

THE GANDHIGRAM RURAL INSTITUTE - DEEMED TO BE UNIVERSITY
MINISTRY OF EDUCATION (SHIKSHA MANTRALAYA), GOI
ACCREDITED BY NAAC WITH 'A' GRADE (3rd Cycle)
GANDHIGRAM - 624302, DINDIGUL DISTRICT, TAMIL NADU



B.Sc. HOME SCIENCE SYLLABUS

(With effect from September 2021)

DEPARTMENT OF HOME SCIENCE
SCHOOL OF SCIENCES
GRI (DU), GANDHIGRAM -624302

SEPTEMBER 2021

Programme Educational Objectives (PEO)

- PEO 1** Creating knowledgeable, skillful and competent workforce to manage available resources at family/community to establish holistic society.
- PEO 2** Equip the learners with scientific knowledge and skills in food handling, processing, quality control and assurance.
- PEO 3** Acquire the skills required for menu planning, preparation of diets for normal, diseased persons at the family, institution and hospital levels.
- PEO 4** Identify the physical, cognitive, emotional and social needs at different stages of life span and address to improve the personal efficiency.
- PEO 5** Ability to plan and manage houses by applying decision making and work simplification techniques and acquire knowledge in consumer behaviour.
- PEO 6** Acquire the skills in garment selection, maintenance, designing and construction.
- PEO 7** Developing competency among the learners in acquiring skills in handling audio visual aids and selection of appropriate aids for out reach activities.

Program Outcome (PO)

- PO 1** Become knowledgeable in the field of Home Science and apply the principles of the same to cater the needs of the Employer / Institution / Society.
- PO 2** Gain Analytical skills in the field/area of Home Science.
- PO 3** Understand and appreciate professional ethics, community living and Nation Building initiatives.
- PO 4** Execute professional ethics, attitude and values to be an effective food scientist, dietitian, counselors, managers at garment units, family care institutions, entrepreneurs and extension workers.
- PO 5** Manage human and non-human resources at home/community and establish a sustainable community.
- PO 6** Demonstrate and counsel various types of diet plan to a family/ diseased/ person with disability.
- PO 7** Equip with skills related to apparel designing, food preservation, catering, bakery, diet planning and programme planning.
- PO 8** Create individuals with social and cultural sensitivity and to address the everyday challenges positively.
- PO 9** Equip them to pursue advanced studies in various fields of Home Science.

Programme Specific Outcome (PSO)

PSOs are statements that describe what the Home Science graduates are expected to do.

- PSO 1** Demonstrate skills/talents and proficiency in specialized areas of study such as Food Science & Nutrition, Textiles and Clothing, Human Development, Family Resource Management and Home Science Extension.
- PSO 2** Apply the knowledge of Home Science in the domain of Teaching, Learning, Research and Extension.
- PSO 3** Address concern for the community (urban, rural and tribal) with genuine sensitivity and dedicate transferable knowledge and research findings for the benefit of the community.
- PSO 4** Solve the complex problems in the field of Home Science with an understanding of the societal, legal and cultural impacts of the solution.
- PSO 5** Demonstrate interest in engaging in active need based, innovative and community-oriented research using appropriate methods, collect and process data and present evidence-based solutions and defend arguments related to the field of research in Home Science.
- PSO 6** Emerge as Diet Counsellors, Managers at Food Industries/ Family Care Institutions, Garment units, Play schools, Extension Worker.
- PSO 7** Equip the learners to pursue higher education in specific branches of Home Science.
- PSO 8** Demonstrate inclination toward acquiring knowledge and doing in-depth studies on allied subjects of Home Science.
- PSO 9** Explore and decide upon viable avenues of self-employment and entrepreneurship plus career options in different facets of Home Science disciplines.

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Programme Outline

S. No	Category	No. of credits	
1.	Part-I Language : Tamil/Hindi/Malayalam/French (3 courses)	09	18
2.	Part-II Language: English (3 courses)	09	
3.	Part-III Core Courses		97
	i) Major Course	61	
	ii) Allied Courses	16	
	iii) Electives: a) Discipline Centric (2 courses) b) Generic (2 courses)	06 06	
	iv) Modular Course: (2 Courses)	04	
	v) Project	04	
4.	Part-IV		15
	i) Environmental Studies	04	
	ii) Skill Development Course: a) Computer Course (1 courses)	03	
	b) Skill Based Elective (1 course)	02	
	c) Communication & Soft skills (1 course)	02	
	iii) Language –III: Core Hindi/Tamil/Malayalam (2 courses)	04	
5.	Part-V		10
	i) Gandhian Studies (1course)	02	
	ii) Extension Education (1 course)	02	
	iii) NSS/Sports/Fine Arts	01	
	iv) Yoga	01	
	v) Shanti Sena	01	
	vi) VPP	02	
	vii) Human Values and Professional Ethics	01	
	Total		140

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Scheme of Instruction and Evaluation

S. No	Category	Course Code	Courses	Credits	Contact Hours/week			Marks		
					T	P	Total	CFA	ESE	Total
I Semester										
1.1	Part I		Language I	03	3	0	3	40	60	100
1.2	Part II		Language II	03	3	0	3	40	60	100
1.3	Part III	21HSCU01A1	Family Dynamics	04	4	0	4	40	60	100
1.4	Part III	21HSCU0101	Communication and Home Science Extension	04	4	0	4	40	60	100
1.5	Part III	21HSCU0102	Communication and Home Science Extension Practicals	02	0	4	4	60	40	100
1.6	Part V		NSS/Sports/Fine Arts	01	1	0	1	50	-	50
1.7	Part V		Yoga	01	1	0	1	50	-	50
1.8	Part IV		Environmental Studies	04	3	2	5	100	-	100
Total				22	19	6	25			750
II Semester										
2.1	Part I		Language I	03	3	0	3	40	60	100
2.2	Part II		Language II	03	3	0	3	40	60	100
2.3	Part III	21HSCU02A2	Food Chemistry	04	4	0	4	40	60	100
2.4	Part III	21HSCU0203	Fundamentals of Food Science and Nutrition	04	4	0	4	40	60	100
2.5	Part III	21HSCU0204	Fundamentals of Food Science and Nutrition Practicals	02	0	4	4	60	40	100
2.6	Part IV		Language III	02	2	0	2	50	-	50
2.7	Part V		Gandhian Studies	02	2	0	2	50	-	50
2.8	Part V		Extension Education	02	2	0	2	50	-	50
2.9	Part IV		Communication and Soft skills	02	2	0	2	50	-	50
Total				24	22	4	26			750
III Semester										
3.1	Part I		Language I	03	3	0	3	40	60	100
3.2	Part II		Language II	03	3	0	3	40	60	100
3.3	Part III	21HSCU03A3	Human Physiology	04	3	2	5	40	60	100
3.4	Part III	21HSCU0305	Fundamentals of Human development	04	4	0	4	40	60	100
3.5	Part III	21HSCU0306	Fundamentals of Human development Practicals	02	0	4	4	60	40	100
3.6	Part IV		Language III	02	2	0	2	50	-	50
3.7	Part IV		Computer Course	03	3	0	3	100	-	100
3.8	Part V		Shanti Sena	01	1	0	1	50	-	50
3.9	Part V		Village Placement Programme	02				50	-	50
Total				24	19	6	25			800

S. No	Category	Course Code	Courses	Credits	Contact hours/week			Marks		
					T	P	Total	CFA	ESE	Total
IV Semester										
4.1	Part III	21HSCU04DX	Elective: Discipline Centric	03	3	0	3	40	60	100
4.2	Part III	21HSCU04GX	Elective: Generic	03	3	0	3	40	60	100
4.3	Part III	21HSCU04A4	Food Microbiology	04	4	0	4	40	60	100
4.4	Part III	21HSCU0407	Resource Management Concepts and Contexts	04	4	0	4	40	60	100
4.5	Part III	21HSCU0408	Resource Management Concepts and Contexts Practicals	02	0	4	4	60	40	100
4.6	Part III	21HSCU0409	Fiber to Fabric	04	4	0	4	40	60	100
4.7	Part III	21HSCU0410	Basics of Apparel Designing Practicals-I	02	0	4	4	60	40	100
4.8	Part V	21HSCUH4V1	Human Values and Professional Ethics	01	1	0	1	50	-	50
Total				23	19	8	27			800
V Semester										
5.1	Part III	21HSCU05DY	Elective :Discipline Centric	03	3	0	3	40	60	100
5.2	Part III	21HSCU05GX	Elective :Generic	03	3	0	3	40	60	100
5.3	Part III	21HSCU0511	Normal and Therapeutic Nutrition	04	4	0	4	40	60	100
5.4	Part III	21HSCU0512	Normal and Therapeutic Nutrition Practicals	02	0	4	4	60	40	100
5.5	Part III	21HSCU0513	Textiles and Clothing	04	4	0	4	40	60	100
5.6	Part III	21HSCU0514	Apparel Designing Practicals - II	02	0	4	4	60	40	100
5.7	Part III	21HSCU0515	Family Finance and Consumer Behaviour	04	4	0	4	40	60	100
5.8	Part III	21HSCU0516	Family Finance and Consumer Behaviour Practicals	01	0	2	2	50	-	50
5.9	Part IV	21HSCU05SX	Skill Based Elective	02	0	2	2	50	-	50
Total				25	18	12	30			800
VI Semester										
6.1	Part III	21HSCU06MX	Modular Course	02			2	50	-	50
6.2	Part III	21HSCU06MY	Modular course	02			2	50	-	50
6.3	Part III	21HSCU0617	Gender Sensitization for Empowerment	04	4	0	4	40	60	100
6.4	Part III	21HSCU0618	Gender Sensitization for Empowerment Practicals	02	0	2	4	60	40	100
6.5	Part III	21HSCU0619	Early Childhood Care and Education	04	4	0	4	40	60	100
6.6	Part III	21HSCU0620	Early Childhood Care and Education Practicals	02	0	4	4	60	40	100
6.7	Part III	21HSCU0621	Project	04	0	8	8	40	40 +20	100
6.8	Part III	21HSCU0622	Field visit	02			2	50	-	50
Total				22	8	14	30			650

Gross total of I+II+III+IV+V+VI semester credits = 22+24+24+23+25+22

= 140

Part III

i) Major Courses

S. No.	Branches of Home Science	Course code	Course Title	Credits		Total
				T	P	
1.	Food Science and Nutrition; Food Service Management	21HSCU0203	Fundamentals of Food Science and Nutrition	4	0	4
		21HSCU0204	Fundamentals of Food Science and Nutrition Practicals	0	2	2
		21HSCU0511	Normal and Therapeutic Nutrition	4	0	4
		21HSCU0512	Normal and Therapeutic Nutrition Practicals	0	2	2
		Total			8	4
2.	Human Development and Family Studies	21HSCU0305	Fundamentals of Human Development	4	0	4
		21HSCU0306	Fundamentals of Human Development Practicals	0	2	2
		21HSCU0619	Early childhood care and Education	4	0	4
		21HSCU0620	Early childhood care and Education Practicals	0	2	2
		Total			8	4
3.	Resource Management	21HSCU0407	Resource Management Concepts and Contexts	4	0	4
		21HSCU0408	Resource Management Concepts and Contexts Practicals	0	2	2
		21HSCU0515	Family Finance and Consumer Behaviour	4	0	4
		21HSCU0516	Family Finance and Consumer Behaviour Practicals	0	1	1
		Total			8	3
4.	Textiles and Clothing	21HSCU0409	Fiber to Fabric	4	0	4
		21HSCU0410	Basics of Apparel Designing Practicals – I	0	2	2
		21HSCU0513	Textiles and Clothing	4	0	4
		21HSCU0514	Apparel Designing Practicals – II	0	2	2
		Total			8	4
5.	Extension and Communication	21HSCU0101	Communication and Home Science Extension	4	0	4
		21HSCU0102	Communication and Home Science Extension Practicals	0	2	2
		21HSCU0617	Gender Sensitization for Empowerment	4	0	4
		21HSCU0618	Gender Sensitization for Empowerment Practicals	0	2	2
		Total			8	4

ii) Allied Courses (4 courses)

S. No.	Branches of Home Science	Course Code	Course Title	Credits		
				T	P	Total
1.	Food Science and Nutrition; Food Service Management	21HSCU01A2	Food Chemistry	4	0	4
		21HSCU01A3	Human Physiology	3	1	4
		21HSCU01A4	Food Microbiology	4	0	4
2.	Human Development and Family Studies	21HSCU01A1	Family Dynamics	4	0	4
Total				15	1	16

iii) a. Discipline Centric Electives

S. No.	Branches of Home Science	Course Code	Course Title	Credits		
				T	P	Total
1.	Food Science and Nutrition; Food Service Management	21HSCU04D1	Food Processing	3	0	3
		21HSCU04D2	Food Service Management			
		21HSCU04D3	Nutrition for Health and Fitness			
		21HSCU04D4	Techniques of Food Analysis			
2.	Human Development and Family Studies	21HSCU04D5	Life Skills Education	3	0	3
3.	Resource Management	21HSCU04D6	House Keeping	3	0	3
4.	Textiles and Clothing	21HSCU04D7	Basic Sketching and Rendering	3	0	3
5.	Extension and Communication	21HSCU04D8	Entrepreneurship Development	3	0	3
6.	Inter-disciplinary	21HSCU04D9	Basics of Research Techniques and Statistics	3	0	3

iii) b. Discipline Centric Electives

S. No.	Branches of Home Science	Course Code	Course Title	Credits		
				T	P	Total
1.	Food Science and Nutrition; Food Service Management	21HSCU05D1	Technology of Food Preservation	3	0	3
		21HSCU05D2	Food Hygiene and Sanitation			
		21HSCU05D3	Food Safety and Quality Control			
2.	Human Development and Family Studies	21HSCU05D4	Children with Disabilities	3	0	3
3.	Resource Management	21HSCU05D5	Designing and Furnishing Life Space	3	0	3
4.	Textiles and Clothing	21HSCU05D6	Basics of Fashion Illustrations	3	0	3
5.	Extension and Communication	21HSCU05D7	Programmes for Rural Families	3	0	3
6.	Inter-disciplinary	21HSCU05D8	Preparatory Course for Competitive Examination*	3	0	3

*For ESE question paper pattern is 100 multiple choice questions

iv) Generic Electives:

S. No.	Course Code	Course Title	Credits		
			T	P	Total
1.	21HSCU00G1	Basics of Nutrition and Food Science	3	0	3
2.	21HSCU00G2	Nutrition Throughout Life	3	0	3
3.	21HSCU00G3	Nutrition for Health and Fitness	3	0	3
4.	21HSCU00G4	Adolescence and Life Skills Education	3	0	3
5.	21HSCU00G5	Children with Disabilities	3	0	3
6.	21HSCU00G6	Perspectives of Home Science	3	0	3
7.	21HSCU00G7	Family Clothing	3	0	3
8.	21HSCU00G8	Communication for Development	3	0	3
9.	21HSCU00G9	Programmes for Rural Families	3	0	3

v) Modular Course:

S. No.	Branches of Home Science	Course Code	Course Title	Credits/Contact Hours
1.	Food Science and Nutrition; Food Service Management	21HSCU06M1	Assessment of Nutritional Status	2
		21HSCU06M6	Public Health Nutrition	2
2.	Human Development and Family Studies	21HSCU06M2	Infant Stimulation Programme	2
		21HSCU06M7	Geriatric Care	2
3.	Resource Management	21HSCU06M3	Fundamentals of Ergonomics	2
		21HSCU06M8	Renewable Sources of Energy	2
4.	Textiles and Clothing	21HSCU06M4	Wardrobe Planning	2
5.	Extension and Communication	21HSCU06M5	Advocacy and Behaviour Change Communication	2
		21HSCU06M9	Participatory Learning and Action	2

Part IV

ii) Skill based Elective

Sl. No.	Branches of Home Science	Course Code	Course Title	Credits		
				T	P	Total
1.	Food Science and Nutrition; Food Service Management	21HSCU05S1	Bakery and Confectionery	0	2	2
		21HSCU05S2	Evaluation of Food Quality			
2.	Human Development and Family Studies	21HSCU05S3	Adolescents Relations and Wellbeing	0	2	2
		21HSCU05S4	Skills for Working with Children			
3.	Resource Management	21HSCU05S5	Care and Maintenance of Household Equipments	0	2	2
		21HSCU05S6	Waste to Wealth			
4.	Extension and Communication	21HSCU05S7	Preparation of IEC Materials	0	2	2
		21HSCU05S8	Video for Development			
5.	Textiles and Clothing		Textile Craft	0	2	2
			Soft Toy Making			

Value Added Courses:

S. No.	Branches of Home Science	Course Code	Course Title	Credits		
				T	P	Total
1.	Food Science and Nutrition; Food Service Management	21HSCU0VA1	Microgreen Production and Uses			2
		21HSCU0VA2	Design Your Diet			2
		21HSCU0VA3	Value Addition of Vegetables and Fruits			2
2.	Human Development and Family Studies	21HSCU0VA4	Parenting			2

Part III – Major Courses

Fundamentals of Food Science and Nutrition

Code: 21HSCU0203

Credits: 4

Pd/Wk:4

Marks: 100

Learning objectives:

Enable the students to

1. Obtain knowledge of different food groups, their composition and nutrients present in the foods
2. Study the different methods of cooking and their effect on nutritive value of foods
3. Understand the vital link between foods, nutrition and health
4. Gain knowledge on functions, requirements and effects of deficiency of nutrients

Learning outcomes:

On Successful Completion of this course, the students will be able to

- Summarize and critically discuss the fundamental and applied aspects of Food Science and nutrition.
- Able to explain the functions of specific nutrients in maintaining health and the basic concepts of cooking and processing methods.
- Identifying nutrient specific issues and apply the principles to solve practical as well as real world problems.

Course Content

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

- 1.1 Definition and Terms used in Food Science and Nutrition
- 1.2 Health, Food, Nutrition, Nutrients: Macronutrients (Carbohydrates, Proteins and lipids) and Micronutrients (Vitamins and Minerals), and Malnutrition
- 1.3 Various classifications of Foods and Food Groups
- 1.4 Definition, Classification and Functions of Foods, Basic Food Groups and Need for Grouping Foods and Application of Food Groups In Planning Adequate/Balanced Diets
- 1.5 Culinary terms and Methods of Cooking
 - An Overview of culinary terms
 - Different Modes of heat transfer like Radiation, Conduction and Convection - Moist heat methods like Boiling, Simmering, Poaching, Steaming, Pressure cooking - Dry heat methods: Air as medium of cooking: Grilling, broiling, roasting, Baking , - Fat as medium of cooking: Sautéing, Shallow fat frying, Deep fat frying - Combined (Moist and dry) Methods: Braising, Stewing
 - Other cooking methods:-Microwave cooking, and Solar cooking.
 - Advantages and Disadvantages of Cooking methods

Unit-II: Nutritional Significance of different Food Groups

Basic Concepts, classification, Composition, nutritive value and Role in Cookery

- 2.1 Cereals and Cereal Products- (a. Types of cereals: wheat, rice, millets, b) Cereal Products Flaked rice, puffed rice, wheat flour).
- 2.2 Pulses and Legumes
- 2.3 Fruits, and Vegetables
- 2.4 Salt, Sugar and Jaggery
- 2.5 Nuts, oils and Oil seeds
- 2.6 Milk and Milk Products
- 2.7 Eggs, meat, poultry and fish
- 2.9 Spices & Condiments

Unit-III: Macronutrients

Definition, Classification, Dietary Sources, Functions, Recommended Dietary Allowances, clinical signs and symptoms of Deficiency diseases and Excess of

- 3.1 Energy
- 3.2 Carbohydrates
- 3.3 Proteins
- 3.4 Lipids
- 3.5 Water

Unit-IV: Minerals

Definition, Classification, Distribution of minerals in the body, Functions, sources, requirements and effects of deficiencies of Minerals of

- 4.1 Calcium
- 4.2 Phosphorus
- 4.3 Magnesium
- 4.4 Sodium
- 4.5 Potassium
- 4.6 Selenium
- 4.7 Iron
- 4.8 Zinc
- 4.9 Iodine
- 4.10 Copper
- 4.11 Fluorine

Unit-V: Vitamins

Classifications, functions, sources, Clinical signs and symptoms of deficiency, requirements of

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

References:

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

Textbooks:

1. Srilakshmi, B. (2017) *Nutrition Science*, New Age International (P) Ltd., New Delhi,.
2. Maney S (2008). *Foods, Facts and Principles*, 3rd Edition Published by Wiley Eastern, New Delhi.

Fundamentals of Food Science and Nutrition Practicals

Code: 21HSCU0204

Credits: 2

Pd/Wk:4

Marks: 100

Practical

1. Market survey of locally available food items like cereals, pulses, fruits and vegetables, milk and milk products, fats and oils, nuts and oilseeds, sugar and jaggery, meat, fish, and poultry and miscellaneous food items like biscuits, jams, jellies, ketchup etc. and their cost.
2. Controlling techniques: Weights and measures - standard and household measures for raw and cooked foods.
3. Weights and Measures, Determination of Edible Portion of Foods, preparing market order and table setting.
4. Food Preparation, understanding the principals involved, nutritional quality and portion size of 5-7 commonly consumed recipes in each food group.
 - Cereals: rice, chapathi, poori, pastas etc
 - Pulses: Whole, dehusked- Dal, sambar, kootu, Chole, Rajmah, etc
 - Vegetables: Dry preparations, Curries
 - Milk and milk products: Kheer, Custard,
 - Egg preparations- Boiled, poached, fried, scrambled, omelettes
5. Preparation of sprouted legumes and malt powder.
6. Determination of nutritive value of selected Indian recipes by using food composition table.
7. Classify foods on the basis of nutrients:-Protein, Iron, Calcium, Vitamin A, Vitamin C.
8. Estimation of water and dry matter content of the foods
9. Estimation of starch content of food by anthrone method
10. Estimation of crude fibre content of the foods
11. Estimation of protein content of food by kjeldhal method
12. Determination of fat content of food by soxhlet method
13. Estimation of Vitamin C content of food
14. Determination of ash content of foods
15. Qualitative tests for minerals – Calcium, phosphorus & iron

Normal and Therapeutic Nutrition

Code: 21HSCU0511

Credits: 4

Pd/Wk:4

Marks: 100

Learning objectives:

Enable the students to

1. Study nutritional needs at different stages of life span
2. Gain experience in planning adequate diets for different age groups and for different income groups.
3. Understanding the principles involved in therapeutic diet modification, requirements, nutrient composition of human milk, artificial feeding.
4. Acquire knowledge on the clinical, biochemical changes and dietary management of various disease.

Learning Outcomes:

On Successful completion of this course, the students will be able to

- Design food plans and assess the adequacy of diets to meet the nutritional needs of humans at various stages of life cycle.
- On completion of the course students will be able to critically assess nutritional requirements of an individual.
- Develop the knowledge, skills and attributes required to meet entry level competency required for a dietician

Course Content

Unit-I Meal Planning

Food groups and concept of balanced diet, Food exchange list, Concept of Dietary Reference Intakes, purposes of recommending the Dietary Allowances, Factors affecting Recommended Dietary Allowances. Factors affecting meal planning and food related behavior. Dietary Diversity, Dietary guidelines for Indians and food pyramid.

Nutrition during adult years and elderly: Reference Man and Reference Woman, Food and nutritional requirements for adults doing different activities.

Nutrition during Aging: Processes of aging, Nutritional requirements of elders, Nutrition related problems of old age, Dietary guidelines and diet modifications.

Unit-II: Nutrition in Pregnancy and Lactation

Physiological changes occurring during Pregnancy. Importance of food and nutritional care and requirement during pregnancy, General dietary and nutritional problems and complications.

Physiology and hormones involved in Lactation, Food supplements and galactogogues. Factors affecting the volume and composition of breast milk, Nutritional Requirements during lactation.

Unit-III: Nutrition in Infancy, Childhood & Adolescence

Growth and development of infants, Composition of human milk and Infant Milk Substitutes, Bottle feeding and related Problems, Weaning and Supplementary feeding foods, Feeding problems and complications. Use of growth charts and standards and prevention of growth faltering.

Growth and Development and Nutritional requirements of Pre School, School Going Children and Adolescence. Growth Spurt during Adolescence and importance of nutrients. Management of nutritional and behavioral Problems and eating disorders in childhood and adolescence.

Unit - IV: 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.

Obesity & Underweight - Aetiology, assessment, complications and principles of dietary management

Febrile conditions - Typhoid, Tuberculosis and Malaria -causes, symptoms, metabolic changes in fever and dietary management.

GI tract diseases- peptic ulcer, GERD, Liver diseases - Jaundice, Cirrhosis: - etiology, types, symptoms and dietary management

Unit -V: Diseases of the cardiovascular system

Atherosclerosis- etiology, symptoms, complications and principles of diet management.

Hypertension - etiology, types, symptoms and dietary management

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

Renal diseases – glomerular nephritis, nephrosis, acute renal failure, chronic renal failure, dialysis, Kidney stones: etiology, symptoms and dietary management

References:

1. Antia, P. (1989) Clinical Nutrition and Dietetics, Oxford University, Mumbai.
2. Mahan, L.K. and Escott-Stump, S. (2007): Krause's Food Nutrition and Diet Therapy, 12th Edition, W.B. Saunders Ltd.
3. Mayrice. E. Shills, James, A.Olsen, Moshe Shihe, (2012) Modern Nutrition on Health and Disease, Vol.1 & 2, 11th edition, Lea and Pediger, Philadelphia.
4. Davidson. S.S. Passmore, , Martin A. Eastwood. F. (1989) Human Nutrition and Dietetics, 9th Edition F & S Lingstons Edinburgh and London
5. Longvah, T, Ananthan, R, Bhaskarachary, K, Venkaiah, K. (2017). *Indian Food Composition Tables (IFCT)*, Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
6. Recommended Dietary Allowances and Estimated Average Requirements Nutrient Requirements for Indians – 2020. A Report of the Expert Group Indian Council of Medical Research National Institute of Nutrition. NIN, Hyderabad

Text books:

1. Mahtab, S, Bamji, Kamala Krishnasamy, Brahmam, G.N.V. (2019). *Text Book of Human Nutrition*, Fourth Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
2. B. Srilakshmi,(2014) *Dietetics*, 7th edition, New Age international Private Ltd

Normal and Therapeutic Nutrition Practicals

Code: 21HSCU0512

Cr: 2

Pd/Wk: 4

Marks: 100

Practical

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 bland diet for peptic ulcer
12. Planning of diet for Jaundice
13. Planning and preparation of diet for Type II Diabetes mellitus
14. Planning and preparation of diet for Acute glomerular nephritis

Fundamentals of Human Development

Code : 21HSCU305

Cr: 4

Pd/Wk: 4

Marks : 100

Learning Objectives:

Enable the students to

1. Become knowledgeable about the basic concepts in Human Development.
2. Understand the characteristics, needs and developmental tasks of different stages of life span.
3. Develop skills to work with human beings across life span.

Learning Outcomes:

On Successful completion of this course, the students will be able to

- Explain the need and importance of studying human growth and development across life span
- Identify and acquire skills in facing the challenges at each stage of life
- Apply the knowledge in handling human beings across life span.

Course Content

Units -I: Fundamental concepts

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

Unit -II: Pre-natal Development and Child Birth Process

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

Unit-III: Infancy, Babyhood and Early Childhood

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

Development during Babyhood and Early Childhood: Physical, motor, cognitive, language, social, and emotional development. Developmental tasks. Behaviour problems and handling the problems.

Unit -IV: Late Childhood and Adolescence

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

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

Unit -V: Adulthood

Early adulthood Characteristics of early adulthood; developmental tasks; Marital and Parenthood adjustments

Middle adulthood Characteristics; developmental tasks; adjustment to physical changes, social adjustments

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

References:

1. Berk, L.E. (2017). Child development (9th ed.). New Delhi: Prentice Hall.
2. Bhangaokar, R., & Kapadia, S. (in press). Human Development Research in India: A historical overview. In G. Misra (Ed.), Hundred years of Psychology in India. New Delhi: Springer.
3. Feldman, R., & Babu, N. (2009). Discovering the life span. New Delhi: Pearson
4. Kakar, S. (1998). The inner world. Psychoanalytic study of childhood and society in India. Delhi: Oxford University Press.
5. Kapadia, S. (2011). Psychology and human development in India. Country paper. International Society for the Study of Behavioural Development Bulletin Number 2, Serial No. 60, pp.37-42.
6. Keenan, T., Evans, S., & Crowley, K. (2016). An introduction to child development. Sage.
7. Lightfoot, C., Cole, M., & Cole, S. (2012). The development of children (7th ed.). New York: Worth Publishers.
8. Santrock, J. (2017). A topical approach to life span development (9th ed.). New NY.: Mcgraw-Hill Higher Education.
9. Singh, A. (2015). Foundations of Human Development: A life span approach. ND: Orient Black Swan.
10. Walsh, B.A., Deflorio, L., Burnham, M.M., & Weiser, D.A. (2017). Introduction to Human Development and Family Studies. NY: Routledge

Fundamentals of Human Development Practicals

Code: 21HSCU306

Credits: 2

Pd/Wk: 4

Marks : 100

Practical

1. Preparation of an album on developmental mile stones of children
2. Visit to Anganwadi
3. Plot and interpret Growth Monitoring Chart
4. Observation of child rearing practices of families in different social class
5. Organize an educational programme to young mothers on immunization and weaning
6. Carry out case studies of toddler, school going child, adolescent, middle aged and aged
7. Plan games and activities for school age children
8. Interviews of adolescent girls and boys to understand their life style and behavior based on gender and socio-economic status
9. Study the health problems of middle aged and aged
10. Visit to old age homes

Early Childhood Care and Education

Code: 21HSCU0619

Credits: 4

Pd/Wk: 4

Marks:100

Learning Objectives:

Enable the students to

1. understand the importance of ECCE
2. develop an insight into the educational thoughts of Indian and western educationists on ECCE
3. develop awareness of ECCE policies and programmes in India
4. gain skills in designing the curriculum for children below six years

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Explain the importance of Early Childhood Years and Significance of intervention programmes for early childhood development
- Describe the policies and programmes of ECCE in India
- Plan Developmentally appropriate activities for children in various age groups.
- Organize parent education programme.

Course Content

Unit –I: Concept and Significance of ECCE

Understanding terminologies, “Child”, “Childhood”, and “Early Childhood Care and Education” · Importance and significance of ECCE .

Contributions of Thinkers and Educationists in ECCE – educational thoughts of Frobel, John Dewey, Montessori, Gandhi, Tagore and Aurobindo on understanding of childhood and programmes and for young children.

Unit –II: Policies and Programmes in ECCE in India

ECCE Policy Framework: National Policy on Education (1986), Article 45 in Indian Constitution and 86th Amendment, National Curriculum Framework (2005), ECCE in Right to Education (2010) and commitment to International Convention, such as; Education for All (EFA), Millennium Development Goals (MDG); National Policy on ECCE (2013).

Programmes and provisions in ECCE in Indian: Public Sector: ICDS; Rajiv Gandhi Crèche Scheme; ECCE in SSA; Private sector provisions in ECCE; Voluntary Sector initiatives in ECCE.

Unit-III: Physical arrangements needed for an ideal ECCE centre

Building, site, safety, space; Furniture – types, shapes, safety. Other equipment – play equipment – selection, use and storage. Setting up the learning environment – indoor area, outdoor area, learning activity corners. Quality Standards as per ECCE policy.

Unit –IV: Early Childhood Curriculum

Definition and concept of curriculum: Curriculum Approaches – Subject centered, learner centered, community centered. Developmentally appropriate practice (DAP) – definition and core considerations, myths and consequences of developmentally inappropriate ECE practices. Components and essential features of developmentally appropriate ECCE curriculum. Planning a developmentally appropriate curriculum – approaches, key principles and types of plans.

Unit –V: Organizational Management, Community Involvement and Evaluation of ECCE Programmes

Evaluation of ECCE programmes infrastructure, safety, → ECCE professionals- competence, skill and methodology. Maintenance of records. Working with parents and community for continuity of home–school interactions. Evaluation of pre school participation.

References:

1. Fleer, M. (2010). Early learning and development: Cultural –historical concepts in play. Cambridge: Cambridge University Press
2. Kaul, V. (2009). Early Childhood Education Programme. National Council of Educational Research and Training. New Delhi
3. Aggarwal, J. C. (2007). Early Childhood Care and Education: Principles and Practices. Shipra: New Delhi.
4. Morrison, G. S. (2003). Fundamentals of early childhood education. Merrill/Prentice Hall:
5. Arni, K. and Wolf G. (1999). Child Art with Everyday Materials. TARA Publishing.
6. Mohanty, J. Mohanty, B. (1996). Early childhood care and Education. Deep And Deep Publication, New Delhi.
7. Muralidharan, R. and Banerji.V. (1989) A Guide Booklet of nNursery Teachers, New Delhi : NCERT.
8. Virginia Singh, A. (1995). Playing to Learn: A training manual for Early Childhood Education. M. S. Swaminathan Research Foundation.
9. Swaminathan, M. (1998). The First five Years. Sage Publications

Early Childhood Care and Education Practicals

Code: 21HSCU0620

Credits: 2

Pd/Wk: 4

Marks:100

Practical

1. Visit to Anganwadi and assess physical infrastructure, facilities and resources available in the centre
2. Conduct Interview with AWW in order to understand the challenges faced by them and Interviews with 2-3 families regarding the access and satisfaction of ECD services
3. Visit to a Nursery school and assess physical infrastructure, facilities and resources available in the centre
4. Identify appropriate features of physical social environments that will promote all round development in young children
5. Identify, plan and record activities and methods of playful interactions to foster development in children birth –two years
6. Identify, plan and record activities and methods of playful interactions to foster development in children two –six years
7. Organise Workshops in any two of the following
 - Understanding childhood nutrition and health
 - Developing work sheets to teach concepts
 - Enhancing social and language skills
 - Music, movement and drama for children
8. Curriculum planning and space design
9. Methods and tools to assess progress of children and programme
10. Setting up a crèche /preschool

Resource Management Concepts and Contexts

Code: 21HSCU0407

Credits: 4

Pd/Wk: 4

Marks:100

Learning Objectives:

Enable the students to

1. Learning to identify and manage the use of resources available for functional use
2. Setting realistic goals and being practical and prudent in the use and management of limited resources by making intelligent decisions
3. Becoming money, time and energy conscious in daily living.
4. Understand and apply the basic principles of art in Interior decoration.
5. Understand the elementary principles of planning a house and its interior arrangement

Learning Outcomes

On Successful Completion of this course, the students will be able to

- Understanding on the concepts related to family resource management
- Appreciation of the significance of management process in efficient use of resources
- Imbibing nuances of human values and standards for successful management and decision making
- Focus on management of human energy as a family resource
- Application of principles of design in every day life.

Course Content

Unit –I: Introduction to Resource Management in Family Settings

Introduction to home management- meaning, definition, universality and scope of family resource management, Process of Home Management, Managerial inputs-values, goals and standards – their interrelationship.

Resources - Concept, classification and characteristics of family resources Maximizing use of resources and resource conservation.

Decision Making- the crux of management, Types of decisions; factors of control, role of values, standards and goals in decision making process.

Management process: Definitions and steps in management process: Planning, Controlling, Organizing and Evaluation, Significance of managing resources of the family

Unit –II: Resource Management Process

Management process applicable to specific resources:

Money- sources of income, meaning of income and expenditure, steps in money management, Budgeting- budget items, methods of handling money

Time – concept of time schedule, time norms and peak loads

Energy – Types of effort (Manual, pedal, visual etc), Concept of body posture, drudgery and fatigue, fatiguing activities, classification of activities (sedentary, moderate and heavy), methods of alleviating fatigue, Principles of Work simplification, Mundel's Classes of Change

. **Unit –III: 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.

Unit –IV 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.

Unit –V: 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. Goldstein, H and Goldstein,V (1958). Art in Everyday Life. Macmillan company.
3. Varghesese, M.A.et al (1994). Home Management. New Delhi: Viley Eastern. Ltd.
4. Deshpande, R.S. (1982). Cheap and Health Homes for Middle Classes. Poona: United Book Corporation.
5. Deshpande,R.S. (1982) Modern Ideal Homes for India. Poona: United Book Corporation.

Text books:

1. Nickell,P and Dorsey,J.M (1978). Management in Family Living. New Delhi: John Wiley and Sons.
2. Soundararaj, (1996). A Textbook of Household Arts, Fourth Edition, Orient Longman Limited.

Resource Management Concepts and Contexts Practicals

Code: 21HSCU0408

Credits: 2

Pd/Wk: 4

Marks:100

Practical

1. Comprehend and give a write up on values held and goals set – different age groups
2. Identify resources in and around a family, their use and benefits accrued: Prepare an Inventory
3. Harnessing natural resources:- solar devices, windmills, rain water harvesting, water conservation measures
4. Conservation of community and natural resources for optimization: Portfolio
5. Identification and development of self as a resource.- SWOC analysis
6. Preparation of time plans for self and family
7. Drafting family budget for different income groups
8. Time and Motion Studies for simplifying work- Flow process chart etc
9. Ergonomic analysis of different work, work places and appliances as sources of drudgery
10. Trial experiments on time and energy management using different household appliances
11. Evaluation of art objects.
12. Exposure to flower holding containers and accessories
13. Practicing flower arrangement in different style
14. Preparations of, greeting cards and floor decorations
15. Drawing floor plans for low and middle income group families –
16. House visit to observe the different types of kitchen
17. Visit to modular kitchen shop
18. Visit to furniture shops to study the types and styles of furniture
19. Evaluation of room arrangement.

Family Finance and Consumer Behaviour

Code: 21HSCU0515

Credits: 4

Pd/Wk: 4

Marks:100

Learning Objectives:

Enable the students to

1. Provide situations to understand significance of family income and expenditure and saving for future
2. Register and react as responsible consumers
3. Analyze relevance of consumer movement in India
4. Gain knowledge on consumer protection Laws and Acts and reflect upon personal rights and responsibilities

Learning Outcomes

On Successful Completion of this course, the students will be able to

- Becoming familiarized to the changing trends in consumerism
- Enriched Knowledge on market systems
- Emerge as informed consumers
- Review the benefits of planned financial management

Course Content

Unit-I: Consumer and the Market

Consumer: definition and meaning; consumer Vs customer; Role of consumers in the economy, National Income, Per Capita Income, Household wise distribution of income; Classification of Consumer goods; Consumer and the market: definition and classification of markets, types; Consumer behaviour: changing nature of consumer behaviour to suit modern market and business trends – concepts of C2C, B2B, B2C, C2B etc; Factors influencing Consumer behavior

Meaning, characteristics of buyer behaviour, buying motives – types; consumer buying process; Change in consumer purchase practices in the digital market – concept of e-commerce, m-commerce, online shopping etc; Extended use of plastic currency and cards

Unit –II: Household Income and Expenditure

Household Income – Types, Sources, Supplementation of family income, use of family income, Household expenditure: Items of expenditure, mental and written plans, Factors influencing expenditure pattern, Account maintenance: methods of account keeping like balance sheets, account books, ledgers, income-expenditure records; Personal finance management: Tax implications: significance in budgeting, calculation of personal income tax for an individual's monthly income; Engel's Laws of consumption, drafting well balanced family budgets

Unit III: Family Savings and Credit practices

Consumer credit- Concept, meaning, need, sources, credit cards, credit services availed by the family

members, types of loans availed by families; Mortgages: Definition and conceptual meaning, significance in meeting emergent needs of expenditure; Financial security arrangements: Family savings and investments- need ,principles, channels of investment; Savings and savings institutions- Post office, Banks, Chit funds, Insurance.

Unit IV: Consumerism in India

Consumerism: genesis, reasons for consumer movement; Historic Declaration of Consumer rights; Consumerism in India; Consumer problems – types, nature , causes and solutions; Concern for the Consumer : Consumer education: Meaning and definition; need and scope, objectives, aspects, methods, contents and resources, Problems

Consumer aids: classification – Labels, Trademarks, Brand Names, Patents, Warranty, Guarantee., Unfair consumer practices: adulteration and faulty weights and measures

Unit V: Consumer Protection

Consumer protection: concept, need and significance; Consumer rights and responsibilities in India
Consumer redress: role of consumer forums and consumer courts in safeguarding consumers
Consumer Protection Act 1986 (COPRA) , Alternative redressal mechanisms, Mediation centres;
Standardization and quality control measures: Role of BIS, FPO, AGMARK, ISO, Consumer Protection Act 2019

References:

1. Gangawane, L. V., and Khilare V. C. (2007).Sustainable Environmental Management: Dr Jayshree Deshpande Festschrift Volume. Delhi: Daya
2. Gupta, C.B., and Nair, R.N. (2004). Marketing Management. New Delhi: Sultan Chand and Sons
3. Kathiresan, S., and Radha, V. (2004). Marketing. Chennai: Prasanna Publishers
4. Khanna S.R., Hanspal S., Kapoor S., & Awasthi H.K. (2007).Consumer Affairs.New Delhi: Universities Press India Pvt.Ltd.
5. Nair R., and Nair S, R. (2003).Marketing. New Delhi: Sultan Chand and Sons
6. Nair, S (2002). Consumer Behaviour. New Delhi: Sultan Chand and Sons.
7. Pattanchetti, C.C., and Reddy (2002). Principles of Marketing. Coimbatore: Rainbow Publishers

Family Finance and Consumer Behaviour Practicals

Code: 21HSCU0516

Credits: 1

Pd/Wk: 2

Marks:100

Practical

1. Evaluation and designing of advertisements in the print media including products, services and social ads.
2. Evaluation and designing of informative and attractive labels for different type of food products.
3. Case study of banks and post offices to understand their services and products
4. Learning to fill different bank forms for depositing money, start fixed deposit or recurring deposit
5. Food adulteration tests
6. Debates on:
 - a. Consumer credit – merits and demerits
 - b. Online shopping – advantages and disadvantages
 - c. Credit and debit card usage – pros and cons
7. Visit to consumer Forums and consumer courts to understand their operational procedures
8. Visit to ISI regional office and learn their nexus of operation
9. Visits to various types of consumer markets to find out how they function
10. Do an elaborate Market study to identify labels and packaging and the information transfer expected in different consumer products
11. Learn to distinguish one mark from another from the logo and colour of logo like eco labels, green labels
12. Calculate taxable income and accruing tax for an individual whose occupation, monthly income, savings and like are specified
13. Compare provisions made in Consumer Protection Act 1986 with COPRA 2019

Fiber to Fabric

Code: 21HSCU0409

Credits: 4

Pd/Wk:4

Marks: 100

Learning Objectives:

Enable the students to

1. Understand the textile fibers, their properties and uses.
2. Impart knowledge on spinning, fabric production

Learning outcomes:

On Successful completion of the course, the students will be able to

- Identify the different types of textile fiber, manmade fiber, and basic units of fibers.
- Explain the yarn manufacturing process and its structure.
- Describe the fabric structure like simple and fancy weaves.

Course content

Unit-I: Introduction to Textile Fibers

Definition, Meaning, Classification of Textiles Fibers- Natural fiber-cotton, Jute, silk, wool - manufacturing process, properties and end uses. Minor Textile fibers-, manufacturing process properties and uses.

Unit -II: Regenerated fibers

Rayon and acetate - manufacturing process, properties and end uses. Synthetic fibers-Nylon, Polyester, Acetate, spandex and Acrylic - manufacturing process, properties and end uses.

Unit -III Spinning

Yarn construction – Definition- Directions of yarn Twist : Z, S twist, Process of yarn construction, Types of spinning, Dry, Wet, Melt , Conventional spinning, Non conventional spinning, Yarn classification – Simple yarn, Complex yarn, Textured yarns, Spun yarns, Yarn number or Yarn count – Direct and Indirect system. Yarn Twist – Direct twist.

Unit -IV Weaving

Definition, parts and functions of simple loom. Types of weaves- Basic weaves – plain, twill weave and fancy weaves- honeycomb, Huck-a-back. Knitting- Definition, classification of knitting- Single Jersey, Rib. Non-woven fabric - Definition, classification, manufacturing process, Properties and end uses. Knotting, Lacing, Braiding and Felting – properties and end uses.

Unit –V: Apparel designing

Body measurements, Importance of taking body measurements in garment construction. Preparation of fabric before construction, Pattern Making - Drafting, principles of Drafting, Draping and commercial patterns, Layout planning - types of lay out. Fitting- definition, principles of good fit, fitting techniques.

References:

1. Clarke – **Introduction to printing.**
2. E.P.G. Gohl, L.D. Velensky, **“Textile Science”** CBS Publishers and Distributors, 2003
3. A.J. Hall. **“The standard hand book of Textiles”**, Wood head Publishing 8th edition 2004.
4. P.V. Vidyasagar, **“Hand Book of Textiles”**, A. Mittal Publications, 2005
5. Sara J. Kadolph, **“Textiles”**, Prentice Hall, 10th edition 2007

Text books:

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-** 6th Ed., Fort worth Harcourt, Brace Jovaniach college publishers, 1993.
7. Text book- Textile Science- Deepali Rastogi, Sheetal Chopra.

Basics of Apparel Designing Practicals - I

Code: 21HSCU0410

Credits: 2

Pd/Wk:4

Marks: 100

Practical

Unit - I: Basic stitches

Selection of fabrics, preparation of fabric for various hand stitches - Running, basting, hand overcast, hemming stitch, blind hemming and slip stitches.

Unit - II:

Selection of fabrics, preparation of fabric ,**Seams** – plain, edge, single top, double top, Flat fell, French seam, lapped, piped, slot. **Seam finishes**- pinked, overcast, edge, herring bone.

Unit - III:

Fullness – Selection of fabrics, preparation of fabric for types of darts(Single pointed dart, double pointed dart, neckline dart , arm scye dart and centre front dart), tucks (Pin tucks, scalloped tuck, group tucks, corded tuck), pleats (Knife pleat, box pleat, inverted box pleat, kick pleat , pinch pleat) , gathers (Gathering by hand and gathering by machine)and style line.(Princess cut lines).

Unit - IV:

Selection of fabrics, preparation of fabric for Yokes – and its types- Simple round Yoke, Full round yoke, Straight yoke, Square yoke, Pentagonal yoke , Side yoke , Yoke with and without Fullness.

Unit - V:

Selection of fabrics, preparation of fabric, selection of fasteners – Press button, hook and eye, shirt button, button hole and zips. Finishes – Neckline finishes – Facing, shaped, piping / binding, placket finishing – continuous one piece, two piece bound placket.

References:

1. Tentiles fabrics and their selection-wingate IB,Allied publishers ltd,Chennai.
2. Family clothing –Tate of glession, john wileys son Inc. illionis
3. Stanyer, Peter, “The Complete Book of Drawing Techniques” – Arcturus Publishing Limited for Book Mart Limited 2003
4. Harold Carr & Barbara Lathem, The Tachnology of Clothing Manufacture, Oxford Pub, USA, 1994
5. Practical Clothing Constructing-Part I and II, Mary Mathews, Cosmic Press, Chennai (1986)
6. Zarapker System of Cutting- Zarapker. K. R, Navneet Publications ltd.
7. Practical cutting and tailoring part II Eshwasri Anwahi, Lakhraj Hans R.B Publications, Delhi
8. Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991
9. Edith Tomory, “A History of Fine Arts’ in India and the West” – Orient Longman Publishers 1982, reprinted 1999.
10. Hideaki Chijiwa, Colour harmony – “A Guide to creative colour Combination”.
11. Helln Goworek, “Drawing Course a step by sep Guide” Blackwell Publications.

Textiles and Clothing

Code:21HSCU0514

Credit: 4

Pd/Wk: 4

Marks: 100

Learning Objectives:

Enable the students to

1. Impart knowledge of fabric manufacture and fabric characteristics
2. Impart knowledge of textile and clothing, selection
3. Impart knowledge on Textile care, maintenance

Learning Outcomes:

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

- gain thorough knowledge in textile materials.
- classify different finishing processes of textiles, preparatory process.
- know different dyeing process, dyeing equipments, printing process, laundering process, soap and detergent manufacturing process,

Course content

Unit -I: Textile Finishing

Basic finishes-Singeing, Desizing, Scouring, bleaching, Mercerizing, Napping, Calendaring. Special finishes –Antimicrobial, Waterproof finishes, Flame Resistant, Stain Resistant. Finishes suitable to Natural and manmade fibers. (Understanding Concepts only)

Unit-II: Dyeing

Definition of Dyes, 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.

Unit- III: Clothing Selection

Factors influencing the choice of clothing materials for General and textile factors. 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.

Unit-IV: Laundry

Definition-Principles of laundering, Water-Types of water-soft water and hard water. Soap, Detergents and soap less detergents. Methods of washing and types of laundering materials. Laundering and finishing of different fabrics with special refer to cotton, silk, wool and synthetic fabrics.

Unit-V

Dry cleaning and laundering - Methods of finishing damping – Ironing Methods of ironing different garments - Drying equipments. Dry cleaning and storage. Bleaching agents, stiffening agents, blueing

agents. Stain removal-Types of stains, Principles and methods of removal. Care labeling – meaning, various symbols.

References:

1. S.P. Mishra, "A text Book of Fibre Science & Technology," New Age International Ltd.
2. Carpets : Back to Front, Textile progress, Vol.19, No.3 by – L Cegiela MA, The Textile Inst. Publication
3. Textile Floor coverings by G.H. Crawshaw, Textile Progress, Vol.9, No.2, The Textile Inst. Publisher.
4. Interior Furnishings, Textile Progress, Vol.11, No.1, By Mortimer O. Shea, The Textile Inst. Publication
5. Interior Furnishing by Mortimer O.Shea, Textile Progress, Vol.11, No.1, The Textile Institute, Publication.
6. Textiles fabric & Their Selection, Wingate, I.B. Allied Publications Pvt. Ltd., Chennai.
7. Fundamentals of Textiels and Their care. Dantyagi.S. Orient Longman Ltd., New Delhi 1980.
8. Family clothing taste of Glession John wiley & Sons Inc., Illionois latest Edition.
9. Household textiles and laundry work durga Deulkar, Alma Ram & Sons, Delhi

Text books:

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**, 2nd 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. Duellar,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 Bradford 1992.
8. Gin Stiphens Frings, **Fashion from Concept to consumer** 7th Ed New Jeray.
9. Text book- Textile Science- Deepali Rastogi, Sheetal Chopra.
10. Wingate, B.I.(1976). **Textiles Fabrics and their selection**. USA: Prentice Hall. Inc.

Apparel Designing Practicals -II

Code: 21HSCU0514

Credits: 2

Pd/Wk:4

Marks: 100

Practical

Unit - I

Design, draft and construct various garments for Infants, selection of fabrics, cost calculation for Bib, panty and napkins

Unit -II

Design, draft and construct various garments for Infants and toddlers , selection of fabrics, cost calculation for - Jabla and Rompers.

Unit -III

Design, draft and construct various garments for toddlers , selection of fabrics, cost calculation for - ' A ' - Line frock and summer frock.

Unit - IV

Design, draft and construct various garments for kids (Age group 5 to 7 years)- Half pant (Boys) and Night wear

Unit - V

Design, draft and construct various garments for women, selection of fabrics, cost calculation for - Saree petticoat and Apron.

References:

1. Practical Clothing Constructing-Part I and II, Mary Mathews, Cosmic Press, Chennai (1986)
2. Zarapker System of Cutting- Zarapker. K. R, Navneet Publications Ltd.
3. Practical cutting and tailoring part II Eshwasri Anwahi, Lakhraj Hans R.B Publications, Delhi
4. Comdex Fashion Design- Vol-1 Fashion Concepts
5. Elements of fashion and apparel design-G.J. Sumathi
6. Elements of fashion and apparel design Sumathi 81-224-1371-4
7. Encyclopedia of dress making Raul Jewel
8. Stanyer, Peter, "The Complete Book of Drawing Techniques" – Arcturus Publishing Limited for Book Mart Limited 2003.

Communication and Home Science Extension

Code:21HSCU0101

Credits: 4

Pd/wk: 4

Marks : 100

Learning Objectives:

Enable the students to

1. Understand the concept of Communication and its role in exchange of information
2. Examine the models and barriers to communication
3. Develop skills in use of audio visual aids
4. Learn about the concept of Home science extension, extension approaches and models
5. Enhance the students in the selection and use of media in different socio-cultural environment

Learning Outcomes:

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

- Gain knowledge on the need and importance of communication and its significance in exchange of information
- Analyse the models of Communication and role of traditional and modern media in societal development
- Perceive the importance of communication and extension in Home Science
- Acquire knowledge and develop skills on the use of audio visual aids.

Course Content

Unit -I: Communication Concepts

Meaning, definition, nature, scope and importance of communication

Functions of communication – information function, command or instructive function, influence or persuasive function and integrative function.

Elements of Communication – Sender, Message, Channel, Receiver and Feed back

Means of Communication – Oral, Written, Sign –Symbol, signal, action, object. Types of Communication – Formal and Informal Communication Pattern - one way, two way, circular

Unit –II: Communication Models

Models of Communication-Aristotle Model, Shanon – Weaver Mode, Berlo Model, and ScharmmModel, significance of models in communication

Barriers to Communication – semantic, psychological, organizational and personal. How to overcome barriers.

Unit-III. Home Science Extension

Concept, need, components, Objectives, Characteristics, functions, principles and scope of Home science ,Approaches to Home Science extension.

Communication methods in extension – group method, mass method and individual method
Advantages and limitations of communication and extension

Unit -IV: Audio visual aids

Audio – Visual aids – Meaning, classification – Audio aids, visual aids, Audio visual aids.

Factors influencing effectiveness of audio visual aids, Cone of Experience and its importance in home science extension.

Unit-V: Mass Media

Mass media – Meaning, Characteristics, types – Radio, Television, Print media, Media. Print Media Vs Broadcast Media. New communication technologies – computers, e -mail, video conferencing, internet, cyber safes, social media (elementary understanding).

Traditional Media – Folk songs, puppets, Street play, drama and villupattu. Comparison between traditional media and modern media.

Text books:

1. Ray, G.L. (1994). Extension Communication and Management. Calcutta:Maya Prakash.
2. AdiviReddy (2009). Extension Education .Baptla: Sree Lakshmi Press.
3. Chandra,A. and Anupama Joshi. (1989). Fundamentals of Teaching Home Science.

Communication and Home Science Extension Practicals

Code:21HSCU0102

Credits: 2

Pd/wk: 4

Marks : 100

Practical

1. Developing skill in planning and conducting small group communication
2. Preparation of Communication Models
3. Interaction with villagers and understand the felt and unfelt need
4. Carryout a case study using any one Extension approach
5. Evaluation of readily available visual aids/poster
6. Planning, Preparation and evaluation of charts/posters.
7. Conduct an educational programme using folk media.
8. Organization of an exhibition.
9. Visit to a media centre for understanding the video preparation process.
10. Preparation of dialogue for use of puppets
11. Exposure to traditional media.

References

1. Dahama, O.P and Bhatnagar O.P. (1995). Education and Communication for Development. New Delhi: Oxford and IBH Co.
2. Gupta, D. (2007). Development Communication in Rural Sector. New Delhi: Mukhopadhyay Abhijeet Publication.
3. Reddy, A.A. (2001). Extension Education. Bapatla: Sri Lakshmi Press.
4. Rogers Everett, M. (2003). Diffusion of Innovations, 5th Ed. New York: The Free Press
5. Singh, U.K and Nayak, A.K. (2007). Extension Education. New Delhi: Common Wealth Publishers.

Gender Sensitization for Empowerment

Code:21HSCU0617

Credits: 4

Pd/wk: 4

Marks : 100

Learning Objectives:

Enable the students to

1. Sensitize students about various dimensions of gender and development, legal rights and using gender tools and methodologies.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course Content

Unit -I:

Concept of gender, gender roles, gender budgeting, gender auditing, gender mainstreaming, gender analysis matrix, shift from welfare to development and empowerment, gender in development, gender and development,

Need and focus on gender sensitization - gender in community diversity and its implication for empowerment. Difference between gender equity and gender equality

Unit -II:

Gender perspectives in development of women, social characteristics, roles, responsibilities, resources and constraints. Status – Meaning, Status of Women as per latest census report – Gender gaps and their implications,

Unit -III:

National policy for empowerment of women since independence, Developmental programmes for women. Gender mainstreaming in agriculture and allied sectors - need and relevance, Gender budgeting – A tool for empowering women. Gender analysis framework- context, activities, resources and programme action profile

Unit -IV: Violence against women

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

Unit –V: Women and Law

Marriage, dowry, divorce, property, employment and adoption, political participation, Legal literacy for Women, Family Counselling centre : Role and its functions.

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 Puhlishing House.

Gender Sensitization for Empowerment Practicals

Code:21HSCU0618

Credits: 2

Pd/wk: 4

Marks : 100

Practical

1. Studying the status of women in selected village
2. Discussion with community Based Organisation working for women.
3. Visit to District Social Welfare Office to know the programmes for women and gender budgeting.
4. Visit to All Women Police Station to know the legal provisions for women.
5. Preparation of paper clippings on Gender Based violence.
6. Interaction with rural women to know role of women in decision making process.
7. Arranging exhibition at village level to create awareness on women's rights.
8. Preparation of case studies on successful women
9. Gender budgeting at panchayat.

Part III – Allied Courses

Food Chemistry

Code: 21HSCU01A2

Credits: 4

Pd/Wk:4

Marks: 100

Learning Objectives:

Enable the students to

1. Gain knowledge regarding the physical and chemical properties of the food constituents
2. Understand the chemical and physical changes that occur food during processing

Learning Outcomes:

On successful completion of the course, the student will be able to

- name and describe the general chemical structure of major components of foods (water, carbohydrates, protein and lipids)
- explain how changes in overall composition are likely to change the reactivity of food components
- predict how processing conditions are likely to change the reactivity of food components
- analyze the pigment changes during cooking of vegetable by addition of acid and alkali
- understand the physio chemical properties of food

Course Content

Unit –I 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.

Unit – II: Carbohydrates

Classification, structure and properties. Changes of carbohydrate on cooking -solubility, hydrolysis, caramelisation, retrogradation, Maillard reaction and gelatinization of starch.

Unit – III: Lipids

Classification and Chemistry of lipids, properties and fat constant, edible fats and oils – hydrogenation, rancidity and emulsification.

Unit –IV: Proteins

Amino acids – classification, structure, composition, physio-chemical properties of amino acids and proteins; effect of heat acid, alkali on animal and vegetable protein.

Unit -V: Gums, pectins and pigments

Vegetable gums, fat and water soluble pigments; action of acid and alkali on vegetable pigments.

References:

1. H.D.Belitz,W.Grosch and P.Schieberie (2009).Food Chemistry 4th editio ,springer publications
2. Srinivasan Damodaran,Kirk L.Parkin and Owen R.Fennema(2007).Food chemistry (4th edition) CRC Press.
3. Ronsivalli,,L.J. and Vieira, E.R. (1992). Elementary Food Science, 3rdEdition, Chapman and Hall, New York.
4. John M.DeMan (1999) Principles of Food Chemistry, Springer publications.

Text books:

1. Seema Yadav, (1997). Food Chemistry, Anmol Publications Pvt.Ltd., New Delhi.
2. Meyer, (1991). Food Chemistry, AVI Publications, New York.

Human Physiology

Code: 21HSCU01A3

Credits: T3+P1

Pd/Wk:5

Marks: 100

Learning Objectives:

Enable the students to

1. acquire knowledge of the various organs and physiological systems in the human body.
2. understand the functioning of the various systems in human body

Learning Outcomes:

On successful completion of the course, the student will be able to

- Explain the various physiological systems in the human body
- Sketch the structure and anatomy of different organs.
- Understand the complex mechanisms of the processes of digestion, absorption, excretion, gas exchange, reproduction and neuromuscular coordination.
- Able to integrate organ system physiology and the biochemical basis of disease.

Course Content

Unit –I: Introduction to Physiology and Digestive system

Review of cells and tissues – types. Structure and Functions of lymph System

Anatomy of Digestive System – Structure of digestive tract. Process of digestion and absorption- of Carbohydrate, Protein and Fat,; Hormones of GI tract and its role in digestion, movements of GI tract; Liver, Gallbladder, Pancreas and its functions.

Unit –II: Respiratory system

Review of structure and functions. Mechanism of Respiration,, Transport of Respiratory Gases in Blood, Gaseous Exchange in Lungs and tissues Respiratory volumes

Excretory system: Review of structure and functions OF kidney. Nephron-Structure and functions Urine formation. Role of kidney in maintenance of pH of blood. Water - acid base balance, diuretics. Micturition.

Unit –III: Circulatory System

Blood-Composition and functions – RBC, WBC and Platelets. Erythropoiesis, Blood groups and coagulation, blood volume; Structure and functions of heart and blood vessels, junction tissues, cardiac cycle, ECG, . Blood pressure-factors influencing blood pressure.

Immune system: Cell mediated and humoral immunity. Activation of WBC and production of antibodies. Role in inflammation and defense.

Unit –IV: Endocrine and Reproductive system

Endocrine glands – Pituitary, thyroid, adrenals, pancreas- hormones of endocrine glands- its functions and role. Disorders of endocrine glands.

Reproductive system: General anatomy of female and male reproductive system. Menstrual cycle, spermatogenesis, Oogenesis, process of reproduction, Pregnancy and parturition. Mammary glands- structure and lactation. Physiological changes in Menopause.

Unit –V: Nervous system

Structure and functions of brain, spinal cord and neuron, transmission of nerve impulse. Autonomic nervous system. Cerebrospinal fluid and its functions

Sense organs: Review of structure and function skin, eye, ear, nose and tongue in perception of stimuli.

Related Experiences:

1. Identification of blood cells- estimation of Hb, demonstration of blood grouping and coagulation. RBC and WBC count.
2. Recording of BP and pulse rate.
3. Determination of Bleeding Time (BT) and Coagulation Time (CT).
4. Detection of Blood group (Slide method).
5. Measurement of Hemoglobin level (Sahli's or Drabkin method)
6. Interpretation of a blood report

References:

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

Text book:

1. Subramaniam and Kutty, S.M. (2001). Text Book of Human Physiology. New Delhi: S.Chand & Company Ltd.

Food Microbiology

Code: 21HSCU03A4

Credits: 4

Pd/Wk: 4

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course content

Unit-I: Microbiology of Foods

Concept and its history. Microbes in Air, water and soil control and its destruction – Physical and chemical methods. . Food spoilage – Causes, Microbial growth in foods, factors affecting the growth of micro- organisms in food

Unit-II: Contamination and microorganism in spoilage of different kinds of foods

Cereals and cereal products, vegetables and fruits, fish and sea foods, milk and milk products, eggs, meat and meat products, canned and bottled food.

Unit -III: Contamination of water

Microorganisms in contaminated water, test for contamination, standards for drinking water.

Unit –IV: Food Borne Diseases

Sources, symptoms and methods of prevention and control.

Role of microorganisms in fermented foods – soyabean products vegetable and dairy foods, baked items, other preparations, uses of microbes in industry.

Unit-V: 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 William C and Westhoff, Dennis C. Food Microbiology, TMH, New Delhi, 2004
2. Annak.Joshua, (2001). Microbiology, Popular Book Depot. Chennai-18.
3. Jay, James M. Modern Food Microbiology, CBS Publication, New Delhi, 2000
4. Ray, B. (2001) Fundamental Food Microbiology, 2nd Ed, CRC press, Boca raton FL

Family Dynamics

Code: 21HSCU01A1

Credits: 4

Pd/Wk:4

Marks: 100

Learning Objectives:

Enable the students to

1. Acquire knowledge and insights about the dynamics of contemporary marriage and family systems in India
2. Become acquainted with the concept, goals and areas of adjustment in marital relationships and within the family
3. Become aware of the child and family welfare measures.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Explain the roles and functions of the family
- Describe the factors associated with successful marital life
- identify the means to strengthen the intra-family relationships
- analyze the programmes for family welfare.

Course content

Unit -I: 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

Unit -II: 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

Unit -III: Interpersonal relationships within the family

- Individual roles, rights and responsibilities within the family

- Family Interaction and communication – importance and methods of improvement
- Family cohesion- the role of effective communication, compassion, perspective-taking, role distribution, positive conflict resolution, and teamwork.

Unit –IV: Family Crisis

- Family Crisis – Meaning, Forms of family crisis: Marriage, divorce/separation, remarriage, financial instability, poor work-family balance, illness, death, childlessness, child abuse/neglect, family violence, peer pressure, addiction, rape, suicide, unemployment, natural disasters, epidemics and wars

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

Text Books:

1. Dev,I. The Basic Essentials of Counselling NewDelhi: Sterling Publishers Private Limited.

Part III – Discipline Centric Electives

Food Processing

Code: 21HSCU04D1

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. understand the science behind processing of foods and its impact on nutritive value of food stuffs.
2. provide in-depth knowledge on production of processed food products and the waste utilization techniques.
3. understand the changes in physicochemical properties of foods due to processing condition.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Explain the concepts and principles of food processing
- Describe the unit operation in food processing
- Identify the processed food products from plant and animal sources
- Know the by-products from food processing and its utilization

Course Content

Unit –I Cereal and Millets

Structure, composition and nutritive value and processing of major and minor cereals.

Processed products of rice, wheat and maize; By products utilization; breakfast cereals and extrusion; Effect of processing on nutritive value of cereals.

Unit –II Pulses and Legumes

Structure, composition and nutritive value of pulses; processing of pulses; Pulse products: Dals, flours, texturized vegetable protein, protein concentrates, isolates and hydrolysates; Byproducts utilization; Effect of processing on nutritive value and physiochemical properties of pulses.

Unit –III: Fruits & Vegetables

Structure, composition and nutritive value of fruits and vegetables; post harvest changes in fruits and vegetables and storage; Fruit and Vegetable products-sweetened and unsweetened beverages & fermented beverages; Effect of processing on nutritive value.

Unit –IV: Milk and Egg

Milk types, composition, physiochemical properties; Milk processing and its storage; Effects of processing on nutritive value and physicochemical properties of milk; Milk products: Fermented and

non-fermented.

Structure, composition and nutritive value of eggs; Egg quality evaluation methods; Egg processing and storage; Effect of processing on nutritive value and physiochemical properties of eggs; Egg products and its functionality.

Unit –V: Meat, Poultry and Fish

Meat types, structure, composition and nutritive value; Meat processing and storage;

Poultry: Muscle composition and nutritive value; Processing and storage of poultry meat;

Fish: Fish composition and nutritive value; Selection criteria for fish; Processing and storage;

Meat products: Fermented and nonfermented; Byproducts utilization; Effect of processing on nutritive value and physiochemical properties of meat, poultry and fish.

References:

1. Desrosier, N.W. and James N. (2007). Technology of food preservation. AVI Publishers.
2. Srilakshmi, B. 2005. Food Science, New Age International (P) Ltd., Publishers, New Delhi.
3. Potter, N. and Hotch Kiss, J.H. (1996): Food Science, Fifth edition, CBS Publishers and Distributors, New Delhi
Arthey, D. and Ashurst, P.R. (1996). Fruit Processing, Blackie Academic & Professional, London
4. Gould, G.W. (1995). New Methods of Food Preservation, Blackie Academic and Professional, London
5. Julians, B.O. (1985). Rice Chemistry and Technology, 2nd edition, American Association Chemists, St. Paul Mimesota, USA.
6. Charley, H. (1982). Food Science, 2nd edition, John Wiley & Sons, New York.

Food Service Management

Code: 21HSCU04D2

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable students to

- Understand the organization in a hospital dietary service.
- Gain knowledge on planning and organization of work in a dietary department.
- Comprehend the basic concepts in financial and personnel management.
- Know the different styles of food service

Learning Outcomes:

On successful completion of the course, the student will be able to

- Suggest an efficient design by effective allocation of space to ensure smooth work flow in a hospital dietary.
- Plan and organize food production and service in a hospital dietary by effective utilization of resources.
- Acquire good managerial skills

Course Content

Unit -I: Introduction to food service:

Types - Commercial – Hotels, Restaurants, fast food outlets, cafeterias, snack bars, kiosks, vending machines. Non commercial – Hospitals, Nursing homes, Industrial canteens and child care centres. Transport – Air, rail, road and ship catering. Miscellaneous – outdoor, contract and function catering.

Types of Food Service Food Service Systems – Conventional, Commissary, Ready prepare, Assembly Serve Systems. Food service - Types – centralized and decentralized service, Satellite service; Styles – Table service, Buffet, Banquet, Tray service and self service

Unit-II: Planning space requirements and equipments

Physical plant – Planning space requirements in Receiving area, storage area, Preparation area and service area. Classification of equipments electrical and non electrical equipments for food storage, Preparation, serving, dishwashing and laundering.

Unit-III: Management Principles and functions of food service institutions:

Principles of management and Functions: 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.

Unit-IV: Personnel management

Recruitment, selection and induction procedures, Employee facilities and benefits, welfare schemes and laws governing food service institutions.

Unit -V: Buying and accounting procedures in food service institution

Budget and its types, methods of cost control, Cost concepts- types of cost-fixed cost, semi fixed cost, variable cost and calculation of selling price. 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. Kiran (2019), Production planning and control,1st edition, eBook, ISBN: 9780128189375.
4. Kotler, P.(2019). Principles Of Marketing, 13th edition, Pearson. 8. Prasad, L. M. (2019). Principles & practice of Management, Sultan Chand and sons.

Websites

1. 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

Nutrition for Health and Fitness

Code: 21HSCU04D3

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. Understand the components of health and fitness and the role of nutrition in these.
2. Make nutritional, dietary and physical activity recommendations to achieve fitness and well-being.
3. Develop ability to evaluate fitness and well-being.

Learning Outcomes:

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

- The students will be able to know the importance of health and fitness and its role in nutrition.
- The students will be able to develop their ability to evaluate fitness and well-being of an individual.

Course Content

Unit –I Definitions, components and assessment criteria of age

Definition of health and fitness, need and importance of fitness and health status. Holistic approach to the management of fitness and health: Factors influencing health and wellbeing Gender and health. Nutritional status: Definition, methods to assess nutritional status- (Relevant to maintenance of fitness)

Unit-II:

Review of different energy system for endurance and power activity: Fuels and nutrients to support physical activity. Mobilization of fat stores during exercise.

Unit-III:

Approaches to the management of fitness and health; Diet and exercise: Effect of specific nutrients on work performance and physical fitness. Fuel and other nutrients that support physical activity (metabolic pathways. Mobilization of fuel stores during exercise.

Unit –IV:

Significance of physical fitness and nutrition in prevention and management of weight control regimes. Nutrition guidelines for maintenance of health and fitness.Awareness about the alternative systems for health and fitness, like ayurveda, yoga, Meditation, vegetarianism and traditional diets.

Unit-V:

Defining nutritional goals/guidelines appropriate to health, fitness and prevention and management of the chronic degenerative disorder.Nutrition and exercise regimes for pre and post-natal fitness.

References:

1. Mahan, L.K. & Ecott-Stumps, S. (2000): Krause's food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
- 2.Sizer, F. & Whitney, E. (2000): Nutrition – Concepts & Controversies, 8th Edition, Wadsworth Thomson Learning.
3. Ira Wolinsky (ED) (1998): Nutrition in Exercise and Sports, 3rd Edition, CRC press.
4. Parizkova, J. Nutrition, Physical activity and Health in early life, Ed. Wolinsky, I., CRC press.
5. Shills, M.E., Osian, J.A., Shike, N. and Ross, A.C. (Ed) (1999): Modern Nutrition and Health & Disease, 9th Edition, Williams & Wilkins.
6. McArdle, W. Katch, F. and Katch, V. (1996) Exercise Physiology. Energy, Nutrition and Human Performance, 4th edition, Williams and Wilkins, Philadelphia.

Text books:

1. Whitney, E.N. & Rolfes, S.R. (1999): Understanding Nutrition, 8th Edition, West/ Wadsworth, An International Thomson Publishing Co.
2. Shills, M.E., Osian, J.A., Shike, N. and Ross, A.C. (Ed) (1999): Modern Nutrition and Health & Disease, 9th Edition, Williams & Wilkins.

Techniques of Food Analysis

Code: 21HSCU04D4

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. Aware of the concept and importance of food analysis
2. Understand the instruments and methods of food analysis
3. Gain knowledge on advanced experimental techniques in food analysis

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Know the quality attributes of food
- Describe the methods used for testing of food quality
- Apply the knowledge to gain analytical skills

Course Content

Unit -I: Introduction, Food Regulations and Standards

Sampling methods - Sample preparation for analysis; Statistical evaluation of analytical data - Official Methods of Food Analysis. Moisture in foods - determination by different methods - ash content of foods, wet, dry ashing, microwave ashing methods; Significance of Sulphated Ash, water soluble ash and acid insoluble ash in foods; titratable Acidity in foods, determination of dietary fiber and crude fiber.

Unit -II: Determination of nutrients in foods by different methods

Analysis of oils and fats for physical and chemical parameters, Quality standards, and adulterants; different methods of determination of protein and amino acids in foods; determination of total carbohydrates, starch, disaccharides and simple sugars in foods.

Unit -III: Instruments in Food analysis

Spectrophotometric analysis of food additives and food Components -IR Spectroscopy in online determination of components in foods; AAS and ICP-AES in mineral elements and toxic metals analysis; use of fluorimeter in vitamin assay- specific use of Tintometer in vanaspathi analysis.

Unit-IV: Chromatographic Techniques

Basic principles and types of:- Paper chromatography, thin layer chromatography, column chromatography, Ion exchange chromatography, HPTLC, HPLC, UHPLC, GC,GC-MS, Types of detectors ,Uses and applications of chromatographic techniques.

Unit -V: Electrophoresis

Basic Principles, application of electrophoresis in food analysis, refractive indices of oils and fats, total soluble solids in fruit juice and honey, specific rotation of sugars, estimation of simple sugars and disaccharides by polarimeter; Immunoassay techniques and its applications in foods.

References:

1. Wilson and John Walker ,Principles and Techniques of Biochemistry and Molecular Biology (2010), Keith Wilson and John Walker, Cambridge University Press.
2. Skoog, D.A., Holler, F.H. and Nieman (1998): Principles of Instrumental Analysis Saunders College Publishing, Philadelphia.
3. Pomeranz, Y. and MeLoan, C.E. (1996): Food Analysis: Theory and Practice; 3rd Edition, CBS Publishers and Distributors, New Delhi.
4. Fung, D.Y.C. and Matthews, R. (1991): Instrumental Methods for Quality Assurance in Foods, Marcel Dekker, Inc. New York.
5. Herschdoerfer, S.M. (ed) (1968 – 1987): Quality Control in the Food Industry, Vols. 1 to 4, Academic Press, London.
6. Gruenwedel, D.W.; Whitaker, J.R. (editors) (1984): Food Analysis Principles and techniques, Volumes 1 to 8, Marcel Dekker, Inc., New York.

Life Skills Education

Code: 21HSCU04D5

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

To enable the students to

1. Aware of the concept and importance of life skills
2. Understand the core set of life skills
3. gain skills to design and execute life skills training programmes.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Describe importance of life skills for overall wellbeing and value of life skills education
- Explain the core set of life skills
- Apply the knowledge and skills to handle day to day problems positively

Course Content

Unit-I: Concept and Meaning of Life Skills

Definition and concept of life skills and life skills education;

Importance of life skills for overall wellbeing and value of life skills education.

Core life skills: classification, concepts and strategies to enhance these skills .

Unit –II: Skills of Self Management and Empathy

Self Awareness (Self Concept, Self Esteem, Self Image, Techniques for enhancing Self Awareness) and Empathy (Meaning and techniques to enhance empathy)

Coping with emotions (Meaning of emotions, Expressing emotions, Coping with negative emotions, Cultivating positive emotions)

Coping with stress (Types of stress, signs and symptoms, strategies to manage stress)

Unit -III: Social skills

Communication skills (Types of communication, Styles of Communication, Barriers in communication, strategies for effective communication)

Interpersonal Skills (Stages of development , Determinants, Maintaining, sustaining and ending a relationship, conflict resolution)

Negotiation and Refusal skills (Stages of negotiation, Enhancing negotiation skills, refusal skills)

Unit –IV: Thinking Skill

Creative thinking (Process and Strategies for enhancing Creative thinking) , Critical thinking (Process and Strategies for enhancing Critical thinking)

Problem Solving (Stages of problem solving, Models of problem solving, Enhancing problem solving skills)

Decision making (Process, Barriers, Techniques, Decision making in a group)

Unit –V: Life Skills Training Program: Design and Execution

Training Need Analysis

Designing Life Skills Training Program

Conducting Life Skills Training (Facilitation Skills- Building and Maintaining Rapport, Active Listening , Questioning Skills, Engaging Participants, Handling Challenges, Time Management)

References:

1. Dupuy, K., Bezu, S., Knudsen, A. Halvorsen, S. (2018). Life skills in non-formal contexts for adolescent girls in developing countries (CMI Report), Centre for Universal Education at Brookings,Chr. Michelsen Institute. Retrieved from <https://www.brookings.edu/wpcontent/uploads/2018/04/life-skills-in-non-formal-contexts-for-adolescent.pdf>
2. Hodge. K., Danish, S., & Martin, J. (2012). Developing a conceptual framework for life skills interventions. *The Counseling Psychologist*, XX(X) 1-28. DOI: 10.1177/0011000012462073
3. Khera H. &Khosla, S. (2012) A study of core life skills of adolescents in relation to their selfconcept developed through Yuva school life skill programme. *International Journal of Social Science & Interdisciplinary Research*, Vol.1(11), 115-125. •
4. Agochiya, D. (2010).Life competencies for adolescents: Training manual for facilitators, teachers and parents. New Delhi: Sage Publications.
5. National Aids Control Organization, 2008, Adolescence education programme, life skill. Retrieved from https://mahasacs.org/~mahasacs/images/PDFs/aep-teachers_workbook.pdf
6. RGNIYD. (2008) Facilitators manual on Enhancing Life Skills. Tamil Nadu.

House Keeping

Code: 21HSCU04D6

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course content

Unit -I:

Concept of House keeping, layout and organisation structure of housekeeping departments, role and responsibilities of the housekeeping personnel, qualities of housekeeping staff.

Unit -II:

Cleaning equipments - mechanical and electrical equipments used for cleaning. Laundry procedures- dry cleaning, valet service & stain removal.

Unit -III:

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.

Unit -IV:

Furniture selection and its types, flower arrangement - principles, preservation of flower and plant materials, window treatment , bed making, carpets.

Unit -V:

Special service - Telephone answering, guestroom inspection, guest loan items, lost and found, deep cleaning ,turn down service. Cost control in Housekeeping.

References:

1. Lilli Crap, D R and Cousins J A (1994) Food and Beverage Service,4th Edition, Hodder and Stoughton.
2. Vijay Dhawan, (2009)Food and Beverage Service, 1st Edition, Frank Bros & Co., 2000 Braun, Verlagshans.of Spa Design.

Text books:

1. Sudhir Andrews, (1999) Food and Beverage Service Training Manual, Tata McGraw Hill Publishing Company Ltd New Delhi

Basic Sketching & Rendering

Code: 21HSCU04D7

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. develop knowledge and skill about basic figure drawing and illustration of human features
2. enable students to sketch their imagination into reality by using stylish figure and fashion figures.
3. apply various types of textures and mediums in the figures.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

Course Content

Unit – I:

Introduction to Designing Sketching: Lines and line drawings – object drawing and perspective view drawings . Enlarging and reducing motif for various purpose/ end uses.

Unit – II:

Application of various elements and principles of design. Sketching techniques, Prang color chart, value and intensity chart.

Unit – III:

Basic sketching and rendering Illustration of ruffles, cowls, shirring, smocking, quilting, draping, gathers, pleats, frills and flounces.

Unit – IV:

Illustration of necklines, collars, sleeves and pockets and yokes.

Unit – V:

Fabric rendering with woven, knitted and printed fabrics .

References:

1. Harold Carr “Fashion design and product development”
2. Fashion Design illustration Children Ireland
3. verekes “Fashion designers hand book for adobe illustration Centers” 978-1-4051-6055-1
4. Anmol Roy “Fashion designing and technologies” 978-81-8411-304-4
5. Fashion Illustration Flat drawing

6. Eugeniakim "Saturday night ha"t0-307-33794-4
7. Tatham Seamas, "fashion design drawing course" 978-0-7641-2473-0
8. Fashion Drawing – The Basic Principles, Anne Allen and Julian Seaman, Anova Books.
9. Fashion illustration and Presentation, Manmeet Sodhia, Kalyani Publishers.

Entrepreneurship Development

Code: 21HSCU04D8

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course Content

Unit -I:

Entrepreneurship – Entrepreneur and Entrepreneurship – meaning, need, transition from income generation to self employment and Entrepreneurship. Qualities of a good entrepreneur. Problems of entrepreneurs.

Unit -II:

Factors influencing entrepreneurial development – Economic, legal, social and psychological factors.

Unit -III:

Agencies supporting Entrepreneurial Development Programme – SIDCO, DIC, TIIC NSIC, MSME- Objectives, Programmes, Financial Assistance,

Unit -IV:

Schemes for assistance – State and Central level current schemes and programmes for individual and group support.

Unit -V:

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

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 and Statistics

Code: 21HSCU04D9

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- 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.

Course Content

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:

1. Krishnaswami,O.R.(2011). Methodology of research in social sciences. New Delhi: Himalaya Publishing House.
2. Gupta,S.P.(2014) Statistical Methods. Publication Manual . 6th edition. American Psychological Association.

Technology of Food Preservation

Code: 21HSCU05D1

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. learn the principles behind the methods of preservations
2. understand the stages of cookery and chemical characteristics in the preservation of fruits and vegetables
3. Acquire skills to preserve different types of food items based on their perishability.

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Know the mechanism action behind the methods of preservation
- Identify the quality changes in food during storage and preservation
- Explore the preservation methods suitable for fresh and processed foods

Course Content

Unit –I: Concept of Food Preservation

Importance of Food Preservation, Types of Food spoilage by Micro organisms and by Enzymes, Basic Principles of Food Preservation.

Unit –II: Preservation by using natural preservatives

Sugar concentrates- general principles and methods of preparation of jam, jellies and marmalade, crystallized and glazed fruits, preserves, squashes and syrups. Theory of gel formation. Salt concentrates- general principle, role of ingredients, preparation of sauerkraut, dill and common Indian pickles.

Unit III: Preservation by using chemical preservatives

Nature and characteristics of chemical preservatives, organic and inorganic preservatives, permissible limits, health hazards associated to preservatives.

Unit –IV: Preservation by application of high and low temperature

Pasteurization, sterilization, canning methods advantages and limitations. Effect on nutritive value of foods

Chilling and refrigeration advantages and limitations. Effect on nutritive value of foods.

Unit V: Preservation by drying and fermentation

Methods of drying & dehydration, different types of driers, freeze drying- lyophilisation, packing & storage

Foods fermented by Yeasts and Bacteria, Common Fermented Foods: Dosa, idli, bun, bread, wine, etc.

References

1. Srivastava R.P. (2012), Fruit and vegetable preservation – Principles and Practices, International Book Distributing Co., (IBDC), New Delhi.
2. Maria Parloa (2009), canned fruit, preserves and jellies: Household methods of preparation, US Department of Agriculture, Washington.
3. Shafiur, Rahman, M. (2007), Handbook of Food Preservation, 2 nd edition, CRC press, New Delhi.

Text books:

1. Desrosier, N.W. and James N. (2007). Technology of food preservation. AVI Publishers
2. Gould, G.W. (1995). New Methods of Food Preservation, Blackie Academic and Professional, London
3. Girdharilal, G.S. et.al.. (1986). Preservation of Fruits and Vegetables. New Delhi: Publications and Information Division, ICAR.

Food Hygiene and Sanitation

Code: 21HSCU05D2

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. Understand about food laws and labeling
2. Understand the need for consumer education

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Identify causes of and prevention procedures for food-borne illness, intoxication, and infection.
- Demonstrate good personal hygiene and safe food handling procedures.
- describe food storage and refrigeration techniques.
- explain sanitation of dishes, equipment, and kitchens including cleaning material, garbage, and refuse.

Course Content

Unit –I: Basic Principles of Food Safety

Food contamination: definition , Sources of contamination ,Difference between food poisoning and food infection ,Safety in food processing-a. Food procurement; b. Storage; c. Handling; d. Preparation e. Safety of leftover foods

Unit –II: Sanitation Procedures

Basic Principles of Hygiene and Sanitation, personal hygiene and Environmental hygiene, Methods of Sanitation and Hygiene , Sterilization and disinfection using heat and chemicals,Waste product handling and control- Solid and liquid waste disposal.

Unit –III: Sanitation of rooms for pest,rodent and insect control

Control of infestation- Pest control , insect and rodents -Cleaning and sanitizing- need for efficient cleaning program, cleaning agents, equipment's , Methods to wash, rinse and sanitizing food contact surfaces.Importance and methods of pest control;outlining methods of disposal of liquid, solid and gaseous waste

Unit –IV: Importance of Personal hygiene

General principles of hygiene – personal and environmental hygiene, hygienic practices in handling and serving foods, planning and implementation of training programme for health person.

Unit –V: Current Food Safety Standards in India

Current Food Safety regulations 2001, Food Safety and Standards Authority of India, objectives of developing food safety standards, enforcement of structure and procedure, role of food analyst, safety analysis, action by designated officer and report of food analyst , Food Safety

Management System (FSMS) Good Practices/ PRPs - HACCP, GMP, GHP Management Element / System, Statutory and regulatory requirements

References:

1. Sunetra Roday (2017). Food hygiene and sanitation. 2nd Ed. McGraw Hill Publications
2. Mahtab, S, Bamji S, Kamala Krishnasamy, Brahmam G.N.V, *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi, 2012.
3. Kiron Prabhakar. A Practical guide to food laws and regulations. 1st Ed. Bloomsbury.
4. Pulkit Mathur (2018). Food Safety and Quality Control.

Food Safety and Quality Control

Code: 21HSCU05D3

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. learn the various aspects of food safety and processing
2. understand about food laws and labeling

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course Content

Unit –I Introduction to Food Safety

Definition, factors affecting food safety and importance of food safety, factors influencing food safety

Unit -II: Food additives and contaminants

Food colours, flavoring agents, Artificial sweeteners, Preservatives, Antioxidants, protease inhibitors, goitrogens, Phytates, pesticide and insecticide residues, adulterants and metallic contaminants.

Unit –III: 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.

Unit –IV: Quality Control

Introduction – sampling and analysis of food – chemical, microbiological, toxicological, sensory Specifications and food standards as per FSSAI for mineral water, packaged foods, milk and milk products, fats and oils, fried foods and contaminants in spices, pickles, tea and coffee and fruit juices.

Unit –V: Food Packaging & labelling

Food packaging - functions, types and trends in packaging. Definition, principles, requirements, nutrition labeling, nutrition claims.

References:

1. Lawley, R., Curtis L. and Davis, J. The Food Safety Hazard Guidebook, RSC publishing, 2004
2. Forsythe, S J. Microbiology of Safe Food, Blackwell Science, Oxford, 2000
3. David. A. Shapton, Naroh. F. Shapton (1991) Principles and Practises for the Safe Processing of Foods. Butterworth- Heineman, Ltd, Oxford. OX 2 8 Dp
4. Sara mora more Carol walla PPce (1997) HACCP. A Practical Approach. Chapman and Hall.

5. Rekha.S. Singhtal, Pushpa, R. Gulgarni, Hand book of indices of food quality and authenticity.
6. Mortimore S.and Wallace C.HACCP,A practical approach,Chapman and Hill,London,1995
7. Manual of methods- Analysis of foods-FSSAI 2016

Text books:

1. Manay, S. and Shadaksharamasamy, Food: Facts and Principles. New Age International Publication, New Delhi.
2. Pieterneel A, Luning, Willem J. Marcelis, Food Quality Management Technological and Managerial principles and practices, Wageningen,2009.

Children with Disabilities

Code: 21HSCU05D4

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. acquire knowledge about identification and needs of children with disabilities
2. understand the specific programmes and services available for children with disabilities
3. gain skills in guiding the parents of children with disabilities

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Describe the causes, the characteristics, prevention and management of various disabilities
- Explain the various policies and programmes for children with disabilities
- Identify the various assistive technologies available for children with disabilities.

Course content

Units -I: Introduction to Childhood Disabilities

Defining disabilities, Models of disability Classifying disabilities, Social construction of disability, Demography, Rights of Children with Disabilities

Unit-II: Common Childhood Disabilities

Identification, Assessment and etiology with reference to Locomotor disability, Visual disability, Auditory and speech disability, Intellectual disability, Autism and Learning Disability

Unit -III: Family having children with disability

Families of children with disability , Role of parents in upbringing special children, Parental acceptance and coping with the presence of special child in the family, , Prevention and management of different disabilities.

Unit -IV: Programmes and Policies for children with disabilities

Policies and laws related to children with disability, Intervention strategies adopted for children with disabilities, Educational practices- Special education and inclusion,

Unit -V: Assistive technologies for children with disabilities

Assistive technology - meaning, need, types benefits - the barriers to assistive technology. Scheme of Assistance to Disabled Persons For Purchase/ Fitting Of Aids & Appliances (ADIP)

References:

1. Chopra,G., (2012). Early Detection of Disabilities and persons with disabilities in the community. New Delhi: Engage publications
2. Chopra,G., (2012). Stimulating Development of Young Children with Disabilities at Anganwadi and at Home: A Practical Guide. New Delhi: Engage publications.
3. Balsara, M. (2011) Inclusive Education for special children. Newdelhi: Kanishka publishers
4. Sharma, N. (Ed)(2010). The Socail Ecology of Disability-Technical Series -3Lady IrwinCollege. Delhi:Academic Excellence
5. Mangal, S. K. (2007).Exceptional children: An introduction to special education. NewDelhi: Prentice Hall of India
6. Mastropieri, M. A., & Scruggs, T. E. (2004). The inclusive classroom: Strategies for effective instruction. NY: Pearson.
7. Karna, G. N. (1999). United Nations and rights of disabled persons: A study in Indian perspective. New Delhi: A.P.H. Publishing Corporation.
8. Jangira, N.K.(1997) "Special Educational Needs of Children and Young Adults: An Unfinished Agenda," Education and Children with Special Needs: From Segregation toInclusion,Ed. Seamus Hegarty, Mithu Alur, Thousand Oaks: Sage Publications Inc.
9. Mani, R. (1988). Physically handicapped in India. Delhi: Ashish Publishing House.

Designing and Furnishing Life Space

Code: 21HSCU05D5

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

1. Comprehend the concept of life space
2. Learn skills of designing life space
3. Gain knowledge on different styles in furniture
4. Understand the role of furnishings in designing and decorating interiors

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Understand the various features in period style furniture
- Select and arrange furniture and furnishings in different rooms in residential spaces
- Knowledge on factors influencing planning of life space
- Develop confidence in decorating interiors using furniture and furnishings

Course Content

Unit -I: Concept of Life Space

Objectives and process of planning life space-biological needs, ecological concerns, cultural influences, psychological effects, utility, economy, beauty and character

Factors determining life space in interiors- people, location and orientation, resource available, activity zones in life space,

Unit -II: Furniture in the Life Space

Importance of furniture in relation to interiors, salient features of traditional, contemporary and modern styles in furniture

Furniture types-Modular furniture and mobile furniture; Case goods and upholstered furniture; multi-purpose furniture

Unit -III: Furniture Selection and Arrangement

Factors considered in selection of furniture to suit different spaces and purposes General guiding concepts in arrangement of furniture

Arrangement of furniture in different rooms; Care and maintenance of furniture

Unit -IV: Furnishings for Designing Life Space

Home furnishings as accessories, floor, wall and ceiling decorations, selection and use

Types of windows, window treatments –Hard (shutters, rollers, blinds, shades), Soft (curtains, draperies, swags, valances). Window accessories: chords, rings, rods, trims, and decorative products.

Unit -V: Home Furnishings and Accessories

Selection of furnishings based on background – walls, floors and ceilings Selection, care and maintenance of different home furnishings-slip covers, cushion covers, bed linen, bath linens, and kitchen linens.

Role of accessories as furnishing components - Functional and decorative – fabric based lamps, painting, wall hangings and soft toys.

References:

1. Arora. S. P., and Bindra S.P. (2005). *Building Construction*. Delhi: Dhanpat Rai Publications
2. Bhavikatti, S.S., and Chitawadagi, M.V. (2019). (1st Ed.). *Building Planning and Drawing*. Hubli: Dreamtech Press
3. Faulkner, R. and Faulkner, S. (1987). *Inside Today's Home*. New York: Rinehart Winston, India.
4. Gandotra V., Shukul M., and Jaiswal N. (2011). *Introduction to Interior Design and Decoration*, New Delhi: Dominant publishers, India.
5. Jankowsky, W.(2001). *Modern Kitchen Work Book*. New Delhi: Rockport Publishers, India.
6. Maureen, M.(2004). *Interior Design Visual Presentation - A Guide to Graphics, Models and Presentation Techniques*. New Jersey: John Wiley and Sons.
7. Mendelson, C. (2005). *Home Comforts: The Art and Science of keeping house*. New York; London: Scriber Company
8. Premavathy, S.(2005). *Interior Design and Decoration*, New Delhi: CBS Publishers and Distributors, India.
9. Dutt, D.R.(2010). *How Best to Plan and Build Your Home: A Total Guide for the Owner*. New Delhi: Pustak Mahal (ISBN-13: 978-8122307559)
10. Stepat, D.V. (1991). *Introduction to Home Furnishings*. New York, London. : The Macmillan Company
11. Stuart. L. (2013). *Furniture Design: An Introduction to Development, Materials and Manufacturing*. London : Laurence King Publishing

Basics of Fashion Illustration

Code: 21HSCU05D6

Credits: 3

Pd/Wk:3

Marks: 100

Learning Objectives:

Enable the students to

- learn and convey the principles that relate to drawing
- learn the use of perspective and demonstrate knowledge of basic human proportion and anatomy.
- illustrate the various garment parts, ornaments and accessories

Learning Outcomes:

On Successful Completion of this course, the students will be able to

Course Content

Unit – I:

Illustration of skirts, tops, trousers and gowns(with design variation and style variation)

Unit – II:

Illustration of Stick, Block and flesh figure (8,10 & 12 head figures).

Unit – III:

Illustration of Human features (Eyes, Ears, Nose, Hands & Legs) and Hairstyles

Unit – IV:

Drawing garments for different seasons – summer, winter, autumn and spring – for Men, Women and Children

Unit –V:

References:

1. Harold Carr “Fashion design and product development”
2. Fashion Design illustration Children Ireland
3. verekes “Fashion designers hand book for adobe illustration Centers” 978-1-4051-6055-1
4. Anmol Roy “Fashion designing and technologies” 978-81-8411-304-4
5. Fashion Illustration Flat drawing
6. Eugeniakim “Saturday night ha”t0-307-33794-4
7. Tatham Seamas, “fashion design drawing course” 978-0-7641-2473-0
8. Fashion Drawing – The Basic Principles, Anne Allen and Julian Seaman, Anova Books.
9. Fashion illustration and Presentation, Manmeet Sodhia, Kalyani Publishers.

Programme for Rural Families

Code : 21HSCU05D7

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. get acquainted with the ongoing programme for rural development and their implementation
2. be resourceful in guiding the rural women/communities to avail themselves of help under the programmes

Learning Outcomes:

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

Course Content

Unit -I: Economic Programmes

SGSY, PMRY, Mahalir Thittam, MGNREGS- Objectives, beneficiary selection, financial assistance, implementation and evaluation

Unit -II: Special Programmes

State Department of Social Welfare and District Disabled Rehabilitation Centre

Unit-III: Special Programmes

1. Employment, Education , Health and Sanitation
2. Energy and Environment

Unit -IV: Social Assistance Schemes at central and State level.

Unit -V: 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.

Text Book:

1. K.S.Pushpa, Hand book on Schemes for Women. Gandhigram Rural Institute, Gandhigram
2. K.S.Pushpa. Hand book on schemes for differently abled. Gandhigram Rural Institute, Gandhigram

Preparatory Course for Competitive Examinations

Code : 21HSCU05D8

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. familiarize the students with different mental ability testing techniques.
2. equip them for competitive examination

Learning Outcomes:

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

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

Course Content

Unit –I: Test of Reasoning (Verbal)

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

Unit –II: Test Of Reasoning (Non –Verbal Reasoning)

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

Unit –III: Numerical Ability

Basic Arithmetic with Bodmas, Ratio and Proportion, L.C.M and H.C.F, Time – distance, Equations – with Fractions

Unit –IV: Quantitative Ability

Interest – Simple and compound, Profit or loss- sales price/cost price, Mixtures, Average, Partnership – Distribution of Profit / Loss, Work Load, measurement – Area and Volume., Data Interpretation, Table – Graph and Bar Diagram.

Unit –V: 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

Text Book:

- 1.R.S.Aggrawal. Test of Reasoning. And Numerical ability.

Part III – Generic Electives

Basics of Nutrition and Food Science

Code : 21HSCU00G1

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. familiarize students with fundamentals of food, nutrients and their relationship to Health
2. create awareness with respect to deriving maximum benefit from available food resources

Learning Outcomes:

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

Course Content

Unit -I:

Basic concepts in food and nutrition, periods Basic terms used in study of food and nutrition Understanding relationship between food, nutrition and health, Functions of food-Physiological, psychological and social

Unit -II:

Nutrients: Functions, dietary sources and clinical manifestations of deficiency/ excess of the following nutrients: Carbohydrates, lipids and proteins, Fat soluble vitamins-A, D, E and K, Water soluble vitamins – thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and vitamin C, Minerals – calcium, iron and iodine

Unit -III:

Food Groups : Selection, nutritional contribution and changes during cooking of the following foodgroups: Cereals, Pulses, Fruits and vegetables, Milk & milk products Eggs, Meat, poultry and fish, Fats and Oils.

Unit -IV

Methods of Cooking and Preventing Nutrient Losses : Dry, moist, frying and microwave cooking Advantages, disadvantages and the effect of various methods of cooking on nutrients, Minimizing nutrient losses.

Unit -V:

Food Safety and Storage , Concept of food safety,Key terms, factors affecting food safety, recent concerns Food safety measures: basic concept of HACCP, Safe food handling practices and storing food safely and Food additives.

References:

1. Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2012; New Age International Publishers

2. Mudambi, SR, Rao SM and Rajagopal, MV. Food Science; Second Ed; 2006; New Age International Publishers
3. Srilakshmi B. Nutrition Science; 2012; New Age International (P) Ltd.
4. Srilakshmi B. Food Science; Fourth Ed; 2010; New Age International (P) Ltd.
5. Swaminathan M. Handbook of Foods and Nutrition; Fifth Ed; 1986; BAPPCO.
6. Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; 2009; Oxford& IBH Publishing Co. Pvt Ltd.
7. Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill.
8. Lakra P, Singh MD. Textbook of Nutrition and Health; First Ed; 2008; AcademicExcellence.
9. Manay MS, Shadaksharaswamy. Food-Facts and Principles; 2004; New Age International (P) Ltd.
10. Potter NN, Hotchkiss JH. Food Science; Fifth Ed; 2006; CBS Publishers and Distributors.

Nutrition Throughout Life

Code : 21HSCU0G2

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

- Study nutritional needs at different stages of life span
- Gain experience in planning adequate diets for different age groups and for different income groups.

Learning Outcomes:

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

- Design food plans and assess the adequacy of diets to meet the nutritional needs of humans at various stages of life cycle.
- Critically assess nutritional requirements of an individual.

Course Content

Unit –I: Introduction to RDA and Balanced Diet

Basic concept and purposes of Recommending the Dietary Allowances, Factors Affecting Recommended Dietary Allowances, Requirements and Recommended Dietary Allowances for various age groups, Uses of ICMR- RDA in planning balance diet, Exchange system and Dietary Diversity

Unit –II: Nutrition in Pregnancy and Lactation

Physiological Changes occurring during Pregnancy ,Importance of Food and Nutritional Care and Requirement during pregnancy, General Dietary and nutritional Problems and Complications, Physiology and Hormones involved in Lactation, Food supplements and galactogogues. Factors Affecting the Volume and Composition of Breast Milk, Nutritional Requirements during lactation

Unit -III: Nutrition in Infancy

Growth and Development of Infants, Composition of Human Milk and Human Milk Substitute, Bottle Feeding and related Problems, Weaning and Supplementary Feeding Foods.

Unit –IV: Nutrition in Childhood and Adolescence

Growth and Development of Pre School, School Going Children and Adolescence. Food and Nutritional Requirements, Factors to be considered while Planning Diet for Children and Adolescents, Growth Spurt during Adolescence. Food and Nutritional Requirements, Nutritional and Behavioral Problems and Eating Disorders

Unit –V: Nutrition for Adults and Elderly

Reference Man and Reference Woman, Food and Nutritional Requirements for Adults doing Different Activities Processes of Aging, Food and Nutritional Requirements of Elders, Nutrition Related Problems of Old Age.

References:

1. SunetraRoday (2017). *Food Science and Nutrition*, Oxford University Press, New Delhi.
2. Longvah, T, Ananthan, R, Bhaskarachary, K, Venkaiah, K. (2017). *Indian Food Composition Tables (IFCT)*, Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.

3. Shakuntala Manay, Shadaksharaswamy. M (2013) *Foods, Facts and Principles*, New Age International Pvt Ltd Publishers, 2nd Edition) Ltd., New Delhi.
4. Swaminathan, M. (2012), *Advanced Textbook on Food and Nutrition*, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore.

Text books:

1. Mahtab, S, Bamji, Kamala Krishnasamy, Brahmam, G.N.V. (2012) *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
2. Srilakshmi, B. (2013), *Dietetics*, New Age International (P) Ltd., New Delhi.

Nutrition for Health and Fitness

Code : 21HSCU00G3

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. Understand the components of health and fitness and the role of nutrition in these.
2. Make nutritional, dietary and physical activity recommendations to achieve fitness and well-being.
3. Develop ability to evaluate fitness and well-being.

Learning Outcomes:

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

- The students will be able to know the importance of health and fitness and its role in nutrition.
- The students will be able to develop their ability to evaluate fitness and well-being of an individual.

Course Content

Unit –I Definitions, components and assessment criteria of age

Definition of health and fitness, need and importance of fitness and health status. Holistic approach to the management of fitness and health: Factors influencing health and wellbeing Gender and health. Nutritional status: Definition, methods to assess nutritional status- (Relevant to maintenance of fitness)

Unit-II:

Review of different energy system for endurance and power activity: Fuels and nutrients to support physical activity. Mobilization of fat stores during exercise.

Unit-III:

Approaches to the management of fitness and health; Diet and exercise: Effect of specific nutrients on work performance and physical fitness. Fuel and other nutrients that support physical activity (metabolic pathways. Mobilization of fuel stores during exercise.

Unit –IV:

Significance of physical fitness and nutrition in prevention and management of weight control regimes. Nutrition guidelines for maintenance of health and fitness. Awareness about the alternative systems for health and fitness, like ayurveda, yoga, Meditation, vegetarianism and traditional diets.

Unit-V:

Defining nutritional goals/guidelines appropriate to health, fitness and prevention and management of the chronic degenerative disorder. Nutrition and exercise regimes for pre and post-natal fitness.

References:

1. Mahan, L.K. & Ecott-Stumps, S. (2000): Krause's food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
- 2.Sizer, F. & Whitney, E. (2000): Nutrition – Concepts & Controversies, 8th Edition, Wadsworth Thomson Learning.
3. Whitney, E.N. & Rolfes, S.R. (1999): Understanding Nutrition, 8th Edition, West/ Wadsworth, An International Thomson Publishing Co.
4. Ira Wolinsky (ED) (1998): Nutrition in Exercise and Sports, 3rd Edition, CRC press.
5. Parizkova, J. Nutrition, Physical activity and Health in early life, Ed. Wolinsky, I., CRC press.
6. Shills, M.E., Osian, J.A., Shike, N. and Ross, A.C. (Ed) (1999): Modern Nutrition and Health & Disease, 9th Edition, Williams & Wilkins.
7. McArdle, W. Katch, F. and Katch, V. (1996) Exercise Physiology. Energy, Nutrition and Human Performance, 4th edition, Williams and Wilkins, Philadelphia.

Adolescence and Life Skills Education

Code : 21HSCU00G4

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. understand the development, characteristics and issues of adolescents
2. realize the importance of life skills
3. gain skills in psycho-social competence

Learning Outcomes:

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

- Describe the physical and psychological changes during adolescence
- Explain the core set of life skills
- Apply the knowledge and skills to handle day to day problems positively

Course Content

Unit -I: Adolescence

- Adolescence – Meaning, Characteristics.
- Changes during Adolescence : Physical and Psychological.
- Importance of healthy diet and healthy life style.

Unit -II: Issues and Concerns in Adolescence

- Health Issues :- Obesity underweight Anaemia.
- Reproductive Health Issues :- Menstrual Problems, Sexually Transmitted Diseases.
- Mental Health Issues :- Anxiety, Depression Suicide.
- Social Issues :- Peer Pressure, Substance abuse and Sexual Abuse.

Unit -III: Social Skills and Negotiation Skills

- Introduction to Life Skills :- Core life skills - importance.
- Self Awareness :- Definition, Types, Techniques used for self awareness : Johari Window SWOT Analysis.
- Empathy : - Meaning differences between sympathy and empathy.
- Effective Communication: - Definition, Functions, Models, Barriers.
- Interpersonal Relationship: - Definition, Factors affecting relationships.

Unit -IV: Thinking Skills

- Creative and Critical Thinking:- Definition nature styles.
- Problem Solving :- Definition, Steps, Factors Influencing.
- Decision Making :- Definition, Process.

Unit –V: Coping Skills

- Coping with emotions :- Definition, Characteristics, types coping strategies.
- Coping with stress:- Definition, Stressors, Sources of Stress, Coping Strategies

References:

1. Berk, L.E(2017) Child Development (9th Edition) PH1 learning Pvt. Ltd. New Delhi.
2. RGNIYD. (2008) Facilitators manual on Enhancing Life Skills. Tamil Nadu.
3. Family Health Education tool kit for orphans and vulnerable children in India.
4. YUVA School Life Skills Programme : Handbook for Teachers, Vol. I – IV (2008). Department of Education and State Council of Educational Research and Training
5. Novak.G.Pelez, M.B (2004) Child and Adolescent Development : A Behavioral System Approach, Safe Publications, New Delhi.

Children With Disabilities

Code : 21HSCU00G5

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. acquire knowledge about identification and needs of children with disabilities
2. understand the specific programmes and services available for children with disabilities
3. gain skills in guiding the parents of children with disabilities

Learning Outcomes:

On Successful Completion of this course, the students will be able to

- Describe the causes, the characteristics, prevention and management of various disabilities
- Explain the various policies and programmes for children with disabilities
- Identify the various assistive technologies available for children with disabilities.

Course content

Units -I: Introduction to Childhood Disabilities

Defining disabilities, Models of disability Classifying disabilities, Social construction of disability, Demography, Rights of Children with Disabilities

Unit-II: Common Childhood Disabilities

Identification, Assessment and etiology with reference to Locomotor disability, Visual disability, Auditory and speech disability, Intellectual disability, Autism and Learning Disability

Unit -III: Family having children with disability

Families of children with disability , Role of parents in upbringing special children, Parental acceptance and coping with the presence of special child in the family, , Prevention and management of different disabilities.

Unit -IV: Programmes and Policies for children with disabilities

Policies and laws related to children with disability, Intervention strategies adopted for children with disabilities, Educational practices- Special education and inclusion,

Unit -V: Assistive technologies for children with disabilities

Assistive technology - meaning, need, types benefits - the barriers to assistive technology. Scheme of Assistance to Disabled Persons For Purchase/ Fitting Of Aids & Appliances (ADIP)

References:

1. Chopra,G., (2012). Early Detection of Disabilities and persons with disabilities in the community. New Delhi: Engage publications

2. Chopra,G., (2012). Stimulating Development of Young Children with Disabilities at Anganwadi and at Home: A Practical Guide. New Delhi: Engage publications.
3. Balsara, M. (2011) Inclusive Education for special children. Newdelhi: Kanishka publishers
4. Sharma, N. (2010). The Socail Ecology of Disability-Technical Series -3Lady IrwinCollege. Delhi:Academic Excellence
5. Mangal, S. K. (2007).Exceptional children: An introduction to special education. NewDelhi: Prentice Hall of India
6. Karna, G. N. (1999). United Nations and rights of disabled persons: A study in Indian perspective. New Delhi: A.P.H. Publishing Corporation.
7. Jangira, N.K.(1997) "Special Educational Needs of Children and Young Adults: An Unfinished Agenda," Education and Children with Special Needs: From Segregation toInclusion,Ed. Seamus Hegarty, Mithu Alur, Thousand Oaks: Sage Publications Inc.
8. Mastropieri, M. A., & Scruggs, T. E. (2004). The inclusive classroom: Strategies for effective instruction. NY: Pearson.
9. Mani, R. (1988). Physically handicapped in India. Delhi: Ashish Publishing House.

Perspectives of Home Science

Code : 21HSCU00G6

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

- Understand the concept, scope and philosophy of Home Science.
- Appreciate the role of Home Science in nation building.
- Develop desirable attitudes towards integrated rural and urban development.
- Cultivate human values through learning Home Science.

Learning Outcomes:

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

Course Content

Unit –I: Home Science Education

Meaning of Home Science education – Philosophy of home and family, Components of Home science, its relation to other disciplines – science and humanities . Role of Home Science in the moral and material progress of the nation

Unit II: Development of Home Science in India

Development of Home Science as ' a discipline or component of higher education, The linkages of Home Science with the basic sciences and Social Sciences. The Home Science Association of India: Objectives and role. International Federation of Home Economics.

Unit III: Home Science Education at Various Levels -

Nursery (pre) schools, Primary schools, Secondary and Higher Secondary Schools, Colleges and Universities, Teacher's and other Professional Colleges. Vocationalisation of Home Science Education at various levels. Home Science as Family and Community Science.

Unit -IV: Job Orientation in Home Science

The job oriented courses; Nutrition, Dietetics. Food Processing and Preservation, , Textiles, Fashion Design, Interior Design, Early Childhood Education, NGOs and corporates. Job opportunities in Home science.

Unit -V: Qualities of a Good Home Science Student

Characteristics and Qualities, Home Science in the Service of the Community, Role of Home Scientists in Rural Development. Role of Home Science in National and International Integration

References:

1. Devadas, Rajammal P. Textbook of Home Science. Farm Information Unit, Directorate of Extension. Ministry of Agriculture, New Delhi 1968,

2. Devadas, Rajammal P. , The Meaning of Home Science, Sri Avinashilingam Home Science College, Coimbatore, 1968.
3. Devadas, Rajammal P. Methods of Teaching Home Science, National Council of Educational Research and Training, Delhi 1977.
4. Sharma, K. C. The Changing Rural Stratification System. Orient Longman Ltd., New Delhi, 1974.
5. All the Proceedings of the Biennial Conference the Home Science Association Of India.

Family Clothing

Code : 21HSCU00G7

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. gain knowledge about clothing and accessories.
2. gain information about fashion and selection of clothing.
3. acquire knowledge about women and men clothing.
4. know gain knowledge about special wardrobe planning.

Learning Outcomes:

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

- design wardrobes, panning the wardrobe according to the age, sex and size.

Course Content

Unit-I:

Clothing- Definition, Classification of clothing –clothes, Accessories & cosmetics. Purpose of clothing. Terms related to clothing – Fashion, dress, classic, fad, style, silhouette, fabric and fashion cycle. Body measurements, Importance of taking body measurements. Fitting- definition, principles of good fit, fitting techniques.

Unit-II:

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, Fashion, Sociological, Psychological factors, Occasion- wedding, funerals, Workship, carnivals. Criteria for evaluation of garments and checking quality control aspects of clothing.

Unit-III:

Wardrobe planning – definition, Principles and steps involved in wardrobe planning, Points to be considered while planning wardrobe for different age groups from newborn to old age. Special wardrobe planning – Pregnant women, lactating women, physically challenged men and women.

Unit-IV:

Accessories & Cosmetics-Definition, planning for Accessories – Hand bags, headdress, jeweler, footwear, hosiery, watch and eye glasses. Planning for cosmetics – perfume, makes up kit, skin care and hair care. Care labeling – meaning, various symbols. Stain removal-Types of stains, Principles and methods of removal.

Unit-V:

Laundry-Definition- Methods of washing. Laundering and finishing of different fabrics with special refer to cotton, silk, wool and synthetic fabrics. Ironing Methods of ironing different garments - Drying equipments. Dry cleaning and storage. Bleaching agents, stiffening agents, blueing agents.

Text Books

1. Elements of design & apparel design, sumathy g. new age international pvt.ltd, 2002
2. Art and fashion is clothing selection, M.C. Gimsely and harriot. T., Novety, press, new York.
3. Suzanne G. Marshall, hazel o. jockson M. Sue Stanley, mary ketgan (2000) Individualiy in clothing selection and personal Appearance" Phullis touchie specnt. New jersey, 2nd edition.
4. Duelpkar, D. (1983) Household Textile and Laundry Work New Delhi: Atma Ram and Sons.
5. Edward Miller: Textiles: Properties and Behaviour in clothing Use, London, B.T Bradsford 1992.

Communication for Development

Code : 21HSCU00G8

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. To understand the concept of development and development indicators
2. To gain insights into the concept of Development Communication, philosophy, theories and approaches
3. To examine the role of various media in development communication
4. To know the process of development reporting and development journalism
5. To understand the process and techniques of SBCC

Learning Outcomes:

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

1. Understand the concepts of development and development indicators
2. Gain insights into the concept of Development Communication, philosophy, theories and approaches
3. Examine the role of various media and nuances of development reporting

Course Content

Unit -I: Concept of Development

Concept of development, Development goals, Characteristics of developing countries
Indices as a measure of human development, poverty, gender related development

Unit -II: Development Communication

Development Communication- concept, genesis, characteristics and philosophy

Types of communication and characteristics of Development Communication

Approaches to Development Communication

Models of Development Communication- Dominant Paradigm, Dependency Model, Basic Needs Model, New Paradigm of development

Unit -III: Media and Development Communication

Role of Traditional Media in Development Communication

Community Media: Types, Role in Development Communication, Difference from Mainstream Media

Role of Radio and Television for development communication

Unit -IV: Development Journalism

Definition, types of journalism, need for Development journalism

News reporting: definition of news, ingredients and qualities of news, news value, types of news reports, structure of news reports

Unit -V: SBCC and Advocacy

Concept and relevance of SBCC: SBCC and Advocacy

Approaches to SBCC, types and steps of advocacy

SBCC- Strategy design and implementation.

References:

1. Kotler, P. & Lee, N. (2011). *Social Marketing: Influencing Behaviors for Good*, 4th Ed. Thousand Oaks, CA: Sage Publications. (K&L). 204-232.
2. Kumar, K. J. (2000). *Mass communication in India*. New Delhi: Jaico Publishing House.
3. McQuail, D. (2010). *Mass Communication Theory*. London: Sage Publications. Chapter 7. Page 161-188.
4. Melkote, S. & Steeves, L. (2013). *Communication for Development in the Third World*. New Delhi: Sage Publications.
5. Pannu, P. & Azaad, Y. T. (2012). *Communication Technology for Development*. New Delhi: I .K. International Publications. ISBN: 9789380578903. Page 65-80.
6. Servaes, Jan (2008). *Communication for Development and Social Change*. New Delhi,: Sage Publication

Programme for Rural Families

Code : 21HSCU00G9

Credits: 3

Pd/Wk: 3

Marks: 100

Learning Objectives:

Enable the students to

1. get acquainted with the ongoing programme for rural development and their implementation
2. be resourceful in guiding the rural women/communities to avail themselves of help under the programmes

Learning Outcomes:

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

Course Content

Unit -I: Economic Programmes

SGSY, PMRY, Mahalir Thittam, MGNREGS- Objectives, beneficiary selection, financial assistance, implementation and evaluation

Unit -II: Special Programmes

State Department of Social Welfare and District Disabled Rehabilitation Centre

Unit-III: Special Programmes

1. Employment, Education , Health and Sanitation
2. Energy and Environment

Unit -IV: Social Assistance Schemes at central and State level.

Unit -V: 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.

Text Book:

3. K.S.Pushpa, Hand book on Schemes for Women. Gandhigram Rural Insitute, Gandhigram
4. K.S.Pushpa. Hand book on schemes for differently abled. Gandhigram Rural Insitute, Gandhigram

Part III – Modular Courses

Assessment of Nutritional Status

Code : 21HSCU06M1

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students 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

Learning Outcomes:

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

- Demonstrate the methods used to assess the nutritional status of individual/community.
- Adopt suitable method of nutritional assessment for hospitalized patients.
- Interpret and infer the results nutritional assessment data.

Course Content

Unit –I:

Nutritional assessment and Counseling as a tool improving the quality of life of various segments of the individual, family and community including hospitalized patients.

Unit –II:

Current methodologies of assessment of nutritional status their interpretation and comparative applications of the following.

- Anthropometric measurement
- Biochemical analysis
- Clinical analysis
- Diet survey

Unit –III:

Assessment of Hospitalised and bed ridden patients,.

Unit –IV:

Nutritional surveillance- Basic concepts used and setting up of surveillance system.

Unit –V:

Medical nutrition therapy- role of nutritional assessment and intervention in medical care.

Related experiences:

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. Sauberlich, H.E. (Ed) (1999): Laboratory Tests for the Assessment of Nutrition Status, CRC Press.
2. 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.
3. Lee, R.D. and Nieman, D.C. (1993): Nutritional Assessment, Brown and Benchmark Publishers.
4. Fidanza. 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.
5. Bingham, S.A. (1987): The Dietary Assessment of Individuals, Methods. Accuracy, New Techniques and Recommendations Nutrition Abstracts and Reviews. 57: 705-743.
6. Beghin, I., Cap, M and Dujardan, B. (1988): A Guide to Nutritional Status Assessment, WHO, Geneva.
7. Davies, P.S.W. and Cole, T.J. (Ed): Body Composition Techniques in Health and Disease. Cambridge University Cambridge.
8. Lohman, T. GL Roche, A.F.; and Martorell, R.(Ed). Anthropometric Standardization Reference Manual. Human Kinetics Books, Illinois.

Text books:

1. Himes, J.H.(1991): Anthropometric Assessment of Nutritional Status. Wiley-Liss New York.
2. Gopaldas., T. and Seshadri., S. (1987): Nutritional Monitoring and Assessment. Oxford University Press.
3. Jelliffe, D.B. and Jelliffe, E.F.P (1989): Community Nutritional Assessment. Oxford University Press.

Infant Stimulation Programme

Code : 21HSCU06M2

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

On Successful Completion of this course, the students will be able to

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

Course content

Unit -I: Infancy

Definition, Characteristics, development and abilities

Unit -II: Infant Stimulation

Meaning, importance, techniques. Multisensory stimulation programme.

Unit-III: Stimulation Techniques

Identification of traditional methods, games, songs of infant care and stimulation through field visit, interview with mothers/ elderly women and group discussions.

Unit -IV:

Preparation of stimulation programmes for various senses

Unit -V:

Development of stimulation kit for infants.

References:

1. Berk, L.E. (2017). Child development (9th ed.). New Delhi: Prentice Hall.
2. Pankajam,G. (2005). Know Your Child. New Delhi: Concept Publishing Company
3. Hurlock, E.B. (2000). Developmental Psychology A Life-Span Approach. New Delhi: Tata Mcgraw Hill Publishing Company Limited.
4. Devadas, R.P. and Jaya, N. (1996). A Text Book on Child Development. New Delhi: Macmillan India Limited.
5. Chauba, B.P. (1986). Child Psychology. Agra: Lakshmi Narain Agarwal.

Introduction to Ergonomics

Code: 21HSCU06M3

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

1. Understand the fundamentals of ergonomics.
2. Build knowledge on human interaction with task and technology
3. Relate products, environments and performance on well being considering human characteristics and limitations

Learning Outcomes:

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

- Distinguish the terms referring to health and safety and ergonomics
- Identify and use ergonomic controls to reduce and prevent work-related disorders
- Comprehend interrelatedness of work, worker and work environment on productivity
- Adhere to safety principles during work performance
- Relate significance of anthropometry to work place designing

Course Content

1. Definition of ergonomics, principles of ergonomics and its application
2. Work-worker and workplace relationship.
3. Anthropometry: Meaning, importance, methods of taking measurements, applications of anthropometric measurements.
4. Household drudgery- definition, drudgery prone areas in home - Methods of alleviating drudgery.
5. Household equipment- introduction, definition, classification and base materials used in construction.
6. Work Environment – lighting, ventilation, noise space adequacy and its impact on worker performance
7. Posture – definition, impact on worker.

References:

1. Bridger, RS,(2003), 'Introduction to Ergonomics', 2nd Edition, Taylor &Francis.
2. Stephen Konz and Steve Johnson, (2007), 'Work Design: Occupational Ergonomics', 7th Edition Holcomb Hathway.
3. Dul & Weerdmeester,(2003), 'Ergonomics for Beginners', Taylor & Francis.
4. McKeown & Twiss,(2001), 'Workplace Ergonomics: A Practical Guide', IOSH services.
5. Dul J and Weerdmeester B., (2001), 'Ergonomics for beginners', London: CRC Press, UK.
6. Wilson & Corlett, (2005), 'Evaluation of Human Work', Taylor &Francis.

Text Books

1. Phillips, C.A,(2000), 'Human Factors Engineering', New York: John Wiley and Sons, Inc., USA.
2. ILO,(2001) 'Introduction to work study', New Delhi: Oxford & IBH publishing Co. Ltd., India.
3. Hughes P and Ferrett E., (2009), 'Introduction to Health and Safety at Work', Oxford, Elsevier Science.
4. Stranks J., (2006), 'Safety at Work', Key terms, Oxford, Elsevier Science.

Wardrobe Planning

Code: 21HSCU06M4

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

1. gain knowledge about garment wardrobe.
2. gain information about clothing and accessories.
3. acquire knowledge about women and men clothing.
4. know gain knowledge about special wardrobe planning.

Learning Outcomes:

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

- design wardrobes, panning the wardrobe according to the age, sex and size..

Course Content

Unit-I:

Wardrobe planning-definition functions of clothing factors to consider in wardrobe planning. Needs for planning wardrobe benefits of planning a wardrobe

Unit-II:

Clothing-Classification of clothing –clothes, Accessories & cosmetics. Wardrobe planning for new born babies, toddler, pre schooler, schooler, Adolescence-(boys & girls).

Unit-III:

Wardrobe planning for women-college going girls, office going women, pregnant women, lactating women and aged women.

Unit-IV:

Wardrobe planning for men’s-college going boys, office going men’s, adult men’s, old age man. special wardrobe planning for physically challenged men & women.

Unit-V:

Accessories & Cosmetics-Definition, wardrobe planning for Accessories – Hand bags, headdress, jeweler, footwear, hosiery, watch and eye glasses. Wardrobe planning for cosmetics – perfume, makes up kit, skin care and hair care.

References:

1. Tentiles fabrics and their selection-wingate IB,Allied publishers ltd,Chennai.
2. Family clothing –Tate of glession, john wileys son Inc. illionis
3. Art and fashion is clothing selection,M.C.Gimsely and harriot.T.,Novety,press,new York.
4. Suzanne G.Marshall,hazel o.jockson M.Sue Stanley,mary ketgan(2000) Individualiy in clothing selection and personal Appearance”Phullis touchie specnt.New jersey,2nd edi

Text Books

1. Elements of design & apparel design, sumathy g. new age international pvt.ltd, 2002
2. Art and fashion is clothing selection, M.C. Gimsely and harriot. T., Nova state uty, press, new York
3. Suzanne G. Marshall, hazel o. jockson M. Sue Stanley, mary ketgan (2000) Individualiy in clothing selection and personal Appearance" Phullis touchie specnt. New jersey, 2nd edition.

Advocacy and Behaviour Change Communication

Code : 21HSCU06M5

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

1. To understand the concept and approaches of Behaviour Change Communication (BCC).
2. To gain insights into the inter-linkages between communication approaches and behavior change.
3. To learn the concepts and processes of advocacy for development and social change.

Learning Outcomes:

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

- Students will be able to bring changes in the community after understanding the concept of BCC
- Develop skills in applying communication approaches and behaviour change.
- Learn the concepts and processes of advocacy for development and social change

Course Content

1. Meaning, purpose and types of Advocacy
2. Tools, techniques and approaches to advocacy
3. Elements and steps of an advocacy strategy
4. Planning advocacy campaigns for different stakeholders
5. Concept and relevance of BCC
6. Differences between BCC and Advocacy
7. BCC- Strategy design and implementation.
8. Appraisal of communication action plan for BCC
9. Role of BCC in promoting health, nutrition, and environmental sustainability
10. Analysis of BCC campaigns for social mobilization and policy change

References:

1. Ashford, J. B., LeCroy, C. W., & Lortie, K.L. (2010). Human Behavior in the Social Environment: A Multidimensional Perspective (4th ed.). Belmont CA: Wadsworth/Thomson Learning.
2. Atkin ,C.K.& Rice, R.E. (2012) Theory and Principles of Public Campaigns. In C.
3. Atkins & R Rice (EDS) Public Communication Campaigns. Newbury Park, CA: Sage
4. Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In
5. Bandura (Ed.), Self-efficacy in changing societies, pp. 1–45. New York: Cambridge University Press
6. Kotler, P. & Lee, N. (2011). Social Marketing: Influencing Behaviors for Good, 4th Ed. Thousand Oaks, CA: Sage Publications. (K&L)
7. Subedi, N R, (2008). Advocacy Strategies and Approaches: A Training of Trainers Manual. International

Public Health Nutrition

Code : 21HSCU06M6

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

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

Learning Outcomes:

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

- assess the nutritional status of the community
- demonstrate various means of imparting nutrition education to the community

Course Content

Unit –I: Nutritional status in India Importance of good nutrition

Nexus between poverty and malnutrition – PEM, micro nutrient deficiencies (Vitamin A, Nutritional Anaemia, IDD) prevalence of diet related non – communicable chronic diseases.

Unit –II: National Nutritional Policy and programmes

Action areas, National Nutritional goals, implementation strategy – Nutrition intervention for vulnerable groups, fortification of essential goods. Intervention programmes to combat malnutrition, ICDS programmes, Balwadi Nutrition programmes, noon meal programme.

Role of International Organizations in combating nutritional disorders – UNICEF, FAO, WHO.

Unit-III: 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.

Unit –IV: Nutrition education

Meaning, need, principles, methods. Factors influencing nutrition related behavior, behavioral changes related to nutrition education.

Nutrition, Agriculture and Food Security :Food and nutrition security : Definitions, concept and components. National, community and household level food security: current definitions globally and In India

Newer developments & strategies for improving nutritional status of populations such as Food fortification, Multi micronutrient fortification of complementary foods & supplementary nutrition for pregnant & lactating women

Unit –V: 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.

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. Sree Devi.V. (1997). Nutrition Education. New Delhi: Discovery Publishing House
3. Swaminathan. M. (1985). Essentials of Food and Nutrition. Vol I and Vol. II Madras. Ganesh and company.Hyderabad
4. Park K (2007). Park's textbook of preventive and social medicine (19th ed.). M/s BanarsidasBhanot Publishers, Jabalpur
5. The state of Food insecurity in the world (2021) : The multiple dimensions of food security. FAO publication
8. Report of food insecurity in rural India: MS Swaminathan research Foundation

Text books:

1. Srilakshmi (2006). Food Science. Newdelhi. New Age International Pvt.Ltd.
2. Srilakshmi (2008). Nutrition Science. Newdelhi. New Age International Pvt.Ltd.

Geriatric Care

Code : 21HSCU06M7

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

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

Learning Outcomes:

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

- Explain the aging process and need for geriatric care
- Gain skills in providing care and support to the elderly
- Plan diet chart for the elderly

Course Content

Unit – I: Geriatrics

Definition, age group, theories of aging process- biological, physiological and psychological changes during aging .

Unit –II: 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.

Unit –III: 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. Srilakshmi (2008). Nutrition Science. Newage International Publishers. Newdelhi.
4. Swaran Pasricha and Thimmayamma, B.V. (1992). Dietary Tips for the Elderly. Hyderabad:
5. Davidson,S.R. and Pasmore (1986). Human Nutrition and Dietetics. Church Hill Livingstone, London.

Renewable Sources of Energy

Code : 21HSCU06M8

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

1. Become aware of the importance and principles of alternate energy sources.
2. Be sensitive to the present energy scenario in India.
3. Acquire knowledge on principles and technologies to use different types of solar devices.

Learning Outcomes:

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

- Appreciate significance of energy in different forms
- Practice use of solar device and help in conserving fossil fuel
- Benefit from the merits of using alternate energy sources
- Act as prudent consumers in the use of natural energy resources
- Contribute to the dual goals of conservation of energy resources and reduction of environmental pollution.

Course Content

1. Meaning, importance, classification of energy resources – based on usability – primary, secondary, intermediate Traditional use- conventional, non-conventional
2. Long-term availability – non renewable, renewable
3. Application of renewable energy – commercial and non-commercial,
4. Types of alternate sources – solar, biomass, tidal and wave energy
5. Principles and Technology of solar cooker, solar water heater, solar dryer, and solar photovoltaic cells
6. Meaning, importance, principles, types of biogas plants and use of biogas
7. Origin of wind, types of wind mills – horizontal axis machine, vertical axis machine, Major applications of wind power

References:

1. **Vandana.S (2002), Alternative Energy.**New Delhi: APH Publishing Corporation.
2. **Curly.R (2005), Renewable & Alternative Energy,** New York:Britannica Educational Publishing.
3. **Garg.H.P. and Prakash.J(2007),Solar Energy Fundamentals and Applications,** New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Text books:

1. **Khan,B.H (2006). Non-Conventional Energy Resources.** Bombay:Tata McGraw-Hill Publishing Company Ltd.
2. **Rai,G.D (2004), Non Conventional Energy Sources,** Fourth Edition,Delhi: Khanna Publishers.
3. **Agarwal,S.K (2005), Non-conventional Energy Systems.**New Delhi: APH Publishing Corporation.

Participatory Learning and Action

Code : 21HSCU06M9

Credits: 2

Pd/Wk: 2

Marks: 100

Learning Objectives:

Enable the students to

1. understand the participatory research methods
2. equip skills in applying PLA techniques in the field

Specific Learning Outcomes:

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

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

Course Content

Unit -I: Participatory Research Methods

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

Unit -II: Participatory Learning and Action

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

Unit -III: Application of PLA methods in rural problem identification, problem analysis and project formulation.

References:

1. Neela Mukherjee (1997). Participatory Rural Appraisal Volume 1 of Studies in rural participation, Concept Publishing Company, New Delhi
2. Stringer, E. T. (2007) Action research (3rd ed.). Thousand Oaks, CA: Sage.

Text book:

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

Part IV Skill Based Elective Courses

Bakery and Confectionery

Code: 21HSCU05S1

Credits : 2

Pd/Wk: 2

Marks :50

Learning Objectives:

Enable the students to

1. Identify and explain baking terms, ingredients, equipment and tools.
2. Develop Skills in bakery
3. Aptitude for producing bakery products

Learning Outcomes

Practical

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 pastries and puffs
7. Preparation of custard, puddings and doughnuts
8. Modified baked products - high fiber, low / alternate sugar, low fat, gluten free, and millet based bakery products for special nutritional requirements.
9. Pricing of bakery products – cost analysis, costing methods
10. 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. Dubey, S.C. (2017). Basic Baking, 5th Edition, ChanakyaMudrakPvt. Ltd., New Delhi.
3. Radhakrishnan .S. (2015) A Guide to Baking Process, Educationist press, A Division of Write & Print Publications, New Delhi-110 015.
4. Hamlyn. (1984). The Best of Baking, London.
5. Indira Kakati. (1984). Egg Less Baking, Sahibabad: Vikas Publishing House

Text book:

Evaluation of Food Quality

Code: 21HSCU05S2

Credits : 2

Pd/Wk: 2

Marks :50

Learning Objectives:

Enable the students

1. To illustrate the concepts and principles of food quality evaluation
2. To provide basic knowledge about sensory evaluation
3. To know the instruments/tools available for objective evaluation

Learning Outcomes:

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

- Know with the basics of food quality evaluation
- Suggest a suitable technique for food quality evaluation
- Address the controlling factors in sensory and objective evaluation

Unit-I: Introduction to Food quality

Food quality meaning, quality traits: sensory, chemical, microbial and toxicological aspects.

Unit -II: Sensory evaluation

Definition of sensory evaluation; sensory attributes; human senses and sensory perception; factors influencing measurements: psychological and physiological errors.

Unit III Sensory Evaluation methods

Classification of test methods; comparison: paired-comparison, duo-trio and triangle tests, ranking: numeric scoring test, hedonic scale, sensitivity and descriptive tests.

Unit IV Objective methods for evaluation

Instruments/tools for evaluation of sensory attributes such as colour, flavour, texture and taste, advantages and limitations.

Unit V Applications of Sensory Analysis in the Food Industry

Quality control; storage stability testing; product development and consumer acceptance testing

References:

1. Herbert Stone, Joel L. Sidel, (2012), "Sensory Evaluation Practices", Academic Press Publishers.
2. Harry T. Lawless, Hildegarde Heymann, (2010), "Sensory Evaluation of Food: Principles and Practices", Springer Science & Business Media.
3. Meilgard (1999). Sensory Evaluation Techniques, 3rd ed. CRC Press LLC,

Textbook:

1. Srilakshmi, B.(2003), "Food Science", New Age International Publishers, New Delhi
2. Maynard A. Amerine, Rose Marie Pangborn, Edward B. Roessler, (2013), "Principles of Sensory Evaluation of Food", Elsevier Publications.

Adolescents' Relations and Well-Being

Code: 21HSCU05S3

Credits : 2

Pd/Wk : 2

Marks : 50

Learning Objectives:

Enable the students to

- Understand the importance of peer relationships
- Gain skills in relationship building

Practical

1. Class room exercise on peer relationships
2. Understanding self as a male/female adolescent: exercise on self-reflection
3. Writing a brief biography of relationship with a close friend
4. Relations with parents and siblings- separate interviews
5. Analysis of different forms of media to understand interpersonal relationships
6. Workshops- managing emotions with reference to relationships and to learn crisis
7. Management
8. 7.Methods of promoting well-being- yoga, self-development resources, counseling
9. Discussion on gender roles
10. Debate on Social Media and adolescence
11. Sessions on Meditation

Skills for Working with Children

Code: 21HSCU05S4

Credits: 2

Pd/Wk : 2

Marks : 50

Learning Objectives:

Enable the students to

1. Understand the characteristics and needs of children
2. Gain skills in planning programmes for children

Practical

1. Prepare case studies of children by interviewing their parents, siblings, peers
2. Develop a detailed activity plan of developmentally appropriate program
3. Organise a workshop on Creative activities for children.
4. Critically review child's activities and participation
5. Prepare various teaching aids –Art resources, storytelling material, worksheets, Music related resources etc.
6. Review of Child related documentaries and films
7. Visit to Institutions working for children
8. Focus group discussion with children in difficult circumstances
9. Design a teaching module for teachers working with young children
10. Assess the Nutritional status of children in an anganwadi.

Care and Maintenance of Household Equipements

Code: 21HSCU05S5

Credits: 2

Pd/Wk : 2

Marks : 50

Learning Objectives:

Enable the students to

1. understand the function, care and maintenance of household equipments.
2. know the procedure to be followed for maintaining the equipments.

Learning Outcomes:

On successful completion of the course, the student will be able to

- do the care and maintenance of equipments available at their houses.

Course content

1. Survey on Household equipments available in the mark Market.
2. Factors to be considered in the selection of household equipments.
3. Working mechanisms, Safety consideration in handling, care and maintenance of the following household equipments such as

Gas Stoves

Refrigerators

Mixie

Food Processors

Microwave oven

Wet grinders

Dish Washers

Coffee Makers

Electric Cookers

Air Friers

Washing Machine

References:

Waste to Wealth

Code: 21HSCU05S6

Credits: 2

Pd/Wk : 2

Marks : 50

Learning Objectives:

Enable the students to

Learning Outcomes:

On successful completion of the course, the student will be able to

Course content

1. Classification of waste and explore kind of waste available/generated by people.
2. Explore ideas for reusing and recycling the waste generated by residents.
3. Case profile of success stories of waste to wealth.
4. Develop prototype/ project for reuse and recycling of waste.
5. Ideas for reusing plastic bottles, disposable glass, spoon and paper plates and lids.
6. Ideas for reusing newspaper, notebooks, book cover, foil paper craft and envelop puppets.
7. Ideas for developing old curtains, table covers, foot mates out of cloth waste.
8. Ideas for reusing straws, disposable glass, pens and refills, Explore old CDs and DVDs reusing.
9. Ideas for reusing dry stem of plants, trees and wall decorations.

Text Book:

1. Lal, Banwari & Sarma, Priyangshu M. (2011) Wealth from Waste: Trends and Technologies, 3rd ed. New Delhi: The Energy and Resources Institute.
2. McDonough, William and Braungart, Michael. (2002). Cradle to Cradle: Remaking the Way We Make Things, United States: North Point Press.

Preparation of IEC Materials

Code: 21HSCU05S7

Credits: 2

Pd/Wk : 2

Marks : 50

Learning Objectives:

Enable the students to

1. To understand various development issues.
2. To learn about IEC materials, their applications and preparation for development.

Learning Outcomes:

On successful completion of the course, the student will be able to

- Understand various Development Issues
- Learn about various types of IEC materials
- Understand the application of IEC material for development.

Course content

1. Meaning and concept of IEC materials, Guidelines for preparing IEC materials.
2. Development of IEC Materials using various design principals and techniques
3. Content analysis of various IEC material for development messages.
4. Designing layouts for various IEC materials like Infographics, audio visual charts, posters, flashcards, flexes, flip books, pamphlets, leaflets, brochures, booklets, modules, manuals
5. Writing scripts on selected developmental issues for radio, and T.V programmes.
6. Viewing and recording various types of television and radio programmes
7. Preparation of various materials through computer applications.
8. Identifying various IEC materials used by NGO's and GO's for development work.
9. Evaluate the IEC materials available with the Government Departments
10. Planning, organizing and evaluation exhibition at village level.

References:

1. Kumar, J.K. (2010). Mass communication in India. Ahemdabad: Jaico publishing house.
2. Bernice Hurst (1996). The handbook of communication skills, Kogan Page Limited, London.
3. Chandra A, Shah A, Joshi U (1989). Fundamentals of teaching Home Science. New Delhi: Sterling publishers.
4. Enderson (1972). Introduction to communication theories and practices, Cummings publishing house, California.
5. Wittich and Schuller. (1967). Audio visual materials. London: Havper & Row publications.

Textile Crafts

Code:

Credits : 2

Pd/Wk: 2

Marks :50

Learning Objectives:

Enable the students to

1. provide opportunity for skill development in textile craft.
2. impart knowledge on handi craft textile products and it's varieties.

Learning Outcomes:

On successful completion of the course, the student will be able to

- learn the craft and its types like floral desgning, lace making, ruge making for decorative purpose.

Practical

Unit -I:

- Quilting and quilt art -5 varieties
- Ceramics and glass craft – 5 varieties
- Floral Design 5- varieties. Bouquet (Each sample five varieties preparation models)

Unit -II:

- Lace making
- Leather carving
- Leather crafting Bouquet (Each sample five varieties preparation models)

Unit -III:

- Rope making,
- Beadwork
- Paper craft– paper marbling, Quling work
- Canvas work (Each sample five varieties preparation models)

Unit -IV:

- Tatting work
- Applique work
- Patch work
- Macrame (Knotting) paracord (Each sample five varieties preparation models)

Unit -V:

- Rug making
- Embroidery and its varieties
- Handi crafts wall hangers/pot decoration (Each sample five varieties preparation models)

References:

1. Textiles and crafts of India, Arunachal Pradesh, Assam, Manipur
2. Textile art of India
3. Textile arts of India Vastra
4. Celtic Designs
5. Madhubani Painting
6. Mahila Art Centre Antique Pallu Designs
7. Modern Decorative Glass painting
8. Fiber arts book of wearable Art
9. Making soft furnishing

Soft Toy Making

Code:

Credits : 2

Pd/Wk: 2

Marks :50

Learning Objectives:

Enable the students to

1. provide opportunity for skill development in soft toy making.
2. develop entrepreneurship skills among the students in textile field.

Learning Outcomes:

On successful completion of the course, the student will be able to

- learn the craft and its types like floral designing, lace making, rug making for decorative purpose.
make toys and its types, to give the knowledge about the soft toy making.

Practical

Unit -I:

Making of Toys – Classification of Toys – materials used – socks , cotton materials , Terry cloth, Felt materials and fur materials

Unit -II:

Designing – Measurement used – Pattern Making and developing Toys, Fish, Frog, Small Toys for case

Unit -III:

Designing – Tracing of patterns – Construction of soft Toys – dogs, duck, snakes

Unit -IV:

Preparation and hand made Toys – Monkey, parrot, squirrel

Unit -V:

Making of Soft Toys- Teddy bear, Dolphins and Elephant

Text Books

1. Creative Drawing
2. Needle craft skills techniques 65 practical projects
3. Textile art of India
4. Helen J Armstrong, Pattern Making for Fashion Design, Prentice Hall
5. Pattern + palette – 2 Arrizabalaga
6. Pattern cutting and making up Martin .M,shoben 81-239-1373-7 Winfred Aldrich, “Metric Pattern Cutting”. Black Well Science. UK
7. Helen J. Armstrong, “Pattern Making for fashion design” Prentice Hall

Value Added Courses

Microgreens Production and Uses

Code:21HSCU0VA1

Credits : 2 Pd/Wk:

Marks :50

Learning Objectives:

Enable the students to

1. Understand about microgreens and its health benefits
2. Gain knowledge on growing, harvesting and marketing microgreens

Learning Outcomes:

On successful completion of the course, the student will be able to

- Grow microgreens using simple equipments at home within available space
- Start growing and consuming microgreens for health
- Excel as Agripreneur and Foodpreneur

Course Content

Unit-I: Introduction to Microgreens

Meaning, scope of growing microgreens, nutritional benefits of microgreens, common microgreens and culinary uses.

Unit -II: Microgreen production

Production infrastructure, production components, growing mediums, growing techniques, maintenance, crop plans and harvesting

Unit-III: Microgreens for business

Regulations, guidelines for sale of microgreens, sanitation and hygiene followed for microgreens cultivation, packing and labelling ,Economics of growing microgreens.

References

1. Donny Greens and Clive Woods (2020)Microgreens: The Insiders Secrets To Growing Gourmet Greens & Building A Wildly Successful Microgreen Business. Klg Publishing Spain
2. Guidelines for Growing Microgreens .Eco City Farms 6010 Taylor Road, Riverdale, Md 20737 Wwww.Ecocityfarms.Org
3. Eric Franks & Jasmine Richardson (2009).Microgreens: a guide to growing nutrient-packed greens Gibbs Smith, Publisher PO Box 667 Layton, UT 84041

Design Your Diet

Code:21HSCU0VA2

Credits : 2 Pd/Wk:

Marks :50

Learning Objectives:

Enable the students to

1. Understand about designing the diet
2. Gain knowledge on assessing techniques and planning diet

Learning Outcomes:

On successful completion of the course, the student will be able to

- Assess themselves to plan their diet
- Start planning diet for themselves and for family

Course Content

1. BMI Calculation
2. 24 hours Diet Recall
3. Recording Food Frequency
4. Finding Likes and Dislikes
5. Identifying Food allergens if any
6. Finalizing Nutrients Requirements based on RDA for Indians
7. Food and Nutrients & Find Foods that Fit
8. Menu Planning
9. Set an eating schedule
10. Track, Analyze, and Adjust Diet plan
11. Menu plan for PEM
12. Diet modification for Communicable Disease- Cholera, Flu, Tuberculosis, Dysentery
13. Menu plan for Non-Communicable Disease/Disorder - Obesity, CVD, Diabetes, Hypertension

References:

Value Addition of Vegetable and Fruits

Code: 21HSCU0VA3

Credits : 2

Pd/Wk: -

Marks :50

Learning Objectives:

Enable the students to

1. Know the processed vegetable and fruit products in the market.
2. Familiar with the preparation of products from vegetables and fruits.

Learning Outcomes:

On successful completion of the course, the student will be able to

- Learn the method of preparing vegetable and fruit based food products
- Apply the knowledge to develop new food products from horticultural crops.

Course content

1. Preparation of green leafy vegetable powders
2. Preparation of dehydrated vegetables
3. Preparation of pickles
4. Preparation of pickled vegetables
5. Preparation of vegetable and fruit preserves
6. Preparation of sweetened fruit beverages such RTS, Squash and cordial
7. Preparation of Jam and jelly
8. Preparation of vegetable and fruit powders
9. Demonstration on canning of fruits and vegetables

References:

1. Srivastava R.P. (2012), Fruit and vegetable preservation – Principles and Practices, International Book Distributing Co., (IBDC), New Delhi.
2. Shafiur, Rahman, M. (2007), Handbook of Food Preservation, 2 nd edition, CRC press, New Delhi.

Text books:

1. Desrosier, N.W. and James N. (2007). Technology of food preservation. AVI Publishers
2. Girdharilal, G.S. et.al.. (1986). Preservation of Fruits and Vegetables. New Delhi: Publications and Information Division, ICAR.

Parenting

Code: 21HSCU0VA4

Credits : 2

Pd/Wk: -

Marks :50

Learning Objectives:

Enable the students to

1. Understand the various parenting styles
2. Identify the factors influencing parenting
3. Know the challenges in various stages of life span

Learning Outcomes:

On successful completion of the course, the student will be able to

Course Content

Unit –I: Parenting: An Overview

- Family as a system,
- Parenting Styles- Characteristics and effects
- Parenting and other significant caregivers in the Indian context

Unit –II: Role of Parents

- Parent-child interactions in Indian family context
- Significant factors influencing parenting: role of birth order, siblings, socio- economic status, cultural, regional background, type of family, lifestyle, values and education on parenting practices

Unit –III: Parenting across the Development Span: Dynamics & Challenges

- Infant care giving practices in Indian context
- Development and care in early years
- Role of parents in adolescence

Unit –IV: Influence of External factors and Significant Others

- Role of other significant care givers in parenting in the Indian context- Grandparents, extended family, community.
- Parents and external influences: Peers, school, neighborhood and electronic media and internet etc.

References:

1. Chaudhury, D. (2017). Parenting tips for Indian parents: Pre-conception to adulthood. Chennai: Notion Press, Inc.
2. Anandalakshmy, S. (2010). Through the lens of culture: Centuries of childhood and education in India. Monographs of BalaMandir Research Foundation. Chennai: BalaMandir Research Foundation.
3. Deb, S. and Chatterjee, P. (2008). Styles of parenting adolescents – The Indian scenario. New Delhi: Akansha Publishing House.
4. Chaudhary, N. (2004). Listening to culture: Constructing reality from everyday talk. New Delhi: Sage.