- Able to understand and critically modify the normal diet to suit various therapeutic conditions
- Develop the knowledge ,skills and attributes required to meet entry level competency required for a dietician
- Apply the knowledge of nutrition and dietetics to manage the health of the population.

### UNITS :

- 1. Meal Planning:** Basic principles of menu planning, factors influencing meal planning. Basic meal pattern and its modification to suit different income levels, age and physiological Stress. Balanced Diet, Food exchange list, RDA of different age groups. Nutrition during pregnancy – physiological changes, dietary problems and Nutrient Requirements. Nutrition during lactation - Physiology of lactation, Nutrient
- 2. Nutrition during infancy:** Nutrient requirements, Advantages of Breast Feeding. Weaning and type of supplementary foods, low cost supplementary foods. Nutrition during Preschool age, Nutrient requirements and inculcation of good food habits. Nutrition during school going period - Growth and development, Nutrient requirements.
- 3. Nutrition during Adolescence -** Growth and development, nutritional requirements. Nutrition during old age - Special needs and nutritional requirements during old age.

**Basic concepts of diet therapy:** Therapeutic adaptations of normal diet, principles of therapeutic diets. Routine Hospital Diets: clear fluid, full fluid, soft and normal diet Special



feeding techniques - parenteral and enteral feeding. Role of dietitian in Nutritional care.

4. **Obesity** - Aetiology, assessment, complications and principles of diet management  
Underweight- Aetiology, limitations and diet modification, Febrile conditions - Typhoid, Tuberculosis and Malaria Causes, symptoms, metabolic changes in fever and dietary management.

**Anemia** – Aetiology, types, dietary management, Causes, symptoms and diet management - PEM and Vit A deficiency, GI tract diseases- peptic ulcer, Liver diseases - Jaundice, Cirrhosis

5. **Diseases of the cardiovascular system:** Atherosclerosis- Aetiology, symptoms, complications and principles of diet management. Hyper tension - Aetiology, types, symptoms and dietary management

**Diabetes mellitus** – Aetiology, types, symptoms, diagnosis, complications and management, use of Food exchange list, glycemic index

**Renal diseases** – glomerular nephritis, nephrosis, acute renal failure, chronic renal failure, dialysis, Kidney stones – types

## REFERENCES

1. B. Srilakshmi, (2010) Dietetics, New Age international Private Ltd
2. Antia .P. (1989) Clinical Nutrition and Dietetics, Oxford University, Mumbai.
3. Mahan, L.K. and Escott-Stump, S. (2000): Krause's Food Nutrition and Diet Therapy, 10<sup>th</sup> Edition, W.B. Saunders Ltd.
4. Mayrice. E. Shills, James, A. Olsen, Moshe Shihe, (1980) Modern Nutrition on Health and Disease, Vol.1 & 2, VIII edition, Lea and Pediger, Philadelphia.
5. Davidson. S.S. Passmore, , Martin A. Eastwood. F. (1989) Human Nutrition and Dietetics, 9th Edition F & S Livingstons Edinburgh and London
6. Garrow, J.S., James, W.P.T. and Ralph, A. (2000): Human Nutrition and Dietetics, 10<sup>th</sup> Edition, churchil Livingstone
7. Williams, S.R. (1993): Nutrition and Diet Therapy, 7th Edition, Times Mirror/Mosby College Publishing

## NORMAL AND THERAPEUTIC NUTRITION PRACTICAL

CODE: 15HSCU0514

Cr:P:1

Pd/Wk: 4

Marks: 100

### Objectives:

- To enable students to apply the principles of planning therapeutic diets for various disease conditions

### Specific Objectives of Learning :

- Able to understand and plan balanced diet for different age groups
- Develop the skills required to meet entry level competency required for a dietician
- Apply the skills acquired in planning and preparation of diets for maintenance of the population .

### PRACTICALS

1. Measurements and Standardisation of common food preparation
2. Planning and preparation of diet for pregnant women,
3. Planning and preparation of diet for lactating mother ,
4. Planning and preparation of diet for preschoolers,
5. Planning and preparation of diet for adolescents
6. Planning and preparation of diet for adult
7. Planning and preparation of diet for elderly
8. Planning and preparation of Routine hospital diets
9. Planning and preparation of low calorie diet for Obesity and Underweight
10. Planning and preparation of diet for Fever
11. Planning and preparation of diet for Anaemia, PEM
12. Planning and preparation of bland diet for peptic ulcer
13. Planning and preparation of diet for Diarrhoea and Constipation
14. Planning of diet for Jaundice
15. Planning and preparation of diet for Type II Diabetes mellitus
16. Planning and preparation of diet for Acute glomerular nephritis

### REFERENCES

- Gopalan C., RN. Ramasastri and S.C. Balasubra-manian, (1977) "Nutritive Value of Indian Foods", National Institute of Nutrition, Hyderabad.
- Bennion M., and D.Hughes,( 1975) "Introductory Foods", Macmillan Publishing Co., Inc, New York.
- Swaminathan, M (1979) "Food Science and Experimental Foods", Ganesh & Co., Madras.
- Manay, Shakuntala N. and Shadaksharaswamy M., (1987) "Food Facts and Principles", Wiley Eastern Ltd, New Delhi, Bangalore.
- Mudambi S.R. and S.M. Rao (1986) "Food Science", Wiley Eastern Ltd, New Delhi, Bangalore, Bombay, Calcutta, Madras, Hyderabad.

## COMMUNITY NUTRITION

Code: 15 HSCU0515

Cr: T3+P0

Pd/wk: 3

Marks :100

### Objectives

#### To enable the students to

- understand the nutritional problems of a community
- learn the methods used for assessing the diet and nutritional status of a community
- know the on going intervention programmes for overcoming malnutrition in the community.
- acquire skill in conducting nutrition education

#### Specific Objectives of Learning :

- The students will be able to assess the nutritional status of the community
- Will know the various means of imparting nutrition education to the community

### UNITS

1. **Nutritional status in India Importance of good nutrition** .Nexus between poverty and malnutrition – PEM, micro nutrient deficiencies (Vitamin A, Nutritional Anemia IDD) prevalence of diet related non – communicable chronic diseases.
2. **National Nutritional Policy** – Action areas, National Nutritional goals, implementation strategy – Nutrition intervention for specially vulnerable groups, fortification of essential goods. Intervention programmes to combat malnutrition, ICDS programmes, Balwadi Nutrition programmes, noon meal programme. Role of International Organizations – UNICEF, FAO, WHO.
3. **Assessment of Nutritional status of the community** – objective methods – direct assessment – (a) Anthropometric measurements (b) Bio-physical method (c) Bio-chemical method (d) Clinical survey (e) Diet survey, Indirect methods. Food balance sheet, Agricultural data, ecological parameters and vital statistics – use of growth chart.
4. **Nutrition education:** Meaning, need, principles, methods. Factors influencing nutrition related behavior, behavioral changes related to nutrition education.
5. **Food adulteration** – definition, adulterants in different foods, their ill effects and detection(house hold level techniques) contamination of food with toxic chemicals, pesticides and insecticides and; harmful micro – organisms – bacterial, fungal, parasitic; insect and rodent contamination of stored foods. Food standards – ISI. Agmark and food laws. (Elementary treatments).

**Related Experiences:**

1. Diet and Nutritional Assessment of a population using different techniques
2. Case study of children with micro nutrient deficiencies
3. Study of two ongoing nutritional programme – programme content its strength and weakness.
4. Detection of adulterants in common food items.

**References:**

1. National Nutrition Policy (1993). Govt. of India
2. Srilakshmi (2006). Food Science. Newdelhi. New Age International Pvt.Ltd.
3. Srilakshmi (2008). Nutrition Science. Newdelhi. New Age International Pvt.Ltd.
4. Sree Devi.V. (1997). Nutrition Education. New Delhi: Discovery Publishing House
5. Swaminathan. M. (1985). Essentials of Food and Nutrition. Vol I and Vol. II Madras. Ganesh and company.Hyderabad

## APPAREL DESIGNING AND CARE

**Code: 15HSU0516**

**Cr: 3+0**

**Marks: 100**

### Objectives

To enable the students to

- Get a basic idea of clothing selection and care.
- Develop skills in apparel designing and construction

### Specific Objectives of Learning :

- will gain knowledge in taking measurements for preparing metric patterns and commercial patterns.
- will acquire skill in different pattern manipulation techniques and style development

### UNITS:

1. Apparel Construction - Body measurements, Importance of taking body measurements in garment construction. Preparation of Fabrics. Preparation of pattern - Drafting, principles of Drafting, Draping and commercial patterns, Layout planning - types of lay out. Merits and Demerits of layout, marking, assembling.
2. Selections of clothing-Factors influencing the choice of clothing materials for General and textile factors- Price, Serviceability, Size and fit, Attractiveness, Suitability, Age, Climate, Occupation, Occasion, Design and Fashion, Sociological, Psychological factors. Home Textiles- types, selection, care.
3. Wardrobe planning - Principles and steps involved in wardrobe planning, Points to be considered while planning wardrobe for different age groups. Criteria for evaluation of garments and checking quality control aspects of raw material used for garment construction
4. Laundry-Definition-Principles of laundering, Water-Types of water-soft water-hard water-methods of softening water. Soap, Detergents and soap less detergents, method of soap manufacture. Review of laundry materials, Methods of washing.
5. Laundering and finishing of different fabrics with special refer to cotton, silk, wool and synthetic fabrics. Bleaching agents, stiffening agents, blueing agents. Stain removal-Types of stains, Principles and Techniques of removal. Care labeling.

### References:

1. Anna Jacob. (1993) **Art of Sewing**. UBS P.D.New Delhi.
2. Bane.A (1974). **Tailoring** Mc Graw Hill Publications, New York.
3. Brown Rice, **Ready to Wear Apparel Analysis**, 2<sup>nd</sup> edition, Prentices hall,1998.
4. Carson: **How You Look To dress**, StLouis, Mc Graw Hill,1969.
5. Dantyagi,S. (1996). **Fundamentals of Textiles and Their Care**. New delhi. Orient longman limited.
6. Duelpkar,D.(1983) **Household Textile and Laundry Work** New Delhi: Atma Ram and Sons.
7. Edward Miller: **Textiles: Properties and Behaviour in clothing Use**, London, B.T Bradsford 1992.
8. Gin Stiphens Frings, **Fashion from Concept to consumer** 7<sup>th</sup> Ed New Jeray.
9. Mary Mathews.(1984). **Practical clothing Construction Part-1**. Madras Parrinpack. Prentice Hall Inc.
10. Wingate, B.I.(1976). **Textiles Fabrics and their selection**. USA: Prentice Hall. Inc.
11. S.P. Mishra, “**A text Book of Fibre Science & Technology**,” New Age International Ltd.
12. **Carpets : Back to Front, Textile progress**, Vol.19, No.3 by – L Cegielka MA, The Textile Inst. Publication
13. **Textile Floor coverings** by G.H. Crawshaw, Textile Progress, Vol.9, No.2, The Textile Inst. Publisher.
14. **Interior Furnishings, Textile Progress**, Vol.11, No.1, By Mortimer O. Shea, The Textile Inst. Publication
15. **Interior Furnishing by Mortimer O.Shea, Textile Progress**, Vol.11, No.1, The Textile Institute, Publication.
16. **Textiles fabric & Their Selection**, Wingate, I.B. Allied Publications Pvt. Ltd., Chennai.
17. **Fundamentals of Textiels and Their care**. Dantyagi.S. Orient Longman Ltd., New Delhi 1980.
18. **Family clothing** tate of Glession John wiley & Sons Inc., Illionois latest Edition.
19. **Household textiles and laundry work** durgal Deulkar, Alma Ram & Sons, Delhi

## **APPAREL DESIGNING AND CARE - PRACTICAL**

**Code: 15HSU0517**

**Cr: 0+1**

**Marks: 100**

### **Objectives**

To enable the students to

- Get a basic idea of clothing selection and care.
- Development skills in apparel designing and construction.

### **PRACTICAL EXPERIENCES**

Designing, Drafting & Constructing Garment for different age groups.

- (i) Bib
- (ii) Jabla
- (iii) Apron
- (iv) "A" line frock
- (v) Girls frock
- (vi) Saree petticoat
- (vii) Night Garments.
- (viii) Stain removal, laundering methods.

## MANAGEMENT OF CHILD CARE CENTRES

**Code: 15HSCU0618**

**Credits: T3 + P0**

**Hours : 3**

**Marks:100**

### **Objectives**

#### **To develop in learners**

1. The ability and skill needed to organize creche and preschools.
2. The sense of competency in organizing child care centres.

#### **Specific objective of learning**

- To get an insight into the rehire of care needed for children.
- To trace the minimum facilities needed to start a child care centre.
- To plan activities for children in various age groups.
- To gain skills in organizing parent education programme.
- To acquire competency in evaluating pre-school children.

### **UNITS:**

#### **1. Introduction to Child Care Centres**

Need for child care centres:- Types of child care centres- Creche, Balwadi, Nursery School, Laboratory Nursery School and Co-operative Nursery School.

#### **2. Organisation of A Creche**

Care needed for infants, Care to be given in crèche. Minimum facilities for organizing a crèche- Building, toys, finance and other essential materials needed, Qualities of a care – taker.

#### **3. Need and Importance of Preschools**

Meaning of preschool: Advantages of attending preschool, Social needs of preschools, physical set-up of a preschool. Activities of a child-care centres.

#### **4. Programme of Preschool**

Long term, short term, daily programme, Preschool equipments, records to be maintained, Preschool personnel – Qualities of a teacher, Parent-teacher relationship; Parent Education Programme.



## **5. Students Participation In Preschool**

Advantages of preschool participation, Preparation needed; preschool participation, evaluation of participation.

### **REFERENCES :-**

1. Aggarwal, J.C. (1992) Methods and Materials of Nursery Education, New Delhi : Doabra House.
2. Grewal, J.S. (1984) , Early Childhood Education Agra: National Psychological Corporation.
3. Muralidharan, R. and Banerji.V. (1989) A Guide Booklet of nNursery Teachers, New Delhi : NCERT.
4. Pankajam, G. (1992) ‘Palli Mun Paruvakkalvi’ Gandhigram Lakshmi Seva Sangam.
5. Leeper, S.H. Skipper, D.L and Witherspoon, R.L(1979) . Good Schools for Young Children, New York: Macmillan Company.

## MANAGEMENT OF CHILD CARE CENTRES - PRACTICAL

**Code: 15HSCU0619**

**Credits: T0+ P1**

**Hours : 2**

**Marks:100**

### **Objectives**

#### **To develop in learners**

1. The ability and skill needed to organize creche and preschools.
2. The sense of competency in organizing child care centres.

### **PRACTICALS**

1. Visit to preschools and observation of the programme.
2. Planning programmes for different types of preschools.
3. Preparation of low cost play materials.
4. Drafting the plan of preschool building.
5. Organising parents meeting in a preschool.
6. Placement in a preschool for a week.

## GENDER AND DEVELOPMENT

Code: 15 HSCU0620

Cr : T3+P0

Pd/Wk : 3

Marks: 100

### Objectives

To enable the students to

1. develop concern for women's issues and problems and
2. have a basic idea of the efforts in India for women's uplift.

### Specific Objectives of Learning

- To trace the significance of gender development in national development
- To report the violence against women at family and work place.
- To get familiarize with legislations and policies for women

### UNITS

#### 1. Gender and Development :

Concept of gender, gender roles, changing trends, gender analysis matrix, shift from welfare to development and empowerment, gender in development, gender and development, National and International efforts for gender empowerment.

#### 2. Status of Women in India

Status – Meaning, Status of Women as per latest census report – Gender gaps and their implications, Sex ratio, Life expectation at birth, Health, Nutrition and Mortality, age at marriage, fertility, literacy, employment –

#### 3. Violence against women:

Dowry, divorce, female foeticide and infanticide, sexual discrimination, sexual exploitation, obscene advertisements and projects in the mass media. Efforts for elimination of all forms of discrimination.

#### 4. Policies for Women's development:

National Policy for Women's empowerment, Policy perspective, mainstreaming, a gender perspective in the development process.

Economic, Social, Legal and political empowerment of Women.

## **5. Women and Law:**

Marriage, dowry, divorce, property, employment and adoption, political participation,  
Legal literacy for Women, Family Counselling centre

### **Related Experiences**

1. Study of women's status in a village.
2. Identification of women's problems in a village.
3. Preparation of clipping from print media on women's issues.

### **References**

1. Country Report. (1995). Department of Women and Child Development. Government of India.
2. National Perspective Plan for Women. (1988). New Delhi: Department of Women and Child Development. Government of India.
3. Rehman, M.M. and Biswal, K.K. (1993). Education, Work and Women. New Delhi: Common Wealth Publishers.
4. Sharma, O.C. (1994). Crime Against Women. New Delhi: Sterling Publishers Private Limited.
5. Subbamma, M. (1985). Women, Tradition, Culture. New Delhi: Ashish Publishing House.

## PROGRAMMES FOR RURAL FAMILIES PRACTICAL

Code : 15 HSCU0621

Cr : T1+P2

Pd/Wk: 5

Marks:100

### Objectives

To enable the students to

- get acquainted with the on going programme for rural development and their implementation and
- be resourceful in guiding the rural women/communities to avail themselves of help under the programmes

### UNITS:

1. Economic Programmes: SGSY, PMRY, Mahalir Thittam, MGNREGS- Objectives, beneficiary selection, financial assistance, implementation and evaluation
2. Special Programmes : State Department of Social Welfare and District Disabled Rehabilitation Centre
3. Special Programmes
  1. Employment, Education , Health and Sanitation
  2. Energy and Environment
4. Social Assistance Schemes at central and State level.
5. ICDS, Noon meal programme.

### References:

1. Annual Report, Department of Rural Development, Ministry of Rural Development and Local Administration
2. Annual Report, Programme evaluation Organisation. Planning Commission, Government of India. New Delhi.
3. Current Five Year Plan, Planning Commission. Government of India, New Delhi.
4. Manuals on SGSY, PMRY, Mahalir Thittam published by the Department of Rural Development.
5. State Five Year Plan and Annual Plans. Government of Tamil Nadu, Chennai.

**MAJOR ELECTIVE COURSES**  
**CHILDREN WITH SPECIAL NEEDS**

**Code: 15 HSCU04E1**

**Cr : T3+P0**

**Pd/Wk : 3**

**Marks : 100**

**Objectives :**

To enable the students to

- acquire knowledge about the special needs of exceptional children and the methods of satisfying their needs and
- acquire skills in guiding the parents of exceptional children.

**Specific Objectives of Learning.**

- To empathize the needs of exceptional children
- To familiarize with the educational provisions of exceptional children
- To gain skills in identifying children with special needs.

**UNITS:**

**1. Children with Special needs**

Meaning, Types, Characteristics, History of Education of Exceptional Children.

Special educators – their qualities and qualifications

**2. Physically Challenged Children**

Orthopaedically Handicapped – types, characteristics and educational needs

Visually Impaired – types, characteristics and educational needs

Hearing Impaired – types, characteristics and educational needs

Speech Impaired – types, characteristics and educational needs

**3. Mentally Retarded Children**

Classification of mentally retarded, their educational needs , rehabilitation

Measures and Educational programmes.

**4. Gifted Children**

Identification of gifted children ,their characteristics educational needs and programmes.

## **5. Children with Emotional and Social Deviance**

Characteristics of social deviants and their treatment. Etiology of emotional and social problem in children.

### **RELATED EXPERIENCES:**

1. Visit to any two special schools
2. Preparation of Case study of a child with special need.
3. Preparation of an album on various assistive devices and technologies available for children with special needs.
4. Compilation of websites of organizations working for children with special needs at national and international level.
5. Interaction with the special educators/ parents of children with special needs.

### **REFERENCES:**

1. Hallahan, D.P and Kauffman, J.M (1998). Exceptional Children. New Jersey:Prentice Hall
2. Julka.A. (2007). Meeting Special Needs in Schools – A Manual. NCERT. New Delhi.
3. Mangal, S. K (2009). Education Exceptional Children: An Introduction to Special Education, Phil Learning
4. Panda,K.C. (1997). “Education of Exceptional Children”. New Delhi: Vikas Publishing House Pvt. Ltd..
5. Turnball P.Ann.et.al, (1995). “Exceptional Lives-Special Education in Today’s School”. New Jersey: Englewoof Ciffs Publisher.
6. Uday Shankar, M.A. (1976). “Exceptional Children”. New Delhi: Sterling Publishers Pvt. Ptd..
7. Venkataiah,N. (1993). Readings in special Education”. Ambala Cantt: The Associated Publishers

**FOOD SAFETY AND QUALITY CONTROL**  
**(Major Elective)**

**Code: 15 HSCU04E2**

**Cr: T3+P0**

**Pd/Wk: 3**

**Marks :100**

**Objectives:**

**To enable the students to**

- learn the various aspects of food safety and processing
- understand about food laws and labeling

**Specific Objectives of Learning :**

After studying this paper, the students would know

- the importance and functions of quality control unit in food industries
- the methods used for evaluation of food quality

**UNITS:**

1. **Introduction to Food Safety** - Definition, factors affecting food safety and importance of food safety .
2. **Food additives and contaminants:** Food colours, flavoring agents, Artificial sweeteners, Preservatives, Antioxidants, protease inhibitors, goitrogens, Phytates, pesticide and insecticide residues, adulterants and metallic contaminants.
3. **Food laws and Regulations:** National food legislation – Essential commodities Act, Standard of weight and measures Act, Export act, ISI, mark of BIS Agmark and PFA, FPO. International Organization and Agreements – FAO, WHO, Codex Alimentarius, Codex Indian, WTO, JECFA, SPS and TBT and APEDA. HACCP – Principles and Importance.
4. **Quality Control:** Introduction – sampling and analysis of food – chemical, microbiological, food packaging - functions, types and trends in packaging.
5. **Food labeling:** Definition, principles, requirements, nutrition labeling, nutrition claims.

**Text Book:**

1. Manay, S. and Shadaksharamasamy, Food: Facts and Principles.

**Reference:**

1. David. A. Shapton, Naroh. F. Shapton (1991)Principles and Practises for the Safe Processing of Foods. Butterworth- Heineman, Ltd, Oxford. OX 2 8 Dp
2. Sara mora more Carol wallaPPce (1997) HACCP.A Practical Approach.Chapman and Hall.
3. Potter, N. 1996. Food Science. CBS Publishes & Distributes. New Delhi.
4. Rekha.S. Singhtal, Pushpa, R. Gulgarni, Hand book of indices of food quality and authenticity.



## HOUSE KEEPING

### Major Elective

Code: 15HSCU04E3

Cr:3

Pd/Wk: 3

Marks: 100

### Objectives

#### To enable the students to

1. To understand the basic principles of housekeeping in Food Service Institutions
2. To gain experience in the selection, use and care of housekeeping tools and equipments.

#### Specific Objectives of Learning:

- Able to describe the role of housekeeping department in any food service institutions
- Ability to manage the resources of the housekeeping department effectively
- Ability to explain the safety and security needs of hospitality operations.

#### UNITS:

1. Concept of Housekeeping, layout and organisation structure of housekeeping departments, role and responsibilities of the housekeeping personnel, qualities of housekeeping staff.
2. Cleaning equipments - mechanical and electrical equipments used for cleaning. Laundry procedures- dry cleaning, valet service & stain removal.
3. Fire prevention and control. Accident prevention, security measures. First-aid and pest control. Linen room - Linen types, storing, stocktaking and distribution of linen. Inventory control, condemnation, Procedure & costing consideration.
4. Furniture selection and its types, flower arrangement - principles, preservation of flower and plant materials, window treatment, bed making, carpets.
5. Special service - Telephone answering, guestroom inspection, guest loan items, lost and found, deep cleaning, turn down service. Cost control in Housekeeping.

#### Related experience

- Understand the skills and duties of the housekeeping
- Market survey to understand the availability, cost of laundry and other cleaning equipments
- Acquire skill in flower arrangement and linen maintenance
- Stain removal, bed making, designing of valance

#### REFERENCES

1. Sudhir Andrews, (1999) Food and Beverage Service Training Manual, Tata McGraw Hill Publishing Company Ltd New Delhi.
2. Lilli Crap, D R and Cousins J A (1994) Food and Beverage Service, 4th Edition, Hodder and Stoughton.
3. Vijay Dhawan, (2009) Food and Beverage Service, 1st Edition, Frank Bros & Co., 2000 Braun, Verlagshans. of Spa Design 1st ed

**FOOD SERVICE MANAGEMENT**  
**Major Elective**

**CODE: 15HSCU04E4**

**Cr: 3**

**Pd/Wk: 3**

**Marks: 100**

**Objectives:**

To enable students to

1. Understand the principles and functions of catering institutions
2. Know the cost accounting procedures adopted in food service institutions
3. Gain knowledge about laws governing food service establishment.

**Specific Objectives of Learning**

- Manage the human resources within a food service institution
- Apply the knowledge and skill acquired will be able to plan and produce nutritious menus
- Provide the highest customer satisfaction to the clients

**UNITS:**

1. Principles and functions of food service institutions: Principles of management and Planning, organising, directing, controlling, co-ordinating and evaluating. Management Tools-The Organization Chart, Job Description and specification, Time schedule, Work schedule, Job Analysis, Production service and staff analysis, Budget leadership style and training, decision making and communication.
2. Commercial and Non Commercial Institutions. Commercial-Hotel, Motel, Restaurant, Bar, Pub, Fast Food Restaurant, Popular Catering. Non Commercial-Transport Catering, Industrial Catering, Leisure linked Catering, Departmental Store Catering, Miscellaneous-Contract and Outdoor.
3. Equipments used in Food service industries-Classification of equipments electrical and non electrical equipments for food storage, Preparation, serving, dishwashing and laundering. Food plant -Types of Kitchen, Layout of different food service establishments, drainage, Water lines, lighting and ventilation adopted in different units such as Kitchen, storage and dining area, working heights in relation to equipment.

4. Personnel management -recruitment, selection and induction procedures  
Employee facilities and benefits, welfare schemes and laws governing food service institutions.
5. Buying and accounting procedures in food service institution, total budget, methods of cost control, records to be maintained, Cost accounting/analysis-Cost concepts- types of cost-fixed cost , semi fixed cost, variable cost. Food cost control - methods of controlling food cost, break even analysis. Records to be maintained- Book Keeping, system of book keeping, book of accounts- cash book, purchase book, sales book, purchase returns book, sales returns book and journals.

### **TEXT BOOKS**

- 1.Sethi, M.,Malhan,S.(2007): Catering Management: An integrated approach, New Age International
- 2.Sudhir Andrews,(1999) Food and Beverage Service Training Manual, Tata McGraw Hill Publishing Company Ltd New Delhi .
- 3.Lilli Crap, D R and Cousins J A(1994) Food and Beverage Service,4<sup>th</sup> Edition, Hodder and Stoughton .
4. Dr. Aggarwal D.K (2006) Housekeeping Management, AMAN Publications, NewDelhi
- 5.Dr. Singh.R.K (2006) Modern Trends in Hospitality industry, AMAN Publications,New Delhi
- 6.John Wiley (2005),Book Of Yeild :Accuracy in Food Costing and Purchasing,6<sup>th</sup> Edition

### **WEBSITES**

1. [www.cfsan.fda.gov/~dms/fc01-6.html](http://www.cfsan.fda.gov/~dms/fc01-6.html) - 38k
- 2.<http://infotree.library.ohiou.edu/bysubject/health-and-life-sciences/food/food-servicemanagement/>
3. [http://www.outsourcing.org/Directory/Facilities\\_Management/Food\\_Service\\_Management](http://www.outsourcing.org/Directory/Facilities_Management/Food_Service_Management)

## **ENTREPRENEURSHIP DEVELOPMENT**

### **Major Elective**

**Code: 15HSCU05E1**

**Credits:T3+P0**

**Pd/wk:3**

**Marks : 100**

### **Objectives**

#### **To enable the students to**

- Understand the process and procedures for taking up entrepreneurial programmes.
- Develop an aptitude for Entrepreneurship development.
- Prepare a draft proposal for funding

### **Specific Objectives of Learning**

- To define entrepreneur and entrepreneurship.
- To analyse the problems of entrepreneur
- To identify the avenues for entrepreneurship
- To select trade for
- preparation of proposal

### **UNITS:**

- 1 Entrepreneurship – Entrepreneur and Entrepreneurship – meaning, need, transition from income generation to self employment and Entrepreneurship. Qualities of a good entrepreneur. Problems of entrepreneurs.
- 2 Factors influencing entrepreneurial development – Economic, legal, social and psychological factors.
- 3 Agencies supporting Entrepreneurial Development Programme – SIDCO, DIC, TIIC NSIC, MSME- Objectives, Programmes, Financial Assistance,
- 4 Schemes for assistance – State and Central level current schemes and programmes for individual and group support.

- 5 Project proposal – Proposal format and content-steps in its preparation, Feasibility testing, SWOT analysis.

### **Related Experiences**

- Visit to SIDCO, DIC and TIIC
- Case study of two entrepreneurs
- Preparation of a project proposal for funding.

### **References**

1. Chunawalla S.A. Sales Management, Himalayan publishing House New Delhi, 1999.
2. Dr.N.Rajan Nair, Sajith R. Nair Marketing, Sutanchand and Sons, New Delhi, 2002
3. Vasant Desai, Project Management and entrepreneurship, Himalaya Publishing House, New Delhi, 2000.
4. David H. Moll, Entrepreneurship, prentice Hall of India, New Delhi 1999.
5. Frank Jerkins, Advertising, prentice Hall of India, New Delhi, 2000

## **BASICS OF RESEARCH TECHNIQUES**

**(Major Elective)**

**Code: 15HSCU05E2**

**Credits:T3+P0**

**Pd/wk:3**

**Marks : 100**

### **Objectives :**

1. To understand the meaning and importance of research.
2. To develop awareness regarding the basic elements of research
3. To develop understanding regarding the characteristics of a good tool of research.

### **Specific Objectives of Learning**

- Understand the principles of constructing simple tools for survey research.
- Acquire skills in working out simple statistics
- Understand the techniques of report writing and documentation.

### **UNIT I : Introduction To Research**

Definition of research, Need for research, Types of research –Pure, applied, Exploratory, Descriptive ,Action and evaluative.

Identification of a research topic

Formulation of research questions ,

### **UNIT II : Basic Elements of Research and their Importance**

Review of literature, Objectives, Assumptions and hypothesis

Limitations, Sampling and sampling methods, Tool construction

Analysis and Interpretation

### **UNIT - III : Survey Research**

Meaning, Importance,Advantages, Limitations

Tools for research – Interview schedule, questionnaire,

Check list, Rating scale

Characteristics of a good tool - Validity, reliability, objectivity, Practicability

### **UNIT IV : Simple Statistical Methods**

Classification and organisation of Data  
Coding, Tabulation, Graphic presentation  
Simple statistical measures  
Percentages, Mean, Mode, Median  
Standard deviation

#### **UNIT V: Techniques of Writing Reports and Documentation**

Research report- Meaning, purpose, Characteristics, Steps in planning report writing,  
Research report format – Prefactory items, body of the report – Introduction, design of the  
study, results: Findings, discussion, Summary, conclusion, and recommendations.  
Terminal Items – Bibliography – writing format.

#### **Related Experiences:**

1. Exercise in referring the list of research topics in the library
2. Suggesting simple research topics
3. Referring abstracts
4. Framing objectives for research topics
5. Referring survey research tools
6. Constructing a simple tool for a preliminary survey on a selected topic.
7. Applying simple statistics to the given data/scores.

#### **Text Books.**

Krishnaswami, O.R. (2011). Methodology of research in social sciences. New Delhi: Himalaya Publishing House.

Gupta, S.P. (2014) Statistical Methods.

Publication Manual . 6<sup>th</sup> edition. American Psychological Association.

**PREPARATORY COURSE FOR COMPETITIVE EXAMINATIONS**  
**MAJOR ELECTIVE**

**Code: 15HSCU05E3**

**Credit: T3 + P0**

**Hours :3**

**Marks: 100**

**Objectives**

- i) To familiarize the students with different mental ability testing techniques.
- ii) To equip them for competitive examination.

**Specific Learning Outcomes:**

- To gain skills in computing reasoning problems.
- To work out the speed and power tests.
- To inculcate the habit of newspaper reading.

**UNITS:**

**1. Test of Reasoning (Verbal)**

Series, Coding-Decoding, Repeating series, Finding the odd one out, Test of logical reasoning- Syllogism, Analogy, Miscellaneous.

**2. Test Of Reasoning (Non –Verbal Reasoning)**

Series, Analogy, Classification, Building designs, Logical diagrams.

**3. Numerical Ability:-**

- a. Basic Arithmetic with Bodmas.
- b. Ratio and Proportion.
- c. L.C.M and H.C.F.
- d. Time – distance.
- e. Equations – with
- f. Fractions.



#### **4. Quantitative Ability:-**

- A. a. Interest – Simple and compound.
- b. Profit or loss- sales price/cost price.
- c. Mixtures.
- d. Average.
- e. Partnership – Distribution of Profit / Loss.
- f. Work Load.
- g. Menstruation – Area and Volume.
- B. Data Interpretation
- Table – Graph and Bar Diagram.

#### **5. General Knowledge**

Basic facts about India, Indian History. Indian constitution, Geography of India. Abbreviations, Books and Authors, Inventions and Discoveries. Personalities, Science and Technology. Sports, Awards, Prizes, Current Affairs.

#### **REFERENCES :-**

1. Year Book – Manorama, Anantha Vikatan, Limca, Competition Success Review
2. Test of Reasoning
3. Test of Numerical ability
4. Magazine - Competition Success Review
5. Magazine - Competition Maste

**FOOD PRESERVATION**  
**(Major Elective)**

**Code: 15HSCU05E4**

**Cr: T1+P2**

**Pd/Wk:5**

**Marks:100**

**Objectives:**

To enable students to

- understand the types of spoilage occurring in foods
- gain knowledge on various methods of food preservation.
- acquire skill in preservation of various food items.

**Specific Objectives of Learning :**

After studying this paper, the students would know

- the concepts and principles of food preservation
- the preservation of food products from plant and animal sources and the production method

**UNITS:**

1. Food Spoilage and its Preservation: Review
2. Food Preservation: Meaning, objectives and basic principles
3. Methods of Food Preservation : Use of low temperature, high temperature, preservatives, high osmotic pressure, dehydration, radiation.
4. Spoilage : Spoilage of preserved foods and its causative factors and control measures
5. Food Preservation as a Gainful Economic Activity: Requirement of a unit. Machinery and infrastructure. Financial requirement, legislative control.

**Related Experiences:**

1. Preparation of squashes and juices – orange, mango and pineapple – FPO specification.
2. Preparation of jams/jellies/marmalades.
3. Pickles – selection of fruits and vegetables – preparation of different types of pickles and tomato ketch up.
4. Visit to small enterprises to study their organization and operation.
5. Preparation of dehydrated products and evaluation of the product dried by different drying methods.

**References:**

1. Desoresier,W.N. and James,N. (1987). The Technology of Food Preservation. New Delhi: CBS Publishers and Distributors.
2. Girdharilal,G.S. et.al.. (1986). Preservation of Fruits and Vegetables. New Delhi: Publications and Information Division, ICAR.
3. Sumati,R et.al. (1991). Fundamentals of Food and Nutrition. Madras: Wiley eastern Limited.

**SKILLED BASED ELECTIVE COURSES**  
**TEXTILE CRAFTS**

**Code: 15HSCU05D1**

**Credits : 2**

**Pd/ Wk: 5**

**Objectives**

To enable the students to develop

- Skills in hand work in textiles
- Aptitude for taking up productive textiles based work

**UNITS:**

1. Embroidery stitches – Types and their suitability. Types of threads and needles used on different fabrics.
2. Embroidery work – Preparation of samples for hand embroidery, cut work, drawn thread work, appliqué work, beads work, quilt work and patch work.
3. Textile painting – Types, fabric suitability, colours and techniques.
4. Household Linen – Hand, Kitchen and Dish towels. Constructions of pillow cover and Cushion cover.
5. Preparation of samples for Window Treatment.

**REFERENCES:**

1. Dantiyagi, S. (1996). **Fundamentals of Textiles and their Care** New Delhi: Orient Longman.
2. Dularkar, D. (1983). **Household Textile and Laundry Work** New Delhi: Atma Ram and Sons.
3. Wingate, B.I. (1976). **Textile Fabrics and their Selection**. U.S.A: Prentice Hall, Inc.
4. Anna Jacob. (1993). **Art of Sewing**. UBS P.D. New Delhi.
5. Bane. A. (1974). **Tailoring** McGraw Hill Publications, New York.
6. Anna Jacob. (1993) **Art of Sewing**. UBS P.D. New Delhi.
7. Readers Digest (1982) **Complete Guide To Sewing** Association of Inc. New York.
8. Textiles of the Arts and Crafts Movement By Maire Loughran
9. Selection & Personal Appearance – a guide for the consumer, Upper Saddle River, Prentice Hall Inc., 2000.
10. Mabel D.E. & A.K. : **Clothing for Moderns** , 3rd edition, New York: Mac Millan, publications.

## BAKERY AND CONFECTIONERY

**Code: 15HSCU05D2**

**Pd/Wk: 2**

### **Objectives**

To enable the students to develop

- Skills in bakery
- Aptitude for producing bakery products

1. Demonstration – Bread, Pizza base, Pav Bun.,
2. Preparation of cakes and their evaluation – plain cake, sponge cake and cup cake
3. Cake recipe balancing -faults and remedies
4. Preparation of special variety of cakes - wedding cake, Birthday cake, Plum cake, fruitcake, chocolate cake, icings, creams.
5. Preparation of biscuits and cookies – any four varieties
6. Preparation of pan cake and fritters
7. Preparation of pastries and puffs
8. Preparation of custard, puddings and doughnuts
9. Preparation of a Project report for starting a bakery unit

### **References**

- 1.Arora, S.M. (1994). Hand Book Of Bakery Products.New Delhi: Small Industry Research Institute.
- 2.Hamlyn. (1984). The Best of Baking, London.
- 3.Indira Kakati. (1984). Egg Less Baking, Sahibabad: Vikas Publishing House

## PRODUCTION OF VALUE ADDED INDIGENOUS FOODS

**Code: 15HSCU05D3**

**Pd/Wk: 2**

### **Objectives:**

- Skills in production of value added products
- Aptitude for producing value added food products

### **UNITS :**

1. Familiarization with indigenous foods available in the market and household; Development of questionnaire, collection of information on health foods, tabulation and interpretation
2. Product formulation, sensory evaluation, food safety, sanitation (environmental and personal)
3. Exposure to the preparation of indigenous value added foods. Preparation value added Supplementary foods for infants and geriatrics
4. Preparation of value added Nutri-dense foods; Protein, energy, iron, calcium and b-carotene and value added Health beverages from different foods
5. Quality evaluation, nutrient computation, packaging materials and unit size, nutrition labeling, costing.

### **References**

1. Srilakshmi, B. 2005. Food Science, New Age International (P) Ltd., Publishers, New Delhi.
2. Potter, N. and Hotch Kiss, J.H. (1996): Food Science, Fifth edition, CBS Publishers and Distributors, New Delhi
3. Fuller G W (1994) New Food Product Development : From Concept to Market place CRC Press, New York
4. Man C M D and Jones A A (1994) Shelf life Evaluation of Foods. Blackie Academic and Professional, London
5. Olickle, J K (1990) New Product Development and value added. Food Development Division, Agriculture, Canada

MODULAR COURSES  
GERIATRIC CARE

CODE: 15HSCU06M1

Cr: 2

Pd/Wk: 2

Marks: 50

**Objectives:**

To enable the students to

- To provide in-depth knowledge on normal aging
- To understand the care required during acute and chronic disease conditions
- To provide insight on the issues and problems related to geriatrics

**Specific Objective of Learning**

- Student will be in a position to assess the health status and QOL of the elderly
- Confident in Providing care and support to the elderly
- Trained care givers will be available in home,community and institutions to care the elderly.

**UNITS:**

- 1. Geriatrics :** definition, age group, theories of aging process- biological,physiological and psychological changes during aging .
- 2. Problems related to aging , quality of life and care for elderly:** universal precautions, Maintaining personal hygiene, Environmental hygiene,Bed making Prevention of bed sores ,Bed bath(sponge bath), mouth care, taking & Recording of temperature, pulse, respiration, blood pressure etc. Simple sterilization methods and prevention of cross infection, Positioning & transferring skills.
- 3. Nutrition management in aging:** Nutrition requirements, changes in total body mass and body composition, nutritional assessment, nutrition deficiency in old age, osteoporosis and vitamin D, simple diets for elderly and nasal feeding skills. Management of neurological diseases in elderly:Parkinson' s disease and Alzheimer's.

**REFERENCES**

1. Cathy Jo Cress(2011).Hand book of Geriatric care Management,Jones&Bartlett learning publisher
2. Joy Loverde(2009).The Complete Eldercare Planner,Hormony publishers
3. Davidson,S.R. and Pasmore (1986). Human Nutrition and Dietetics. Church Hill Livingstone, London.
4. Srilakshmi (2008). Nutrition Science. Newage International Publishers. Newdelhi.
5. Swaran Pasricha and Thimmayamma, B.V. (1992). Dietary Tips for the Elderly. Hyderabad: NIN.

## **INFANT STIMULATION PROGRAMME**

**Code: 15 HSCU06M2**

**Cr : 2**

**Pd/ Wk : 2**

**Marks : 50**

### **Objectives**

To enable the students to

- become knowledgeable about the stimulation and its importance during early years
- understand various techniques of stimulating infants
- develop skill in planning and implementing infant stimulation programme

### **Specific objectives of learning**

- Explain how infants learn through the development of senses.
- Identify the indigenous infant stimulation techniques
- Develop an appropriate infant stimulation kit for the villagers.

### **UNITS**

- 1 Infancy** – Definition, Characteristics, development and abilities
- 2 Infant Stimulation** – meaning, importance, techniques. Multisensory stimulation programme.
3. Identification of traditional methods, games, songs of infant care and stimulation through field visit, interview with mothers/ elderly women and group discussions.
- 4 Preparation of stimulation programmes for various senses
5. Development of stimulation kit for infants.

### **REFERENCES**

1. Chauba, B.P. (1986). Child Psychology. Agra: Lakshmi Narain Agarwal.
2. Devadas, R.P. and Jaya, N. (1996). A Text Book on Child Development. New Delhi: Macmillan India Limited.
3. Hurlock, E.B. (2000). Developmental Psychology A Life-Span Approach. New Delhi: Tata Mcgraw Hill Publishing Company Limited.
4. Laura . E . Berk . (1996) Child Development New Delhi : Prentice Hall of India , Pvt . Ltd
5. Pankajam,G. (2005). Know Your Child. New Delhi: Concept Publishing **Company**

## ASSESSMENT OF NUTRITIONAL STATUS

**Code : 15HSCU06M3**

**Credits: 2**

### **Objectives:**

The course is designed to:

- Orient the students with all the Important state-of-the –art methodologies applied in nutritional assessment and surveillance of human group
- Develop specific skills to apply the most widely used methods

### **Specific Objectives of Learning**

on successful completion of these units, students are expected :

- To gain hands on experience on nutritional assessment
- To understand the methods to assess hospitalized patients
- To gain on knowledge to interpret the results using the assessment data

### **Units**

1. Nutritional assessment as a tool improving the quality of life of various segments of the population including hospitalized patients.
2. Current methodologies of assessment of nutritional status their interpretation and comparative applications of the following.
  - Anthropometric measurement
  - Biochemical analysis
  - Clinical analysis
  - Diet survey
3. Nutritional surveillance- Basic concepts used and setting up of surveillance system.
4. Medical nutrition therapy- role of nutritional assessment and intervention in medical care

### **Practicals**

1. Training in all assessment techniques applicable for individuals and community including ones used for hospital – based patients validity and reliability of these techniques
2. Community based project for assessment of nutritional status of any vulnerable group.

### **References**

1. Jelliffe, D.B. and Jelliffe, E.F.P (1989): Community Nutritional Assessment. Oxford University Press.
2. Beghin, I., Cap, M and Dujardan, B. (1988): A Guide to Nutritional Status Assessment, WHO, Geneva.



3. Gopaldas., T. and Seshadri., S. (1987): Nutritional Monitoring and Assessment. Oxford University Press.
4. Mason, J.B. Habich, J.P., Tabatabai, H. and Valverde, V. (1984): Nutritional Surveillance, WHO.
5. Lee, R.D. and Nieman, D.C. (1993): Nutritional Assessment, Brown and Benchmark Publishers.
6. Sauberlich, H.E. (Ed) (1999): Laboratory Tests for the Assessment of Nutrition Status, CRC Press.
7. Cameron, N. (1984): Measures of Human Growth. Sheridan House Inc. New York
8. Scrimshaw, N. and Gleason G (Ed) (1991): Rapid Assessment Methodologies for Planning and Evaluation of Health Related Programs. Published by (INFDC) International; Nutrition Foundation for Developing Countries.
9. FAO Nutritional Studies No. 4 (1953): Dietary Surveys: Their Technique and Interpretation, FAO.
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11. Fidanza.
12. Collins, K.J. (Ed) (1990) Handbook of Methods for the Measurement of Work Performance, Physical Fitness and Energy Expenditure in Tropical Populations International Union of Biological Sciences.
13. Ulijaszek, S.J. and Mascie-Taylor, C.G.N. (Ed) Anthropometry: the Individual and the Population, Cambridge University Press, Cambridge.
14. Shetty, P.S. and James, W.P.T. (1994): Body Mass Index. A Measure of Chronic Energy deficiency in Adults. FAO Food and Agriculture Organization of the United Nations, Rome.
15. Davies, P.S.W. and Cole, T.J. (Ed): Body Composition Techniques in Health and Disease. Cambridge University Cambridge.
16. Himes, J.H.(1991): Anthropometric Assessment of Nutritional Status. Wiley-Liss New York.
17. Lohman, T. GL Roche, A.F.; and Martorell, R.(Ed). Anthropometric Standardization Reference Manual. Human Kinetics Books, Illinois.

**PARTICIPATORY LEARNING AND ACTION  
(MODULAR COURSE)**

**Code: 15HSCU06M4**

**Cr : 2**

**Marks : 50**

**Objectives**

To enable the students to

- understand the participatory research methods
- equip skills in applying PLA techniques in the field

**Specific Learning Outcomes**

- getting familiarized with participatory research methods
- acquiring skills in employing participatory research methods in the field.

**Units**

**1 Participatory Research Methods**

Meaning, need, concepts, Approaches – Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA), Participatory Learning and Action (PLA)

**2 Participatory Learning and Action**

Principles, Tools – Participatory Mapping, Facility Assessment, Ranking, Venn Diagram, Semi-structured Interview

**3 Application of PLA methods** in rural problem identification, problem analysis and project formulation.

**REFERENCES**

1. Narayanasamy.N,(2009). Participatory Rural Appraisal: Principles, Methods and Application, SAGE Publications Ltd.
2. Neela Mukherjee (1997). Participatory Rural Appraisal Volume 1 of Studies in rural participation, Concept Publishing Company, New Delhi
3. Stringer, E. T. (2007) Action research (3rd ed.). Thousand Oaks, CA: Sage.