



**PERIYAR UNIVERSITY**  
**Periyar Palkalai Nagar, Salem-636011**

**PERIYAR INSTITUTE OF DISTANCE EDUCATION**



**M.A., DEGREE**  
**in**  
**HOME SCIENCE**

**REGULATIONS AND SYLLABUS**  
*(Effective from the academic year 2014-2015 and thereafter)*

**M. A., HOME SCIENCE  
REGULATIONS AND SYLLABUS**

(With effect from the academic year 2014 – 15 onwards)

**Preamble**

The M.A. Home Science has been innovatively designed to enable the students to acquire knowledge in the field of Food Science and Nutrition, Food Service Management and Dietetics, Family Resource Management and Interior Design, Human Development, Textiles and Clothing and Home Science Extension. The curriculum is multidisciplinary in nature focusing the individual, family and society; have an integrated approach of combining theory, practical and field work.

**Objectives of the course**

- To develop the capabilities and knowledge of students in the areas of,
  - Food Science, Principles of Nutrition, Nutrition through Life Cycle, Therapeutic Nutrition
  - Food Service Management
  - Family and Community Science
  - Home Economics and Financial Management
  - Textile Science, Apparel Design, Clothing
  - Entrepreneurship
  - Extension and Communication
- To acquire relevant skills required to develop students to become efficient professionals in academics, research, industry and community service in the field of Home Science.
- To enhance communication skills and leadership skills to foster competence and excellence in students.

**Candidate's eligibility for admission**

Degrees in B.Sc Home Science/B.Sc. Degree in relevant discipline (preferred) or any UG degree, approved by the Association of Indian Universities are eligible to seek admission.

**Duration of the course** - Two years.

**Course Structure**

Non Semester Pattern. No Internal Assessment. Total marks: 1700 (11 theory papers, 04 practical papers, 01 Internship and One Project/Dissertation). Each course carries 100 marks

**Structure of the Programme**

S.No.	Course Code	Title of the paper	Exam Hours	Total Marks
<b>First Year</b>				
1	15MHS01	Food Science and Chemistry	3	100
2	15MHS02	Human Development and Nutrition	3	100
3	15MHS03	Principles of Nutrition	3	100
4	15MHS04	Therapeutic Nutrition	3	100
5	15MHS05	Food Service Management	3	100
6	15MHS06	Family Resource Management and Interior Design	3	100
7	15MHS07	Diet Management Practical	3	100

8	15MHS08	Family Resource Management and Interior Design Practical	3	100
9	15MHS09	One month Internship at Dietary Department of the Hospital/Hotel/Health Centres/Garment Industry/Spinning Mills/NGOs involved in Nutrition Education	Viva Voce	100
<b>Second Year</b>				
1	15MHS10	Textile Science and Clothing	3	100
2	15MHS11	Apparel Design and Construction	3	100
3	15MHS12	Community Nutrition and Extension Education	3	100
4	15MHS13	Research Methodology and Statistics	3	100
5	15MHS14	Entrepreneurship and Communication	3	100
6	15MHS15	Textiles and Apparel Design Practical	3	100
7	15MHS16	Computer and Statistics Practical	3	100
8	15MHS17	Project/Dissertation	Viva Voce	100
9	15MHS18	Value Education – Gender and Development	Mandatory to pass this course to get degree	-
<b>Total</b>				<b>1700</b>

### **Internship Rules and Regulations**

The student will be required to under go an internship for a total duration of four weeks in their chosen area of interest as mentioned in the structure of the programme in the first year which will facilitate their professional career in the same field. This programme could be taken up either as a single block or in two different blocks. The student will be required to submit and present a report of the internship after its completion. It is also envisaged that participating organization/institution will give their performance appraisal of the student work (A copy of the performance appraisal certificate with the marks out of 75 has to be enclosed in the internship report). The final mark will be mentioned in the mark sheet once the student completed viva voce examination for the internship.

### **Project/ Dissertation**

Research in the any one of the course under the home science discipline will be required. The report should be submitted with the certificate from the eligible supervisor/quality control manager of the industry/project director of NGOs/Head of the Department concerned with the field of dissertation through proper channel. The viva voce examination will be conducted by inviting experts from panel of examiners specified for the course.

### **Examinations**

Examinations are conducted in non semester pattern. Candidates failing in any subject (both theory and practical) will be permitted to appear for such failed subjects in the same syllabus structure at subsequent examinations for within next 5 years. Failing which, the candidate has to complete the course in the present existing syllabus structure.

### **Scheme of valuation for Dissertation**

**External:** 100 Marks (Introduction and objectives – 10 marks, Review of literature – 15 Marks, Methodology – 20 Marks, Results and Discussion – 25 Marks, Conclusion/Suggestion/Recommendations – 5 Marks, Bibliography – 5 Marks, Viva-voce - 20 marks)

### **PAPER I (15MHS01) FOOD SCIENCE AND CHEMISTRY**

#### **Objectives**

1. To learn about colloidal systems, properties and chemistry of food in raw form and on cooking.

#### **UNIT I**

1. Water: Physical properties of water and Ice, chemical nature, structure of the water molecule, absorption phenomena, types of water solutions and collidative properties, Free and bound water, Water activity and Food spoilage, Freezing and Ice structure.
2. Food Dispersions-Colloidal solutions, stabilization of Colloidal systems,Rheology of food dispersions. Gels: Structure, formation, strength, types and permanence. Emulsions: Formation, stability, surfactants and emulsifiers. Foams: Structure, formation and stabilization.

#### **UNIT II**

1. Cereals and Millets- classification, nutritional composition, structure, types of starch in cereals, principles of starch cookery – gelatinization, gelation, retrogradation, syneresis and dextrinisation, starch uses in food systems. Hydrocolloids.
2. Pulses, Nuts and Oil seeds- classification, nutritional composition, structure, toxic constituents in pulses, factors influencing cooking quality of pulses, complementary proteins. Protein Hydrolysate/Concentrate/Isolate.

#### **UNIT III**

1. Sugars- sources, properties, stages of sugar cookery, sugar substitutes – syrups and potent sweeteners, Structural relationships to sweetness perceptions, hydrolytic reactions, solubility and crystallization, hygroscopicity, fermentation, non- enzymatic browning.
2. Vegetables and fruits –composition, classification, pigments, enzymes, tannins, pectin, acids and flavors, changes during cooking, effect of cooking on pigments, browning reaction, ripening of fruits.

#### **UNIT IV**

1. Egg- structure, composition, coagulation of egg protein, factors affecting coagulation of egg protein, egg quality.
2. Meat – structure and composition, postmortem changes, tenderness of meat, changes during cooking.
3. Poultry and fish – classification, composition, structure, selection of poultry and fish.
4. Milk – types, composition, physical and chemical properties, effect of heat, acids and enzymes, milk substitutes.

#### **UNIT V**

1. Fats and oils - sources, properties, kinds, fat substitutes and replacers, effect of heating on fat, rancidity of fat and its prevention.
2. Spices and condiments- types, uses and abuses.

3. Synthetic and natural, alcoholic and non-alcoholic, carbonated and non-carbonated, coffee, tea, cocoa, malted drinks
4. Salt and Salt Substitutes.

### References

1. Abers, RI, (Ed) (1976) Foam, Academic Press, New York.
2. Belitz, H.D. and Grosch, W. (1999) Food Chemistry (2nd edition), Springer, New York.
3. Charley, H. (1982) Food Science (2nd edition), John Wiley and Sons, New York.
4. Cherry, R.J.Ed) : Protein Functionality in Food. American Chemical Society, Washington D.C.
5. M.N. Ahmed, Food Science and Nutrition, 1<sup>st</sup> Edition Anmol Publications Pvt. Ltd, New Delhi. 2005.
6. Potter, N. and Hotchkiss, J.H. (1996) Food Science, Fifth edition, CBS Publishers and Distributors, New Delhi.
7. Shakuntalamanay, N& Shadakcheraswamy, M, Foods, facts and principles, Wiley Easterd Ltd. 2004.
8. Sri Lakshmi, B. Food Science, New Age International [p] Limited, New Delhi, Third Edition, 2003.
9. Vaclavik, V & Christian, E.W. Essentials of Food Science, XXIV edition, [WWW.Springer.com/978-1-4614-9137-8](http://WWW.Springer.com/978-1-4614-9137-8). 2014.

## **PAPER II (15MHS02)** **HUMAN DEVELOPMENT AND NUTRITION**

### Objectives

1. To highlight the growth, development and nutritional requirements in different stages of life cycle.

### UNIT I

1. Concept of different food groups, Recommended Dietary Allowances for Indians, Basis for requirement, computation of allowances.
2. Pregnancy-stages of gestation, maternal physiological adjustments, weight gain during pregnancy and nature of weight gain, nutritional requirements, storage of nutrients, physiological cost of pregnancy and complications of pregnancy.
3. Lactation- physiological adjustments during lactation, hormonal controls & reflex action, physiology of milk production, nutritional components of colostrum and mature milk, special foods during lactation, nutritional requirements during lactation.

### UNIT II

1. Infancy – process of development, rate of growth, weight as the indicator, breast Vs bottle feeding, nutritional allowances, feeding premature and low birth weight infants, supplementary feeding and weaning foods.
2. Preschool children – process of growth and development, food habits, nutritional requirements, supplementary foods.
3. School age - Early and middle childhood, process of growth and development, food habits, nutritional needs and feeding – packed lunch.

### UNIT III

1. Adolescence – physical growth, pubertal changes, nutritional needs, eating disorders-anorexia nervosa and bulimia, adolescent pregnancy and its complications.

2. Adulthood – Type of work, adult consumption unit, meal planning and nutritional needs.
3. Old age - physiological and psychological changes during old age, nutritional requirements, factors affecting food intake, common nutritional problems in old age.

#### **UNIT IV**

1. Theories of Human development - Early theory –Aristotle, Freud’s psychoanalytic theory, Neo-Freudian-Horney, Sullivan, Eric-fromm. Learning theory - Pavlov, Watson, Skinner, Thorndike. Social learning theory - Bandura’s theory. Theory of self - Roger’s, Field theory by Kurt Lewin, Jung’s Theory. Cognitive development theory - Piaget’s theory, Rousseau Theory, Motivational theory by Murray and Maslow, Erikson’s theory. Personality theory by Allport and Murphy, Adler’s theory of individual psychology, Jhon Locke.

#### **UNIT V**

1. Trends and issues related to the process of development - Issues and concerns related to children in difficult circumstances. Street children, adopted children, girl child, single parent children. Refugee and migrant children, children with disability. Early childhood care and education – objectives, organization and activities of preschool centres, issues and concerns related to training of ECCE and accreditation process.

#### **References**

1. Banerjee (eds) (1985): Cultural and Communication, Paroit Publishers, Delhi.
2. Berry, J.W. Poolinga, Y.H., Sogull, Mane Dasen P.R. (1992). Cross-cultural application Cambridge: University Press.
3. Berry, J.W., Dason, P.R. & Saraswathi, T.S. (Eds.) (1997). Handbook of Cross-cultural psychology: Processes and human development (2 edition) Boston: Ally and Bacon.
4. Berry.J.W. Poolinga. Y.H. & Pandey, J. (Eds.) (1981). Handbook of Cross Cultural Psychology: Theory Method. Boston: Ally and Bacon.
5. Curran. J. et al (1977): Mass Communication and Society, London.
6. Dietary Guidelines for Indians, National Institute of Nutrition, Hyderabad, 2004.
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8. Mahtab S.Bamji, Prasad Rao, N.Vinodini Reddy. Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt .Ltd, Second Edition, 2003.
9. Nutrient Requirement and Recommend Dietary Allowances for Indians by Indian council of Medical research, National Institute of nutrition, Hyderabad, 2004.
10. Ruloof, M.E. and Miller, G.R. (ods) (1987):Interpersonal Process: New Direction in Communication Research, Sage, USA.
11. Srilakshmi, B. Nutrition Science, New Age International [p] ltd, New Delhi, 2002.
12. Sumati. R. Mudambi, M.V Rajagopal., Fundamentals of Foods & Nutrition, 4<sup>th</sup> Edition New age International publishers, New Delhi, 2006.
13. Swaminathan, M. Advanced text book on Food and Nutrition, Anmol Publication Pvt,Ltd, Second Edition. 2004.

### **PAPER III (15MHS03) PRINCIPLES OF NUTRITION**

#### **Objectives**

1. To study the biochemistry of digestion, absorption and utilization of macronutrients, micronutrients and water.

## **UNIT – I**

1. Carbohydrates – Chemistry, Classification, function, digestion, absorption, utilization - Glycolysis, TCA cycle, HMP shunt and energy production, gluconeogenesis. Electron Transport chain and phosphorylation, pentose phosphate pathway, Glycogenolysis, Glycogenesis.
2. Dietary fiber- Definition, types of fiber in plant foods, sources, role of dietary fiber and resistant starch, effect of over consumption of fiber.

## **UNIT – II**

1. Proteins - chemistry, structure classification, function and utilization ; Protein structure Amino acids – classification, function; general pathways of protein metabolism-Denaturation, transamination, deamination, decarboxylation and urea formation, evaluation of protein quality.
2. Nucleic acids – Chemistry Composition, function, classification, Isolation, structure and properties of DNA and RNA. Metabolism of Nucleic acids – biosynthesis and breakdown of purine and pyrimidine nucleotides.

## **UNIT – III**

1. Fatty acids – chemistry Classification, function, utilization, transport, deposit, biosynthesis and oxidation of saturated and unsaturated fatty acids, cholesterol, phospholipids and bile pigments.
2. Energy – Energy value of food and its determination, energy expenditure – components – basal metabolism, physical activity and thermogenesis, factors affecting BMR, energy utilization in cells and energy balance.
3. Role of carbohydrate, protein and fat in energy metabolism.

## **UNIT – IV**

1. Fat soluble vitamins- A,D,E and K - Chemistry, digestion, absorption, metabolism, physiological functions, RDA, sources, deficiency disorders, toxicity, method of assessment and interrelationship.
2. Water soluble vitamins - Thiamine, riboflavin, niacin, vitamin B<sub>12</sub>, folic acid, pyridoxine, pantothenic acid, biotin and ascorbic acid- Chemistry, digestion, absorption, metabolism, physiological functions, RDA, sources, deficiency disorders, toxicity.
3. Method of assessment and interrelationship between vitamins.

## **UNIT V**

1. Macrominerals- calcium, phosphorous, potassium, sodium and chloride - Chemistry, digestion, absorption, metabolism, physiological functions, RDA, sources deficiency disorders, toxicity, method of assessment and interrelationship between minerals.
2. Water and Acid base balance.
3. Micro minerals- iodine, iron, copper, fluorine, zinc, magnesium, manganese, chromium and selenium - Chemistry, digestion, absorption, metabolism, physiological functions, RDA, sources, deficiency disorders, toxicity, method of assessment and interrelationship between micro minerals, interrelationship between minerals and vitamins.

## **References**

1. Ambiga Shanmugam, Fundamentals of biochemistry for Medical students, Karthik printers, 2002.
2. Berdaxier, C.D, Advanced Nutrition- Macro Nutrients, CRC Press USA,1995.
3. Gardon, M. Wardlaw., Paul, M. Iunset and Marcia, F.Seyler, Contemporary Nutrition, Mosby Publications, 1994.

4. Geissler, C. and Powers, H., Human Nutrition, 11<sup>th</sup> edition, Elsevier Publication, 2007.
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7. Powar and Chatwal, Biochemistry, Himalaya publishing house, 2000.
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9. Srilakshmi, B., Nutrition Science, New Age International, 2002.

**PAPER IV (15MHS04)**  
**THERAPEUTIC NUTRITION**

**Objectives**

1. To educate the students on causes, symptoms, dietary management and drug treatment interaction with nutrients in various disorders.

**UNIT –I**

1. Therapeutic diets – Principles & objectives of diet therapy. Review of hospital diets- Regular diet, liquid diet, light diet, soft diet, pre and postoperative diet. Diet planning and use of exchange list in nutrient calculation.
2. Gastrointestinal disorder – Etiology, symptoms and modifications of diet in diarrhoea, constipation, peptic ulcer, malabsorption syndrome and ulcerative colitis.

**UNIT –II**

1. Disorders of liver and gall bladder - Etiology, classification and dietary regimen in jaundice, hepatitis, cirrhosis, hepatic coma, cholecystitis and cholelithiasis. Nutrition and alcoholism.
2. Diseases of kidney –Etiology and dietary management in glomerulo nephritis, nephrosis, renal failure, nephrosclerosis, nephrolithiasis, dialysis and transplantation.

**UNIT –III**

1. Diseases of the heart & circulatory system- Risk factors of cardiac diseases, causes, prevention and dietary management of hypertension, atherosclerosis, congestive heart failure, hyperlipoproteinemia, hypercholesterolemia, role of antioxidants in the prevention and treatment.
2. Obesity and underweight – etiology, types, dietary modifications in the management of obesity and under weight.
3. Anemia – types, signs & symptoms, clinical manifestation, dietary interventions.

**UNIT – IV**

1. Disorders of pancreas- Pancreatitis, Diabetes mellitus – classification, etiology symptoms, metabolic changes, long term & short term complications, types of insulin, dietary modifications for diabetes mellitus, Glycemic index of foods, nutritive and non nutritive sweeteners.
2. Nutrition in cancer- causes of cancer cell development, metabolic and nutritional alterations in malignancy, bodies' defense system, cancer therapy & nutrition, eating problems in cancer, feeding and blend preparation for cancer.

**UNIT –V**

1. Etiological factors & Dietary modifications in Fever, Injury & burns, Allergy, Dental Diseases – dental caries & peritonitis.
2. Management of nervous disorders- Alzheimer disease, Parkinsons disease, Autism.
3. Management of musculoskeletal system disorders- osteoporosis, osteomalasia, osteoarthritis and Rheumatoid arthritis.



4. HIV infection and AIDS- Clinical manifestations, HIV infection and other disease, immunity and AIDS virus, dietary management.

#### References

1. Gopal, C. Kamal Krishnaswamy, Nutrition in Major Metabolic Disease, Oxford India Paper backs Publisher, First Edition, 2000.
2. Lory A. Smolin and Mary B. Grosvenor, Nutrition Science and Application, Saunders College Publishing New York, Third Edition, 2000.
3. Mahan, L.K., Stump, S.E. and Krause, S, Food Nutrition & Diet therapy, 11<sup>th</sup> edition, W.B. Saunders Co, 2004
4. Mahtab S. Bamji, Prasad Rao, N. Vinodini Reddy. Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd, Second Edition, 2003.
5. Passmore, D.P and Break, J.P, Human Nutrition & Dietetics, English language Book Society, Livingston, 1986.
6. Shills, E.M and Olson, S.J and SMC, Modern nutrition in Health and Diseases, Volume II, 8<sup>th</sup> edition, Lea & Febringes, Philadelphia 1994.
7. The Management of Nutrition in Major Emergencies, A.I.T.D.S. Publishers and Distributors Delhi, First Edition 2002.

### **PAPER V (15MHS05)** **FOOD SERVICE MANAGEMENT**

#### Objectives

1. To inculcate the knowledge on institutional food administration strategies and management.

#### UNIT I

1. Introduction to Food Service Systems.
2. Evolution of the food service industry.
3. Characteristics of the various types of food service units - **Commercial** - Hotel, Motel, Restaurant, Cafeteria and Chain hotels; **Welfare** - Hospital, School lunch, Residential establishment and Industrial catering; **Transport** - Air, Rail, Sea and Space; **Miscellaneous** - Contract and outdoor.

#### UNIT II

1. Management - Approaches to catering management, principles and theories of management, functions of management, styles of management, management tools-organisation chart and its type.
2. Strategies in Planning- Conceptual strategy, marketing strategy, financial strategy, types of plans.

#### UNIT III

1. Management of Resources – Finance- Determining the finance needed to establish or run an unit, budgets, sources of finance, planning adequate cash flow.
2. Space & Equipment Management- Steps in planning layouts, determining equipment, selection and placement, layout analysis.

#### UNIT IV

1. Material Management- Menu planning, planning the material needed, methods of selection, purchasing, receiving and storage, quantity food production, service and modes of delivery, planning menus for banquet, outdoor catering, packed meals and restaurant.

2. Personnel Management- Manpower planning, placement, recruitment, induction, training, motivation and performance appraisal.
3. Time and Energy Management- Measures for utilisation and conservation,

#### **UNIT V**

1. Financial management-Definition, cost concept, component of cost, food cost control, pricing, book keeping and accounting, techno-economic feasibility of food production/service enterprise.
2. Marketing and Sales management- Market Survey, sales analysis, market promotion.
3. Quality assurance- Food quality, total quality management, analysis of processed and finished products.

#### **References**

1. Avery, A.C. (1980): Modern Guide to Food Service Equipment. Boston CBI Publishing Company.
2. Brichfield, J. (1988): Design and Layout of Food Service Facilities, New York. Van Nostrand Reinhold.
3. Brodner, J., Maschal, H.T., Carlon, H.M. (1982): Profitable Food and Beverage Operation 4<sup>th</sup> Edition, Hayden Book Company, New Jersey.
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5. Desseler, Garry (1987) Personnel Management Modern Concepts and Techniques, Prentice Hall, New Jersey.
6. Green, E.F., Drake, G.G. Sweeny, J.F. (1978) Profitable Food and Beverage Management; Planning, Operations, Hayden Book Company, New Jersey.
7. Hitchcock, M.J. (1980): Food Service System Administration, Macmillan Publishing Company.
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13. Kotschwar, L.H. & Terrell, M.E. (1977): Food Service Planning and Layout and Equipment 3<sup>rd</sup> Edition John Wiley and Sons, N York.
14. Kumar, H.L. (1986) Personnel Management in Hotel and Catering Industries, Metropolitan Book Company N. Delhi.
15. Levson (1976): Food and Beverage Operation Cost Control & System Management. Printice Hall Series.
16. Sethi Mohini (1993) Catering Management An Integrated Approach 2<sup>nd</sup> Edition Wiley Publication.
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18. West, B Bessie & Wood, Levelle (1988) Food Service in Institutions 6<sup>th</sup> Edition. Revised by Harger FV, Shuggart SG & Palgne-Palacio June Macmillian Publication Company New York.

**PAPER VII (15MHS07)**  
**FAMILY RESOURCE MANAGEMENT AND INTERIOR DESIGN**

**Objectives**

1. To create awareness among the students about the resource management in the family for achieving family goals.
2. To make the students to understand the new dimensions and future challenges of interior designing and to acquaint them with latest trends in functional designing of space, interiors and surroundings.

**UNIT I**

1. Concept of Home Management, System approach to family input, output and feedback
2. Family characteristics influencing management – life style, type of family, family size and stages of family life cycle
3. Factors motivating management – Goals – definition, types and utility, Values – importance, sources, classification, characteristics, changing values, Standards – Definition, classification- quantitative, qualitative, conventional and non conventional, Decision – role of decision making in management, resource availability, methods of resolving conflicts.

**UNIT II**

1. Management Process – Meaning and elements of process – planning, controlling the plan, evaluation and decision making
2. Resources in the family – types of resources, factors affecting the use of resources, classification of family on the basis of resources, management of specific resources.
3. Concept of Ergonomics – its importance and application in home

**UNIT III**

1. Concept of communication process – importance of communication in the family, barriers in communication process, measures for effective communication
2. Concept of work simplification – its importance in home, Mundel's classes of change, simple pen and pencil technique
3. Consumer education – laws protecting consumer, role of consumer society in protecting consumer, kinds of adulteration and identification.

**UNIT IV**

1. Historical perspective of the architectural features of buildings – Structural features of residential buildings in different geo-climatic conditions - Social-cultural and economic issues in housing.
2. Ancient Science of house design - Emerging techniques in the house construction - Low-cost building materials and fabrication techniques – Eco and Ergo-friendly house design - House wiring, sanitary fittings, acoustics - Rain water harvesting structures for houses.
3. Estimation of cost and housing finance - Recent developments in building Bye-Laws - Housing research- Landscaping planning.

**UNIT V**

1. Principles of interior design, functional and aesthetic considerations in use of elements, advances in design process of residential and commercial interiors.

2. Trends in decoration treatments for interiors and interior backgrounds from past to present: furniture, furnishings, lighting, fittings and fixtures, surface materials, finishes.
3. Changing trends in thermal, acoustics and safety mechanisms. Solutions for problem areas in residential and commercial building interiors.

## References

1. Allen PS, Stimpson MF & Jones LM. 2000. Beginnings of Interior Environments. Prentice Hall.
2. Ambadker SN. 2000. Rural Housing: Agro-socio-economic Impact. Special Indian Ed. Agrobios.
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4. Choudhari SN. 2006. Interior Design. Avishkar Publ.
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25. Zimmerman N. 2003. Home Workspace Idea Book. The Taunton Press.

**PAPER VII (15MHS07)**  
**DIET MANAGEMENT PRACTICAL**

**Objectives**

1. To enable the students to recommend and provide appropriate nutritional care for life cycle; prevention and treatment of various deficiency symptoms and diseases

**Modules**

1. Market survey of commercial nutritional supplements and nutritional support substrates.
2. Commonly used test for diagnosis of various diseases- system wise.
3. Interpretation of patient data and diagnostic tests.
4. Drawing up of diet prescription using a case study approach.
5. Follow up – acceptability of diet prescription, compliance and discharge diet plan.
6. Preparation of diet counselling aids for common physiological conditions in life cycle and disorders.
7. Planning balanced diet for an infant, preschool children, school children, adolescent boys and girls, adult men and women, old aged person.
8. Planning diet for deficiency conditions of macro and micronutrients.
9. Planning diet for patients with common multiple disorders, complications and discharge diet plans.

**PAPER VIII (15MHS08)**

**FAMILY RESOURCE MANAGEMENT AND INTERIOR DESIGN PRACTICAL**

**Objectives**

1. To develop the ability to evaluate the management efficiency and effectiveness in the family and other organizations.
2. Apply aesthetics and creative abilities in interiors

**Modules**

1. Diagrammatic representation of the following –
  - a. Management process
  - b. System approach to management
  - c. Decision making
  - d. Types of management
2. Identification of problems of rural /urban consumers. Project work: in depth study of any one identified problem-finding measures to overcome the problem-developing consumer education material on selected issue.
3. Study the structure and functioning of consumer redressal fora. Understanding the procedures for filing a consumer complaint. Study of the proceedings of consumer court.
4. Market survey of different building materials and finishes.
5. Study of different housing designs.
6. Analysis of house plan of different income groups. (Area, circulation, grouping).
7. Critical analysis of interiors of a selected residential and non-residential buildings and suggested improvements – Visits to building design institutes, hotels, furniture and furnishing show rooms and residential buildings to identify new trends – Market survey of surface materials, finishes, fittings and fixtures – Detailed cost estimation of interior design and decoration elements.

**PAPER X (15MHS10)**  
**TEXTILE SCIENCE AND CLOTHING**

**Objectives**

1. To acquaint the students on science of textile fibers, fabric testing, fabric construction, clothing and advances in textile technology

**UNIT I**

1. Polymer chemistry – polymers, method of polymerisation, polymerisation process, characterisation of polymers.
2. Chemistry, properties, manufacture and uses of cellulosic fibers and regenerated cellulosic fibers, protein fibers, synthetic fibers – polyester, polyamide and acrylonitrile fibers, other natural and synthetic fibers – jute, flax, hemp, tencel, polyethylene, carbon, polycarbonate, metallic, glass, polyurethane fibers.

**UNIT II**

1. Yarns – classification, identification, manufacture and uses of yarns in fabric.
2. Fabric construction – types of woven, non woven, knitted and other construction techniques.
3. Fabric testing – fabric constructing analysis, porosity, air permeability, thermal conductivity of fabric and dimensional stability of fabric.

**UNIT III**

1. Technical textiles – classification and its importance.
2. Dyeing – classification and types of dyes, chemistry of dyes or pigments, dyeing techniques, eco friendly natural dyes and role of mordants.
3. Printing auxiliaries; advanced printing techniques, style of printing, assessment for colour fastness, preparation of stencil of prints, preparation of screen, tie and dye, block and screen printing.

**UNIT IV**

1. Fabric finishes – concept of finishes, functional finishes, eco-friendly finishing with enzymes, comfort imparting finishes, textured yarns & fabrics, finishing of blended fabrics.
2. Advanced textile design - draft & peg plan for different weaves, complex & fancy structures, dobby & jacquard patterning devices, method of making carpets.
3. Status of textile industry in India, History of Indian textile development, study of traditional textiles and embroideries of India.

**UNIT V**

1. Principles of clothing, origin of clothing, use of clothing among primitive people; functions and theories of clothing; clothing in relation to culture, socio – psychological aspects of clothing.
2. Selection of fabrics, comfort in clothing and family clothing.
3. Clothing design for special needs - maternity and lactation period, old age, differently abled.
4. Protective clothing- military, sports, farm, industrial workers, fire fighters.

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29. Vilensky G. 1987. Textile Science. CBS.
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**PAPER XI (15MHS11)**  
**APPAREL DESIGN AND CONSTRUCTION**

**Objectives**

1. To impart an in-depth knowledge on style reading, pattern making and garment construction techniques.

**UNIT I**

1. Body measurements - importance and principles of taking body measurements, body measurements required for different garments, standardizing the body measurements;

study on different figure types - stout, thin, slender, narrow shoulders, broad shoulders, round shoulders, large and flat chest, flat and large hips, long neck, short neck, thick neck, types of faces.

2. Industrial machines used for cutting, sewing, finishing and embellishment.

#### **UNIT II**

1. Pattern making – methods of pattern making – Drafting, flat pattern and draping.
2. Developing paper pattern – understanding the commercial paper pattern, layouts on different fabrics, widths, and types.

#### **UNIT III**

1. Interrelationship of needle, thread, stitch length and fabric.
2. Advanced techniques of pattern making - incorporating style lines & fullness. Pattern adoption to knits.
3. Principles of contouring, surplice/off shoulder and halter designs; built-in necklines, cowls and collars, skirts, advanced sleeve variations, exaggerated armholes, pockets, bias cut dresses, jackets, types of pants.

#### **UNIT IV**

1. Introduction to fashion accessories, tools and equipment. Fashion trends in accessories.
2. Product development and designing- trims, foot wear, handbags, belts, buttons and buckles, hats, scarves, hosiery, jewellery, neck ties, hand kerchiefs, eye wear and watches.
3. Role of computers in product development and related softwares.

#### **UNIT V**

1. Apparel quality analysis – Quality specifications and standards in raw material purchasing, quality control in spreading, cutting and bundling products. Quality factors in sewing, pressing, folding & finishing; quality aspects of trims and fashions.
2. Standards- sources of application; national and international organisation for standards.
3. Inspection techniques; quality auditing system.

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**PAPER XII (15MHS12)**  
**COMMUNITY NUTRITION AND EXTENSION EDUCATION**

**Objectives**

1. To develop competencies among students for reaching out to vulnerable group in community and facilitating them to secure rewarding careers and vocations in extension media and communication for rural development.

**UNIT I**

1. Community- definition, characteristics and types of community.
2. Nutritional status assessment – Direct parameters – anthropometry, Dietary survey, Clinical and Biochemical methods, Growth monitoring methods, Body composition studies.
3. Nutritional status assessment – Indirect parameters – Vital statistics - Health indicators, population tests and indicators, socio- economic indices, KAP surveys, nutrition indicators.

**UNIT II**

1. Methodology in incidence, prevalence and epidemiological studies. Incidence, prevalence, epidemiology and preventive programmes of nutritional problems in India – PEM, vitamin A deficiency, Anaemia, Iodine deficiency disorder and Fluorosis.
2. Food security- Definition, Factors affecting food security system, National and international approaches to improve food security.
3. Nutrition Education- Types and Methods of education, principles of planning, executing and evaluating nutrition education programmes, problems of nutrition education.

**UNIT III**

1. Nutrition Intervention Policies and Programmes in India- National Nutritional Policy, PDS, Objectives and operation of Chief Minister Noon Meal Programme (CMNMP), Integrated Child Development Service (ICDS), Primary Health Center (PHC). National organizations– ICMR, NIN, NNMB, CFTRI, DFRL, ICAR, NIPCCD, NSI, NFI and IDA. International Organization– FAO, WHO, UNICEF, UNESCO, UNDP and World Bank.
2. International voluntary services – CARE, CRS, IDRC, Micronutrient Initiative (MI), IFPRI, WFS, WFP, AUSAID, CIDA, SIDA, DANIDA, USAID.

**UNIT IV**

1. Extension- Meaning, philosophy, objectives, principles, functions, components and dimension of education.
2. Extension Education – meaning, process and principles of learning in extension education.
3. Extension models – technology-innovation transfer model, social education model, indigenization model, social action/conscientization models, empowerment participation model, combination models.
4. Extension approaches – agricultural extension, commodity specialized, training and visit, participatory, project, farming systems development, cost sharing, educational institution, integrated, area, cluster and target approach.

**UNIT V**

1. National extension systems – genesis, growth, objectives, principles, critical appraisal of the community development programme. ICAR extension system, agricultural universities, KVK, TTCs, extension systems of Ministry of Rural Development,

Department of Science and Technology, Department of Industries and Department of Women and Child Development, Development work by NGOs, Government-NGO collaboration.

2. Support structures and their functions – Panchayat, Panchayat Union and DRDA, Central Social Welfare Board, State Social Welfare Board, National Level Voluntary agencies like CAPART, KVIC, local level voluntary agencies. Peoples's organization at gross roots – SHGs, elected panchayats.
3. Extension system in other countries – Sri Lanka, Indonesia, Philippines, China, Bangladesh, USA and Australia.

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## **PAPER XIII (15MHS12) RESEARCH METHODOLOGY AND STATISTICS**

### **Objectives**

1. To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
2. To understand and apply the appropriate statistical technique for the measurement scale and design.

### **UNIT I**

1. Definition and Objectives of research.
2. Types of Research: Historical, survey, experimental, case study, social research, participative research.
3. Definition and identification of a research problem, selection of research problem, justification, hypothesis, limitations and delimitations of the problem.
4. Ethics in research.

## **UNIT II**

1. Types of variables
2. Theory of probability, population and sample, probability sampling: systematic random sampling, two stages and multi stage sampling, cluster sampling, non-probability sampling: purposive, quota and volunteer sampling/snowball sampling.
3. Basic principles of quantitative research design - purposes of research design, types - fundamental, applied and action, exploratory and descriptive, experimental, survey and case study, ex-post facto, longitudinal and cross sectional, analytic studies – observational, case control, cohort and intervention studies.
4. Study design issues and sample size and power.

## **UNIT III**

1. Qualitative research methods- theory and design in qualitative research, types of qualitative research.
2. Methods and techniques of data collection- scheduled questionnaire, interviews, observation, case study and home visits.
3. Reliability and validity of measuring instruments.
4. Scales of measurement and the appropriate statistical techniques.

## **UNIT IV**

1. Conceptual understanding of statistical measures, Classification and tabulation of data, Representation of data.
2. Measurement of central tendency, measures of variation, Frequency distribution, histogram, frequency, polygons, Oliver, Binomial distribution, Normal distribution; Use of normal probability tables.

## **UNIT V**

1. Parametric and non-parametric tests, testing of hypothesis; Type I and Type II errors, levels of significance, chi-square test, goodness of fit, independence of attributes  $2 \times 2$  and  $r \times c$  contingency tables, application of student 't' test for small samples.
2. Difference in proportion for means and difference in means, co-relation, coefficient of co-relation, rank co-relation, regression and prediction, analysis of variance- one way and two way classification.

## **References**

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**PAPER XIII (15MHS12)**  
**ENTREPRENEURSHIP AND COMMUNICATION**

**Objectives**

1. To orient and impart knowledge towards identifying and implementing entrepreneurship opportunities.
2. To develop understanding regarding vital aspects of communication, various audio and visual media and their use.

**UNIT I**

1. Concept, nature and types of entrepreneurship, development of entrepreneurship in India, entrepreneurship and socio-economic development.
2. Government policies and schemes for enterprise development.
3. Institutional finance and entrepreneurship organization - concept, nature, process and importance of organisation.

**UNIT II**

1. Entrepreneur - Meaning, definition, characteristics and function, social responsibility of an entrepreneur, effectiveness of entrepreneurs, organisation supporting entrepreneurs, licensing & regulation of industries, infrastructure facilities.
2. Developing entrepreneurial competencies – requirements and understanding the process of entrepreneurship development, self awareness, interpersonal skills, creativity, assertiveness, achievement, factors affecting entrepreneur's role.

**UNIT III**

1. Launching and organizing an enterprise – environment scanning – information, sources, schemes of assistance, problems; enterprise selection; market assessment; enterprise feasibility study, SWOT analysis; resource mobilization – finance, technology, raw material, site and manpower; costing, marketing management and quality control; feedback, monitoring and evaluation.
2. Growth strategies – performance appraisal and assessment, profitability and control measures, demands and challenges, need for diversification, future growth – techniques of expansion and diversification, vision strategies.
3. Enterprise networking – concept and dynamics, methods, joint venture, co-ordination and feasibility study.

**UNIT IV**

1. Concept of communication, scope of communication, communication process, approaches to communication.
2. Different media – Classification of media, Selection of appropriate media, Production and use of selected media in Home Science, Writing scripts for radio talk, television talk, puppet play, street play, writing for newspapers, magazine.
3. Use of video projector, slide/filmstrip projector computers.
4. Presentation of graphics for research reports/seminars/other presentation. Presentation using power points.

## **UNIT V**

1. Designing leaflets, pamphlets, booklets, cover pages, posters.
2. Introduction to new communication technologies – satellite distribution and broadcast networking, developing close circuit television package on (ccTV) topics, incorporating the use of video films in presentation, making use of slides with audio commentaries for presentation, development and use of transparencies, digital method of communication, computer graphic designing.
3. Internet, e-mail, fax, mobile, interactive video and teleconferencing, computer and computer networking (PAN, LAN, CAN, MAN, WAN); AGRINET, e-Governance.

### **References**

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8. Ray, G.L. (1999), Extension Communication and Management, Nays Prakashan, Calcutta.

## **PAPER XV (15MHS15)**

### **TEXTILE SCIENCE AND APPAREL CONSTRUCTION PRACTICAL**

1. Identification of fibers - cotton, polyester, viscose, silk, wool, jute etc. by the use of burning test, microscopic examination, chemical tests, solubility and staining tests.
2. Dyeing of cotton yarn with direct, reactive and vat dyes (one each) by exhaust method. Dyeing of wool and silk with an acid dye by exhaust method.
3. Designing through flat pattern - Dart manipulation.
4. Development of variations in collars, sleeves, necklines and facings, plackets.
5. Development of paper pattern and construction of garments.
6. Standardizing the body measurements for toddlers, preschoolers, grade schoolers, teenage girls and adult women.
7. Preparation of basic block for various age groups.
8. Preparation of final patterns for various age groups.
9. Quality analysis of selected garments in the market through the preparation of score card.
10. Visit to a textile and garment industry.

### **References**

1. Riter Findal, 1998, Hand Book for Fashion Designing Best Drafting Techniques, Mittal Publication, New Delhi, India.
2. Natabi Bray, 1999, Dress Pattern Designing, OM Book services, Prakash House., Ansari Road, Darga Gang, Delhi.

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**PAPER XVI (15MHS16)**  
**COMPUTER APPLICATION AND STATISTICS PRACTICAL**

**Objectives**

1. To understand the role of statistics and computer application in research.
2. To apply statistical techniques to research data for analyzing and interpreting data meaningfully.  
(Students should be given hands-on experience to use appropriate software packages for selected statistical analyses)

**Modules**

1. Classification and tabulation of data.
2. Diagrammatic Representation of data.
3. Measurement of central tendency.
4. Measures of dispersion and variation.
5. Application of student 't' test for small samples.
6. Analysis of variance – one way and two way classification.
7. Correlation – coefficient of correlation.
8. Regression and Prediction.
9. Experimental Designs – Completely randomized designs, randomized block design, Latin square design, factorial design and trend analysis.
10. Preparation of research article for publication in Scopus indexed journals.

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**PAPER XVIII (15MHS18)**  
**GENDER AND DEVELOPMENT**

**Objectives**

1. To understand the concept, need, relevance and dimensions of gender empowerment.
2. To know the support system in the country for women's development.

**UNIT I**

1. Concept of gender, gender roles, changing trends, gender analysis matrix, shift from welfare to development, national and international ethics for gender empowerment.
2. Status of women – meaning, status of women a situational analysis, demographic, educational, employment, political and health status. Changing scenario.

**UNIT II**

1. Violence against women – dowry, divorce, female foeticide and infanticide, domestic violence, sexual harassment and exploitation, portrayal of women in mass media, efforts for elimination of all forms of discrimination.

### **UNIT III**

1. Policies and Programmes for Women's Development – National policy for empowerment of women, policy perspectives, mainstreaming, a gender perspective in the development process.
2. Economic empowerment – poverty eradication, micro-credit, self help groups, women and agriculture, women and industry and support services.

### **UNIT IV**

1. Social empowerment – education, health, nutrition, drinking water and sanitation, housing and shelter, environment.
2. Legal empowerment – legal literacy on personal and family laws, role of family court and legal aid centres.
3. Political empowerment – role of panchayat raj in the political empowerment of women.

### **UNIT V**

1. Role and functions of Department of Women and Child Development, Central Social Welfare Board, State Social Welfare Boards, National Commission for Women, Women Development Corporation.

### **References**

1. Black M. (1983), Girls and Women, A UNICEF Development Priority, UNICEF, New York.
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