

**Syllabus for  
B.A. Home Science  
(04 Year Course)**

**Based on  
CBCS and NEP**

**Department of Home Science  
University of Lucknow  
Lucknow - 226007**

**CBCS & NEP Based Proposed Semester wise Syllabus for B.A. Home Science, University of Lucknow, Lucknow**

Proposed Structure UG Home Science												
Year		Major-1 (Home Science)			Major- 2 (Other Subject-1)		Minor (Other Subject-2)		CC/VC		Total Credits	Award
	Semester	Paper	Title	Credits	Paper	Credits	Paper	Credits		Credits		
I	Sem-1	Paper-1	Human Physiology	4	Paper-1	4	Paper-1	4	CC-1	4	24	Certificate
		Paper-2	Family Resource Management	4	Paper-2	4						
	Sem-2	Paper-3	Introduction to Textiles	4	Paper-3	4	Paper-2	4	VC-1	4	24	
		Paper-4	Practical	4	Paper-4	4						
II	Sem-3	Paper-5	Food & Nutrition	4	Paper-5	4	Paper-3	4	CC-2	4	24	Diploma
		Paper-6	Human Development-I: The Childhood Years	4	Paper-6	4						
	Sem-4	Paper-7	Extension Education & Communication	4	Paper-7	4	Paper-4	4	VC-2	4	24	
		Paper-8	Practical	4	Paper-8	4						
III	Sem-5	Paper-9	Nutrition: A Life Cycle Approach	4	Paper-9	4			Internship or Assignment	4	24	Degree
		Paper-10	Human Development-II: Development in Adolescence & Adulthood	4	Paper-10	4						
		Paper-11 (A or B)	11A: Gender in Extension & Development Or 11B: Community Health Management	4								
	Sem-6	Paper-12	Practical	4	Paper-11	4			Minor Project	4	24	

		Paper-13	Apparel Designing & Construction	4	Paper-12	4						
		Paper-14 (A or B)	14A: Housing & Interior Design Or 14B: Entrepreneurship Management	4								
IV	Sem-7	Paper-15	Community Nutrition	4					Research Methodology	4	24	B.A. Research
		Paper-16	Communication Technology in Extension	4								
		Paper-17	Ergonomics for Home Science	4								
		Paper-18 (A or B)	18A: Textile Science Or 18B: Fabric Orientation	4								
		Paper-19 (A or B)	19A: Early Childhood Care & Education Or 19B: Methods & Materials for Children									
	Sem-8								Major Project	24	24	
			<b>TOTAL CREDITS</b>	<b>76</b>		<b>48</b>		<b>16</b>		<b>52</b>	<b>192</b>	

<b>Semester-1</b>	
<b>Paper-1: Human Physiology</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course outcomes:</b> <ul style="list-style-type: none"> <li>• To understand basics of Human physiology</li> <li>• Enable the students to understand the integrated function of all systems and the grounding of nutritional science in physiology.</li> </ul>	
<b>Unit-I</b> Cell: Structure, components and their function. Tissue: Types and Functions; Epithelial, Connective, Muscular and Nervous Skeletal System: Axial and Appendicular	
<b>Unit-II</b> Cardiovascular System: Blood and its composition; Structure and function of heart; Heart rate, cardiac cycle Respiratory System: General overview of the respiratory passage; Lungs-Structure and functions; Mechanism of respiration	
<b>Unit-III</b> Excretory System: Structure and function of kidney, formation of urine Endocrine system: Overview of endocrine System Gastrointestinal System: Structure and functions of various organs of the G.I. tract, Mouth, Pharynx, esophagus, stomach, small intestine, large intestine, Accessory, Digestive glands -Location and functions, salivary, liver and pancreas.	
<b>Unit-IV</b> Nervous System: Functions of different parts of brain in brief; Sensory organs- Eye and ear Reproductive System: Structure and function of Sex glands and organs; Menstrual Cycle; Physiology of pregnancy, parturition, lactation and menopause	
<b>Suggestive Reading:</b> Brinda Singh, Manav Sharir evam Kriya Vigyan Panchsheel Prakashan, Jaipur; 2015, 15 <sup>th</sup> Ed. Chatterjee, C.C., "Human Physiology" Medical Allied Agency; Vol I, II. Text Book of Biology for 10+2 Students (NCERT) Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-1</b>	
<b>Paper-2: Family Resource Management and Housing</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Learn the family resource management as a whole.</li> <li>• Understand the Decision making and use of resources throughout the Family life cycle.</li> <li>• Gain knowledge about Time, Money &amp; Energy as a Resource.</li> </ul>	
<b>Unit-I</b> Introduction to Family: Definition, functions and types; Family life cycle Introduction to management: Basic concept of management; Purpose of management; Obstacles to the improvement of management: Lack of awareness of management; Lack of awareness of resources; Failure to evaluate results of management; Seeking ready-made answers to problems; Lack of information  <b>Unit – II</b> Determinates of Management: Goals – definition, types and utility; Values – importance, sources of Values Classification, characteristics, changing values; Standards – definition, classification; Decision making Management Process: Planning – importance, techniques, types of plans; Controlling the plan in action: Phases energizing checking; Supervision of delegated plan; Evaluation: Importance, relationship to goals; Techniques of self-evaluation  <b>Unit -III</b> Resources in the family: Classification, Factors affecting the use of resources Money Management: Family income, Expenditure, Budget Process, Savings  <b>Unit – IV</b> Time Management: Importance, Tools in Time Management, Process. Energy management: Importance, Fatigue and Measures to relieve fatigue, Process Work simplification: Importance, Mundell’s classes of change	
<b>Suggestive Reading:</b> Moorthy G. (Ed.). (1985). Home Management. N. Delhi.: Arya Publishers Mullick, P. Text Book of Home Science: Ludhiana, Kalyani Publishers Nickell, P., and Dorsey, J, M. (2002). <i>Management Family Living</i> . New Delhi: CBS Publishers (ISBN13: 9788123908519). Varghese, M. A, Ogale, N. N and Srinivasan, K. (2001). Home Management. New Delhi. New Age International (P) Ltd. Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester -2</b>	
<b>Paper-3: Introduction to Textiles</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course outcomes:</b> <ul style="list-style-type: none"> <li>• Learn about scope of textile and clothing</li> <li>• Understanding why fabrics are different</li> <li>• Learn how fabrics can be manufactured</li> <li>• Understand basic clothing concepts and garment making</li> </ul>	
<b>Unit-I</b> Textiles Fibers- Classification and Properties (Chemical, Physical and Microscopic) Production/Manufacture and importance of following textile fiber: Natural – cotton, linen, wool and silk; Man-made –nylon, rayon, polyester and acrylic	
<b>Unit-II</b> Yarn Construction- Mechanical and chemical spinning: Types of yarn- simple and complex; Yarn twist and count	
<b>Unit-III</b> Fabric construction methods: felting, braiding, netting, knitting and weaving; Classification of weaves with special reference to simple weaves	
<b>Unit-IV</b> Fabric finishes: Basic – Singeing, beetling, shearing, sizing, teetering, bleaching, calendaring and mercerizing; Texturizing – embossing, moorings and napping; Functional – water resistant and repellant, flame retardant, soil and stain resistant, moth proofing finishes Dyeing and printing: types of dyes, general theory of dyeing, tie and dye and batik Difference between dyeing and printing, block printing, roller printing, screen printing and stencil printing	
<b>Suggestive Reading:</b> Colbmen P Bernard: Textiles Fiber To Fabric Hollen & Saddler: Introduction To Textile Joseph M: Introduction To Textiles Trotman: Textile Fiber Science R Bhatia & C Arora (1999), Introduction To Clothing And Textile, Printed by Macho Printery, Raopura,Baroda. Complete Guide To Sewing By Reader's Digest: published by The Reader's Digest Association(Canada) Ltd. Montreal-Pleasantville, NY, 2002. Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester -2</b>	
<b>Paper-4: Practical</b>	
<b>Credits: 4</b>	<b>Theory: 00 + Practical: 04</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To gain hands-on practical training</li> </ul>	
Study of different systems (minimum 04 parts) Measuring blood pressure Identification of blood groups Budget Planning.  Decorative dyeing: Tie and dye Printing: Block printing; Screen printing  Utility Article and Preparation of file with samples of different types of embroideries stitches.	

<b>Semester-3</b>	
<b>Paper-5: Foods and Nutrition</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>▪ Students will get familiar with different methods of cooking</li> <li>▪ Acquaint students with practical knowledge of nutrient rich foods</li> <li>• Explain the need and importance of studying human growth and development across life span</li> </ul>	
<b>Unit-I</b> Basic concept of Food and Nutrition: Definition of nutrition and health; Functions of food-physiological, psychological and social; Relationship between food nutrition and health. Energy in human nutrition: Energy balance, assessment of energy requirement; Factors affecting energy requirements-BMR, PAL, SDA	
<b>Unit-II</b> Classification of Nutrients: Macro and Micro Nutrients Function and nutritional importance of the following: Carbohydrates, Lipids, Proteins; Fat soluble Vitamins- A, D, E and K; Water soluble Vitamins- Vitamin B Complex and Vitamin C; Minerals and trace elements: Calcium, Iron, Zinc, Iodine, Sodium & Potassium	
<b>Unit-III</b> Classification of food according to source and function Nutritional composition of following foods: Cereals; Pulses and legumes; Fruits and vegetables; Milk and milk product; Egg, Meat, fish and poultry	
<b>Unit-IV</b> Importance of cooking food Cooking methods and their effect on nutritive value of foods Methods of enhancing nutritive value of food – germination, fermentation, supplementation and fortification	
<b>Suggestive Reading:</b> Sumati R Mudami, “Fundamentals of food Nutrition and Diet Therapy”, New Age International Pvt. Ltd, New Delhi, 6 <sup>th</sup> Ed. (2018) Punita Sethi and Poonam Lakda, “Aahar Vigyan, Suraksha evam Poshan”; Elite Publishing House, New Delhi ;2015 Sahai Devina, Aahar Vigyan, New Age International Pvt. Ltd, New Delhi, 1st Ed. (2019) Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	



<b>Semester-3</b>	
<b>Paper-6: Human Development I: The Childhood Years</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Explain the need and importance of studying human growth and development across life span</li> <li>• Identify the biological and environmental factors affecting human development.</li> <li>• Learn about the characteristics, needs and developmental tasks of infancy &amp; early childhood years</li> </ul>	
<b>Unit-I</b> Introduction to Human Development: Concept, Definition and need to study of Human Development; Domains, Stages and contexts of development; Principles of Growth and Development; Determinants of Development- heredity and environment	
<b>Unit-II</b> Prenatal Development, Birth and Neonate: Conception, Pregnancy and Birth; Physical appearance and capacities of the new born; Factors affecting Pre-natal development.	
<b>Unit-III</b> Infancy and Preschool Years: Developmental tasks during Infancy and Preschool Stage; Physical and Motor Development; Social and emotional development; Cognitive and language development	
<b>Unit-IV</b> Middle Childhood years: Developmental Tasks during middle childhood; Physical and Motor Development; Social and emotional development; Cognitive and language development	
<b>Suggestive Reading:</b> Hurlock E. Child Development Berk, L.E. <i>Child development</i> New Delhi: Prentice Hall (2005) (5th ed.). Berk L.E. Child Development Allyn and Bacon 1992 (6th) Edition. Keenan, T., Evans, S., & Crowley, K. <i>An introduction to child development</i> , Sage (2016) Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-4</b>	
<b>Paper-7: Extension Education and Communication</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Learn the widening concepts of Extension Education.</li> <li>• Develop understanding for Effective teaching and learning.</li> <li>• Comprehend the various effective communication methods.</li> <li>• Gain skills to use technologically advanced Audio-visual aids.</li> </ul>	
<b>Unit-I</b> Extension: Basic Concept and Principles: Meaning, Definition, objectives, philosophy and history of extension Education; Adult learning components of Extension; Principles of Extension Education; Meaning, definition, objectives and importance of Home Science Extension Education <b>Unit – II</b> Extension Approaches and Methods: Extension methods and approaches- Classification, characteristics and selection. Audio Visual Aids, Teaching Aids in Extension- Concept, Classification, characteristic and importance Leadership: Concept, Types, functions and importance of local leadership; Diffusion of innovation and adoption <b>Unit – III</b> Extension Programme planning: Concept, Definition, Principles and Importance of programme planning; Programme cycle and its components Monitoring and Evaluation: Meaning, definition, scope and Tools of evaluation <b>Unit – IV</b> Communication and Extension development programmes: Definition, elements, scope and barriers of communication; Mass media of Communication- Press, Radio, Television, Cinema National Development Program in India: Rural Developments efforts of pre independent- Niketan project, Gurgaon Experiment, Firka Development Programme; Post independent development programmes- Nilokheri Experiment, Etawah pilot project, Indian Village Services (IVS), National Extension Service (N.E.S.)	
<b>Suggestive Reading:</b> Dubey V.K, Srivastava Archana, Agrawal Garima, Grah Vigyan Prasar Avam Sampreshan. Star Publications Agra. Dahama, O.P., & Bhatnagar, O.P.[1998]. “Education and Communication for Development”. New Delhi. - Oxford and IBH Publishing Co. Pvt.Ltd. Reddy, A. [1987]. “Extension Education”. Bapatha, Andra Pradesh, India.: Sreelekshmi Press. Supe A.N. (1983). An introduction to Extension Education. Delhi: Oxford IBH Publishing Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-4</b>	
<b>Paper-8: Practical</b>	
<b>Credits: 4</b>	<b>Theory: 00 + Practical: 04</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>▪ Students will get familiar with different methods of cooking</li> <li>▪ Acquaint students with practical knowledge of nutrient rich foods</li> <li>▪ Explain the need and importance of studying human growth and development across life span</li> <li>▪ Identify the biological and environmental factors affecting human development.</li> <li>▪ Learn about the characteristics, needs and developmental tasks of infancy &amp; early childhood years</li> </ul>	
<p>Weight and measures – their equivalents</p> <p>Preparing, serving and evaluating food items: Beverages, fruits and milk based; Cereals, variations in parenthesis, purees, rice pulao, dosa, idli, preparation using noodles, macaroni; Pulses- dals, vadas, dhokla, kadis; Vegetables – koftas, cutlets, baked vegetable dishes and fancy preparations; Soups – variations in soups; Salads and salad dressings</p> <p>Milk – paneer, khoya and curd</p> <p>Indian Sweets</p> <p>Curries and kababs</p> <p>Desserts, sandwiches and snacks</p> <p>Baking – biscuits, cakes, pie and patties</p> <p>Study of physical, motor, social, emotional, language and cognitive development at different stages and writing report (Any five practical)</p> <p>Preparation and presentation of Audio-Visual Aids: Chart, Poster, Leaflet &amp; pamphlet, Booklet, Flash card</p>	

<b>Semester-5</b>	
<b>Paper-9: Nutrition: A Life Cycle Approach</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Create an awareness about importance of healthy meal at various stages of life cycle</li> <li>• Inculcate healthy eating practices among students</li> <li>• Develop skill of meal planning for different physiological groups</li> </ul>	
<b>Unit-I</b> Nutritional Requirement and RDA. Dietary guidelines for Indians: Concept of reference Indian man and reference women Principles of meal planning: Concept of Balanced Diet; Food composition table and Exchange list.	
<b>Unit-II</b> Factors affecting meal planning for a family. Nutrition during early years-Growth standards, Nutritional guidelines, RDA and healthy food choices for: Infancy; Pre-school children; School going children	
<b>Unit-III</b> Nutrition during Adult years- Growth standards, Nutritional guidelines, RDA and healthy food choices for: Adolescence; Adulthood; Pregnancy and Lactation	
<b>Unit-IV</b> Therapeutic Nutrition: Concept of therapeutic diet; Modification in normal diet; Normal, soft, liquid and bland diet; Nutrition in common diseases: Fever, Typhoid and T.B; Diarrhea and constipation; Obesity; Diabetes; Hypertension	
<b>Suggestive Reading:</b> Sheel Sharma, "Nutrition and Diet Therapy, Peepee Publishers , New Delhi ; 2014 Ankita Gupta "Text book of Nutrition" Medico Refresher Publisher, Agra, 2018 Subhangini A Joshi; Nutrition and Dietetics, Mc Graw Hill Education, Private Ltd. Kumud Khanna, "Text book of Nutrition and Dietetics", Elite Publishing House Pvt. Ltd, New Delhi, 2013, 7 <sup>th</sup> Ed. Swaminathan M, " Essentials of Food and Nutrition Vol I and II Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-5</b>	
<b>Paper-10: Human Development II: Development in Adolescence and Adulthood</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Explain the Physical &amp; Psychological changes during middle childhood, adolescent and adulthood stage.</li> <li>• Identify the biological and environmental factors affecting personality.</li> <li>• Learn about the characteristics, needs and developmental tasks of Middle childhood years, Adolescent &amp; Adulthood stage.</li> </ul>	
<b>Unit-I</b> Introduction to Adolescence: Developmental tasks during adolescence; Significant Physical, physiological and hormonal changes in puberty; Psychological aspects of adolescence; Self and Identity; Family and peer relationship	
<b>Unit-II</b> Cognitive language and Moral Development during Adolescence: Perspective on cognitive development, development of intelligence and creativity; Adolescent language; Adolescent Morality	
<b>Unit-III</b> Introduction to Adulthood: Concept, transition from adolescence to adulthood; Developmental tasks of Adulthood; Physical and physiological changes from young adulthood to late adulthood	
<b>Unit-IV</b> Socio- emotional aspect of adulthood: Diversity in roles and relationships; Marriage- Contemporary trends; Parenting and grand parenting	
<b>Suggestive Reading:</b> Monaster G.J. 1 Adolescent Development Life Tasks. Mc.Graw Hill (1977). Ambron S.R. Child Development Holt, Rinehart and Winston 1978 (IIInd Edition). Mussen P.H. Conger J.J. Kagan J and Huston A.C. 1990. Child Development and Personality(VI Edition) Harper and Row Publishers New York. Boeknek G. Human Development Brook and Cole Publishing Company 1980. Aadhunik Vikasatmak Manovigyan , Shri Vinod Pustak Mandir Agra Edition 3 <sup>rd</sup> 2015 Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-5</b>	
<b>Paper-11A: Gender in Extension and Development</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To get acquainted with the process of Development with importance of Gender based programming and programmes.</li> <li>To understand the efforts at different levels for empowering women</li> </ul>	
<b>Unit -1</b> Gender and Development: Concept of gender, gender roles, changing trends, gender analysis matrix; Shift from welfare to development and empowerment, gender in development, gender and development; National and international efforts for gender empowerment	
<b>Unit -2</b> Status of Women: Status- meaning, status of women-a situational analysis, demographic, education, employment, political and health (general, occupational and reproductive); Changing scenario	
<b>Unit -3</b> 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.	
<b>Unit -4</b> Support System: Role and functions of the Department of Women and Child Development, Central Social Welfare Board, State Social Welfare Boards, National Commission for Women, Women's Development Corporation.	
<b>Suggestive Reading:</b> Choudhary, D.Paul- Child Welfare and Development. Desai, N and Pate, V., Indian Women: Change and Challenge in the International Decade. Singh, Surendra and Srivastavam S.P.- Gender Equality Through Women's Empowerment: Strategies and Approaches Kant, Anjani- Women and the Law. Suggestive digital platforms web links- Swayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-5</b>	
<b>Paper-11B: Community Health Management</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To learn about Community based Mass Health Programmes and their Management at different levels.</li> <li>To get sensitized to management information systems in health.</li> <li>To learn about the Health Indices and Health Based Services.</li> </ul>	
<b>Unit -1</b> Concept of Health and Health Care: Concepts of health and positive health, definitions of health; Health – factors affecting health, health as a human right; Concept of community health and global health, health for all; Primary health care - definitions, principles, components, comprehensive health care, levels of prevention, concept of reproductive health. Health and Development Indices: Health indices and related indices in community health, fertility indicators, demographic indicators – sex ratio, social and mental health indicators; Human Development Index; Reproductive Health Index.	
<b>Unit -2</b> Community Health Needs and Problems: Health needs and problems related to sanitation and environment, protected water, personal hygiene and pollution control; Health needs of special groups-women, infants, children; Major health problems in India; Communicable and non-communicable diseases; Population problem and its impact; Problems of malnutrition; Reproductive health problems.	
<b>Unit -3</b> Health Care Services: Health administrative set up - state, national, urban, rural, private; Role of NGOs in health services; Importance of National Health Programmes; Child survival and safe motherhood; Importance of Child Health and related programmes; Health in relation to community development; Important National and International Health Agencies; Health Information, education, communication.	
<b>Unit -4</b> Management of Information System in Health Sector: Health surveys; Monitoring health; Health regulations and acts, health legislations; Census; Evaluation of health services. Ecology and Environment: Cause, effects and prevention of global warming; Concept of natural and man-made disasters.	
<b>Suggestive Reading</b> Suchman, E.H.- Sociology in the Field of Public Health. Smolenske- Principles of Community Health. Dak, T.M.- Sociology of Health in India Mangatt, A.N. and Bomen, S.C.- Social Service and Mental Health Suggestive digital platforms web links- Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-6</b>	
<b>Paper-12: Practical</b>	
<b>Credits: 4</b>	<b>Theory: 00 + Practical: 04</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Ability to identify fibers and fabrics; Understanding why fabrics are different</li> <li>• Learning basic Sewing skills; Learn how garments are stitched</li> <li>• To learn the art of house decoration and lay-out planning</li> <li>• Practical knowledge of dietary management.</li> </ul>	
<p>Sewing Machine – its parts and accessories, common defects and remedial measures</p> <p>Sample Preparation- different types of stitches, seams, seam finishes.</p> <p>Drafting, stitching and decoration of any four garments: Petticoat; Baby frock; Saree blouse; Salwar; Ladies Kameez; Gown</p> <p>Preparation of colour wheel and colour schemes.</p> <p>Develop questionnaire on various social issues.</p> <p>Planning of layout of various types of Kitchen.</p> <p>Preparation of Soft and Liquid diet</p> <p>Diet Planning for: Pre School children, School going Children, Adolescents, Adults, Pregnant Women; Lactating Mother</p>	
<b>Suggestive Reading:</b> <p>Cutting Tailoring and Dress Making: National open School, B-31-B Kailash Colony, New Delhi – 1100048.</p> <p>R Bhatia &amp; C Arora (1999), Introduction to Clothing and Textile, Printed by Macho Printery, Raopura, Baroda</p> <p>Helen J Armstrong, Pattern Making for Fashion Design, Prentice Hall</p> <p>Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991</p> <p>Metric Pattern cutting &amp; Grading by Winfred Aldrich.</p> <p>Khanuja, Reena. Vastra Vigyaan ke Sidhant, Agrawal Publication, Agra.</p> <p>Suggestive digital platforms web links-Svayam Portal,  <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a></p>	



<b>Semester-6</b>	
<b>Paper-13: Apparel Designing and Construction</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Learning basics of Cutting, Stitching and designing</li> <li>• Learn about latest fashion fittings and trends</li> </ul>	
<b>Unit-1</b> Anthropometric Measurement: Concept, importance, techniques. Pattern making: Methods of Drafting, draping, flat pattern, techniques, use; Principles of pattern making; Importance of patterns and patterns importation.	
<b>Unit-2</b> Selection of fabrics: Factors affecting the selection of fabric for different garments; Calculating amount of fabric needed for different garments. Lay out planning: Definition, types of lay outs; General guide lines for lay out planning for patterns and fabric.	
<b>Unit-3</b> Fitting: Good fit, definition, principles and clues for good fit; Fitting areas, fitting guide lines and procedures. Different types of stitches: Construction and decorative. Different types of seams and seam finishes.	
<b>Unit-4</b> Fashion and design: Elements and principles of arts in dress designing; Designing for different figures types Fashion: Definition, fashion cycle; Sources of fashion, factors favoring and retarding fashion	
<b>Suggestive Reading:</b> Basic Process of clothing construction, Dongaji Das, New Raj Book Depot, New Delhi Complete Sewing Guide, Reader's Digest Publications Handbook for Fashion Designing, Best Drafting Techniques, Rither, Jindal Mittal Publications, New Delhi Isabel B. Wingots Textile, Fabrics and their selection practice, Hall Ive Ends, Wood Cliff, New Jersey More dress pattern designing, Natalie Bray, Om Boom Services, Prakash House, New Delhi Pattern for women's clothing, Grey Cookling, Om Boom Services, Prakash House, New Delhi Zarapker system of cutting, Zarepker, Navneet Publications Ltd., Bombay Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-6</b>	
<b>Paper-14A: Housing and Interior Design</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Grasp knowledge of Housing need &amp; selection of site in real life situations.</li> <li>• Comprehending Housing plans for residential purpose.</li> <li>• Appreciate principles of design and the contributing factors to refine personal aesthetic senses</li> </ul>	
<b>Unit-I</b> Family Housing Needs: Principles of House Planning-Grouping, orientation, Circulation, Flexibility, Privacy, spaciousness, aesthetics, economy, light and ventilation; Planning different Residential Spaces; Kitchen Planning	
<b>Unit-II</b> Design Fundamentals: Objectives of Art and Interior Design; Types of Design-Structural and Decorative; Elements of Art- Line, form, texture, light, colour, pattern, space; Principles of Design-Balance, harmony, proportion, Emphasis, Rhyth.	
<b>Unit-III</b> Colour and Its Application: Dimension of colour; Importance of colour and different colour scheme; Colour system and theories	
<b>Unit-IV</b> Furniture and Furnishing: Types, Construction, Selection and purchase, Arrangement; Furnishing-Selection, care and maintenance of soft furnishing, types of curtain and draperies, upholstered furniture, cushions	
<b>Suggestive Reading:</b> Khanuja, Reena (2018) Grah Vyavastha avam Grah Sajja. Agrawal Publications, Agra ISBN: 978-93-81124-96-3 Patni Manju & Sharma Lalita, Grah Prabandh, Star PublicationsAgra. Cherunilam, F., &Hedggade, O. D. (1987). <i>Housing in India</i> . Bombay: HimalayaPublishing House.. Goldstein. H & Goldstein V. (1954). Art in Everyday Life Macmillan Publishers. Rutt, A.H. (1963) Home furnishing. John Wiley & Sons, Inc.; Supriya, K.B. (2004). Landscape gardening and designing with plants. Pointer Publishers. Teresa, P. Lanker. (1960). Flower Arranging: Step-by-step Instructions for EverydayDesigns. Florist Review Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-6</b>	
<b>Paper-14B: Entrepreneurship Management</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To learn the practices and principles of management in running a small business.</li> <li>To learn the basics of business management.</li> </ul>	
<b>Unit-1</b> Entrepreneurship Management: Concept, need and process of entrepreneurship development. Types of enterprise Role of Enterprise in National and Global Economy: Government policies and schemes for enterprise development. Institutional support in enterprise development and management	
<b>Unit-2</b> Entrepreneurship motivation and competency: Important features of entrepreneurial personality. Launching an enterprise: Environment scanning, enterprise selection, market assessment.	
<b>Unit-3</b> Resource mobilization, costing and monitoring, evaluation Performance appraisal and assessment Profitability and control measures	
<b>Unit-4</b> Market economy: Basic definitions, types of market, marketing mix, marketing environment Strategic Planning and Marketing steps: Product development, promotion and distribution.	
<b>Suggestive Reading:</b> Bedekar, S.J. (1991): Marketing- Concept and Strategies, Oxford University Press, Mumbai. Deacen, RE and Firebaugh, F.M. (1981): Resource Management Principles and Application, Allyn and Dacen and Bacen Bosten. Hirtich R.D. and Peters M.P. (1995): Entrepreneurship- Starting Developing and managing a New Enterprise, Richard D. Irwinm INC, U.S.A. Memoirs, C.B., Principles and Practice of Marketing in India, Kitab Mahal Meredith, G.G. et.al. (1982) Practice of Entrepreneurship. ILO, Geneva Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-7</b>	
<b>Paper-15: Community Nutrition</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To gain basic knowledge of Community Nutrition</li> <li>To learn about Health Based Diagnostics and Programmes</li> </ul>	
<b>Unit -1</b> Concepts of community nutrition. Nutritional problems of the community and its implications for public health. Causes, incidence, signs and symptoms and treatment of PEM, Vitamin A deficiency, Iron Deficiency, Iodine Deficiency, Fluorosis and Lathyrism.	
<b>Unit -2</b> Sociological factors contributing in the Etiology and Prevention of Malnutrition: Food production and availability, cultural influences, socio-economic factors, food consumption and distribution, emergency disaster conditions. Malnutrition and Infection: Interrelationship between the two, Immunization.	
<b>Unit -3</b> Assessment of Nutritional Status: Meaning, Need, Objectives and Techniques. Primary Methods: Anthropometric measurements: Weight, Height, Skin Fold Thickness, Head Circumference, MUAC, Chest Circumference; Use of Growth Chart; Bio-chemical Assessment; Clinical Method; Dietary Survey - Types.	
<b>Unit -4</b> Secondary Methods: Vital Statistics; Mortality Rates- Crude death rate; infant mortality rate; maternal mortality rate; survival rate; morbidity rate; fertility rate.	
<b>Suggestive Reading:</b> Publications of the International Life Science Institute. Serimshow N and Glesson G (ed.) (1991). Rapid Assessment Methodologies for Planning and Evaluation. Health Related Programme published by (INFDC) International Nutrition Foundation for Developing Countries. Stryer L (1984). 4th ed. Bio-Chemistry WH Freeman and Co. UNICEF's State of the World's Children. WHO (1999) Nutrition for Health and Development Progress and Prospects. On the eve of the 21st Century WHO INHD, 99.9 Geneva. Suggestive digital platforms web links- Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-7</b>	
<b>Paper-16: Communication Technology in Extension</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Develop understanding for Effective teaching and learning.</li> <li>• Comprehend the various effective communication methods.</li> <li>• Gain skills to use advanced Media Systems</li> </ul>	
<b>Unit -1</b> Communication Systems: Types of communication systems- concept, functions and significant interpersonal, organizational, public and mass communication. Elements, character and scope of mass communication. Mass communication-models and theories; Visual communication-elements of visual design - colour, line, form, texture and space; Principles of visual design - rhythm, harmony, proportion, balance and emphasis; Visual composition and editing.	
<b>Unit -2</b> Media Systems: Trends and Techniques: Concept, scope and relevance of media in society; Functions, reach and influence of media; Media science in India, issues in reaching out to target groups; Contemporary issues in media: women and media, human rights and media, consumerism and media; Historical background; nature, characteristics, advantages and limitations and future prospects of media; Traditional media vs. Modern media.	
<b>Unit -3</b> Print and Electronic Media: Background, Types, Role and Significance; Advantages and Effective Usage	
<b>Unit -4</b> Advertising: Definition, concept and role of advertising in modern marketing system and national economy.	
<b>Suggestive Reading:</b> Chaubey BK (1990) A Handbook of Education Extension, Jyoti Publication, Allahabad Singh, R. (1987)Text Book of Extension Sahitya Kala Prakashan , Ludhiana Extension Programme Planning, Oxford and IBH Publishing Company Pvt. Ltd. New Delhi Joshi Umer (1997). Textbook of Mass Communication and Media, Anmol Publications, New Delhi. Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a> .	

Semester-7
Paper-17: Ergonomics for Home Science
<p><b>Course Outcome:</b></p> <ul style="list-style-type: none"> <li>To gain basic knowledge and about principles of Ergonomics in Home Science</li> <li>To understand the importance of ergonomics in designing work stations and household equipment ascertain productivity.</li> </ul>
<p><b>Unit-1</b>  Ergonomics: Definition, History and evolution.  Scope of Ergonomics in home and other occupations  Nature of work in household and other occupations  Human Body and Work: Physiology of Neuro-muscular function in relation to occupational ergonomics; Physiological factors in muscle work; Physical work capacity; Energy requirement for muscular work; Energy expenditure for different activities; Endurance and muscular strength.</p> <p><b>Unit-2</b>  Job Analysis: Significance of job analysis for occupational ergonomics; Fundamental elements of job analysis.  Concepts and significance of Anthropometry in relation to occupational ergonomics: Definition and Scope; Identification and analysis of postures</p> <p><b>Unit-3</b>  Environmental factors in relation to occupational ergonomics: Physical characteristics of task; Environmental stress factors such as Heat, Noise and Light; Effects and Control of Heat Stress; Noise Pollution and its effects; Effect of light on work efficiency</p> <p><b>Unit-4</b>  Application of Ergonomic Principles in: Tool Evaluation and Design; Work Station Evaluation and Design; Household works; Maintenance of Postures</p>
<p><b>Suggestive Reading:</b>  Gross I.H. and Crendall, E.W. and Knoll, M.M.- Management for Modern Families, Prentice Hall Inc. New Delhi.  Grand Jeen Ettiens (1978)- Ergonomics of the Home, Taylors and Francis Ltd., London.  Nickell and Dorsey, Management in Family Living.  Nag, P.K. (1996) Ergonomics and Work Design and Emerging Issues in Organizational Science, New Age International (P) Ltd., New Delhi.  Chaffin D.B. and Anderson G.B. (1984) Occupational Bio-Mechanics, John Wiley &amp; Sons  Suggestive digital platforms web links-Svayam Portal,  <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a></p>

<b>Semester-7</b>	
<b>Paper-18A: Textile Science</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To acquaint students about the polymers of which the textile fibres are made.</li> <li>To understand the chemistry, production and fundamentals properties of natural and synthetic fibres</li> </ul>	
<b>Unit-1</b> Polymer Science: Definition of Polymers, degree of Polymerization, Orientation and Crystallinity of Polymers, Addition and Condensation Polymers. Methods and Techniques of Polymerization  <b>Unit-2</b> Cotton: Morphological Structure, Chemical Composition, Physical & Chemical Properties, Modification of Cotton. Silk and Wool: Chemical Composition, Chemical Structure, Physical and Chemical Properties.  <b>Unit-3</b> Polyamide and Polyester Fibre: General Structure, Industrial process of Polymerization, Physical and Chemical Properties. Acrylonitrile and Elastomeric Fibres: Synthesis, Physical and Chemical Properties  <b>Unit-4</b> Yarn Nomenclature, Classification and Numbering System: Tex Device and Count. Yarn Manufacture: Spinning process, Modern Developments in yarn, textured yarn Technology.	
<b>Suggestive Reading:</b> Corbman P Bernared :Textiles- Fibre to Fabric Joseph M: Introduction to Textiles R.S. Prayag: Technology of textile printing. Noyes Data Corp. V.A. Shenai: Technology of printing- technology of textile processing, Vol.IV, Sevak Prakashan M.L. Gulrajani and Deepti Gupta (1990): Natural Dyes and their application to textiles. Ed. IIT, Delhi Publication Chattopadhyaya and Kamala Devi: Handicrafts of India. New Delhi. Indian Council of Cultural Relations. Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-7</b>	
<b>Paper-18B: Fabric Ornamentation</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> Knowing why fabrics look differently Identify the different techniques of fabric from surface Learn about finishes done on fabrics and about dyeing fabrics Learn how printing on fabrics is carried Knowing the traditional embroideries of India	
<b>Unit-1</b> Dyeing: Tie and Dye and Batik; Dyeing with natural dyes, use of pigments; Dyeing auxiliaries and their use; Dyeing defects and their remedies.	
<b>Unit-2</b> Printing: Printing methods- Block, stencil, screen, roller, rotary; Printing auxiliaries, their use and importance; Printing styles- direct, resist, discharge, photographic, transfer, flock printing; After treatment of printed goods.	
<b>Unit-3</b> Embroidery: General embroidery techniques; Hand embroidery- knowledge of 25 hand embroidery stitches; Traditional Indian embroidery- Chikankari, Kasuti, Phulkari, Kashida, Kantha, Kutch, and Kathiawar.	
<b>Unit-4</b> Appliqué Work and Quilting: Appliqué Work- basics, hand appliqué; Machined appliqué, bias tape appliqué, reverse appliqué techniques; Quilting - the art, quilting tools, designs; Basic quilting technique.	
<b>Suggestive Reading:</b> Marsh JT: Textile Finishes Trotman Er: Dyeing And Chemical Technology Of Fibres J. Hall: The Standard Hand Book Of Textiles, Wood Head Publication, 2004 J.E. Smith: Textile Processing –Printing, Dyeing, Abhishek Publishing, 2003 Kate Broughton: Textile Dyeing, Rockport Publishers, 1996 W.S. Murphy: Textile Finishing, Abhishek Publication, 2000 Naik.D. Shailiaja: Traditional Embroideries Of India, New Age International Publishers, 1996 Naik. D. Shailiaja, Jacquie.A. Willson: Surface Designing Of Textile Fabrics, New Age International Publishers, 2006 Bhargav, Bela. Vastra Vigyaan, Univ. Book House Pvt. Avam Dhulai Kala, University Book House, Pvt Ltd. Jaipur Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	



<b>Semester-7</b>	
<b>Paper-19A: Early Childhood Care and Education</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To gain knowledge and insight regarding principles of ECCE</li> <li>To develop the skills and techniques to plan activities in ECCE Centres</li> </ul>	
<b>Unit- 1</b> ECCE: Concepts, objectives, need, scope and significance. Types of Pre-schools: Play Centers, Day Care, Montessori, Kindergarten, Balwadi, Aganwadi. ECCE in the National Policy on Education	
<b>Unit -2</b> Contribution of the thinkers in ECCE: Pestalozzi, Rousseau, Frobel, John Dewey, Maria Montessori, M.K.Gandhi and Rabindra Nath Tagore.	
<b>Unit -3</b> ECCE in India: Pre-Independence period, Post-Independence-Kothari Commission, Contribution of Five-Year Plans to ECCE, Yash Pal Committee. Contribution of the mentioned agencies/ programmes to ECCE in India: ICCW, IAPE, NCERT, ICDS, UNICEF, NCTE, Mobile Creche etc.	
<b>Unit -4</b> Pre-School Centers: Concept, Administrative set-up, Functions and Organization.	
<b>Suggestive Reading:</b> Grewal J.S., 1998. Early Childhood Education - Foundation & Practices, Harprasad Bhargava Edu. Publishers, Agra. Mohanty & Mohanty,1994. Early Childhood Care and Education, Deep & Deep Pub., New Delhi. Singh B, 1997. Pre-School Education, APH Publishing Corp., New Delhi. Muralidharan R & Banerji V, 1991: A Guide for Nursery School Teacher, NCERT, New Delhi. Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-7</b>	
<b>Paper-19B: Methods and Materials for Children</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To have an insight to learn and develop innovative techniques for children</li> <li>To become familiar with activities of children and to evolve motivational methods and materials</li> </ul>	
<b>Unit -1</b> Basic principles and methods of Early Childhood Education Play: Role of Play in development and education in early years; Types of play activities. Programme Planning for young children: Principles, goals, objectives, schedule of activities.	
<b>Unit -2</b> Play activities and materials for physical and motor development: Movement and mobility; Gross and fine motor skills; Healthful living; Role of educator Play activities for social and emotional development and for exploring the environment	
<b>Unit –3</b> Play activities for developing Communication- language skills: Importance of communication, promotion of language skills- listening, speaking, reading and writing; Activities for language development: conversation, pre-reading, writing skills, songs and rhymes, story-telling, riddles. Literature for children: Need and types; Importance of story-telling and techniques of story-telling. Art and creative activities: Significance, types of art activities; Role of teacher in planning the activity, motivating children; Music	
<b>Unit -4</b> Activities to promote mathematical concepts in young children: Development of mathematical concepts; Principles of teaching mathematical concepts Activities to promote Science: Thinking, observing, inferring, classifying, communicating; Concept formation – differentiation, grouping, labeling; Developing scientific outlook and Role of teacher in some important science experiences.	
<b>Suggestive Reading:</b> Grewal, J.S., Early Childhood Education Foundation and Practice, II Ed., Educational Publishers. Singh, Bhoodev, Pre-School Education, Ist Ed. APH Publishing Corporation. Mohanty & Mohanty, Early Childhood Care and Education, Deep & Deep Publications Pvt. Ltd. Muralidharan R (1991), A Guide to Nursery School Teachers, NCERT, New Delhi. Suggestive digital platforms web links- Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	

<b>Semester-8</b>
<b>Major Project (24 Credits)</b>
<b>Credits: 24</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>To plan and execute a major project based on any one of the five disciplines of Home Science</li> </ul>
<p>One Research Based Project based on anyone of the five disciplines of Home Science will be planned and executed. The report of the project will be prepared and submitted in the form of Dissertation.</p>

<b>Semester-7</b>	
<b>CC: Research Methodology</b>	
<b>Credits: 4</b>	<b>Theory: 04 + Practical: 00</b>
<b>Course Outcome:</b> <ul style="list-style-type: none"> <li>• Explain the concept and use of Research</li> <li>• Develop a research proposal</li> <li>• Learn about the data, sample and report writing</li> <li>• Conduct survey</li> </ul>	
<b>Unit-I</b> Social Research: Concept; Scope; Steps of research  <b>Unit – II</b> Sampling: Concept, Techniques, Principles and Limitations of sampling.  <b>Unit -III</b> Data Collection: Sources of Data Collection: Primary & Secondary; Tools of Data collection: Interview Schedule, Observation, Questionnaire; Methods of data collection  <b>Unit – IV</b> Report Writing: Summary, Conclusion and Recommendations; Writing Suggestive Reading; Writing process of research report: Formal Style of writing, Preface, Making Chapters, Headings, Tables and Figures, Appendices, Bibliography and Acknowledgement	
<b>Suggestive Reading:</b> C. R. Kothari: Research Methodology- Method and Techniques R. Kumar: Research Methodology: A step by Step Guide for Beginners M. H. Gopal: Introduction to Research Methodology for Social Sciences Good, Carter, Scales and Douglas: Methods of Research Suggestive digital platforms web links-Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>	