

**National Education Policy-2021**  
**Common Minimum Syllabus for all Uttarakhand Universities/Colleges**  
**Bachelor of Arts**  
**Major: HOME SCIENCE**

Year	Semester	Major	Minor Elective	Vocational Minor
<b>I</b>	<b>I</b>	Fundamentals of Nutrition and Human Development- (4 Th)	Techniques of Food Preservation (3+1; Th+Pr)	Basic Nutrition and Hygiene (2+1;Th+Pr)
		Cooking Skills and Healthy Recipe Development (2 Pr)		
	<b>II</b>	Introduction to Clothing and Textile and Family Resource Management- (4 Th)		
		Clothing and Textile- (2 Pr)		
<b>II</b>	<b>III</b>	Housing, Interior Decoration and Extension Education- (4 Th)	Entrepreneurship Management (3+1; Th+Pr)	
		Interior Decoration and Development of Extension Teaching Aids-(2 Pr)		
	<b>IV</b>	Nutrition through Life Span and Human Development - (4 Th)		
		Meal Planning and practical based on aspects of Human Development - (2 Pr)		
<b>III</b>	<b>V</b>	Surface Ornamentation of Fabrics - (4 Th)		
		Community Development and Programme Planning- (4 Th)		
		Techniques of Surface Ornamentation of Fabrics-(2 Pr)		
	<b>VI</b>	Dietetics and Therapeutic Nutrition- (4 Th)		
		Family Welfare and Community Education- (4 Th)		
		Therapeutic Diet Preparation and Nutrient Evaluation-(2 Pr)		

**Semester-wise Titles of the Papers in Major- Home Science**

**Core Courses**

Year	Semester	Course Code	Paper Title	Theory/Practical	Credits
<b>B.A-1</b>	<b>I</b>	HSC/UG001	Fundamentals of Nutrition and Human Development	THEORY	4+0+0
		HSC/UG002	Cooking Skills and Healthy Recipe Development	PRACTICAL	2+0+0

	II	HSC/UG003	Introduction to Clothing and Textile and Family Resource Management	THEORY	4+0+0
		HSC/UG004	Clothing and Textile	PRACTICAL	2+0+0
B.A-2	III	HSC/UG005	Housing, Interior Decoration and Extension Education	THEORY	4+0+0
		HSC/UG006	Interior Decoration and Development of Extension Teaching Aids	PRACTICAL	2+0+0
	IV	HSC/UG007	Nutrition through Life Span and Human Development	THEORY	4+0+0
		HSC/UG008	Meal Planning and practical based on aspects of Human Development	PRACTICAL	2+0+0
B.A-3	V	HSC/UG009	Surface Ornamentation of Fabrics	THEORY	4+0+0
		HSC/UG010	Community Development and Programme Planning	THEORY	4+0+0
		HSC/UG011	Techniques of Surface Ornamentation of Fabrics	PRACTICAL	2+0+0
	VI	HSC/UG012	Dietetics and Therapeutic Nutrition	THEORY	4+0+0
		HSC/UG013	Family Welfare and Community Education	THEORY	4+0+0
		HSC/UG014	Therapeutic Diet Preparation and Nutrient Evaluation	PRACTICAL	2+0+0

#### Minor Elective

Year	Course Code	Paper Title	Theory/Practical	Credits
I	HSCUG015	Techniques of Food Preservation	Theory+Practical	3+0+1
II	HSCUG016	Entrepreneurship Management	Theory+Practical	3+0+1

#### Vocational Minor

Year	Semester	Course Code	Paper Title	Theory/Practical	Credits
I	I	HSCUG017	Basic Nutrition and Hygiene	Theory+Practical	2+0+1
	II				
II	III				
	IV				

## **Major- Home Science**

### **Programme Objectives**

- The program has been framed in such a manner that students receive real feel of quality education by touching all aspects of human lifecycle.
- Designed to enhance the capacity of students to understand universal and domain-specific values in Home Science.
- Develop the ability to address the complexities and interface among self, social and national priorities.
- Inculcate both generic and subject-specific skills to succeed in the employment market and standards of life.
- Promote research and innovation and design (product) development favoring all the disciplines in Home Science.
- Developing scientific and practical approach among the students pertaining to their day-to-day life.

### **B.A. First Year Certificate in Arts**

#### **Program Outcomes:**

At the end of the program following outcomes are expected from students:

- Learn about the discipline of Home Science as a holistic field of study covering multiple facets and requirements of human beings in day to day living, for example, achievement of appropriate milestones in personal development: awareness, need and use of family resources; access to adequate nutrition for wholesome development; clothing fundamentals.
- They will develop capabilities to start earning by enhancing their skills in the field of Nutrition and Textiles.

### **B.A. Second Year Diploma in Arts**

#### **Program Outcomes:**

1. Grasp knowledge of Housing, need & selection of site in real life situations.
2. Developing housing plans for residential purpose.
3. Appreciate principles of design and the contributing factors to refine personal aesthetic senses.
4. Learn the concepts of Extension Education, effective communication methods, using technologically advanced audio- visual aids.
5. Create awareness about importance of healthy meal at various stages of life.
6. Inculcate healthy eating practices among students.

7. Develop skill of meal planning and therapeutic diets for different physiological groups.
8. Physical & Physiological changes throughout life cycle.

**B.A. Third Year**  
**Bachelor of Arts**

**Program Outcomes:**

- Programme is framed to encourage a genre of responsible students with a passion for lifelong learning and creating multi-skilled leaders with a holistic perspective that cuts across disciplines.
- Promotion of research, innovation and design (product) development favouring all the disciplines in Home Science.
- Enhancement of digital literacy and its application to engage in real time problem solving and ideation related to all fields of Home Science.
- Appreciate and benefit from the symbiotic relationship among the five core disciplines of Home Science-Resource Management, Food Science and Nutrition, Textiles and Clothing, Human Development and Family Studies and Extension and Communication.

# DETAILED SYLLABUS

## B.A. I (Home Science)

### Semester I

#### HSC/UG001- Fundamentals of Nutrition and Human Development (Theory)

Programme/Class: Certificate	Year: I	Semester: I
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG001</b>	Course Title: <b>Fundamentals of Nutrition and Human Development(Theory)</b>	
<b>Course Outcomes:</b> The student at the completion of the course will be able to: <ul style="list-style-type: none"> <li>• Prepare the students to understand physiology-based courses</li> <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>		
Credits:4	<b>Core Compulsory / Elective</b>	
Max. Marks: 25+75	Total No. of Lectures-60	
Units	Topic	No. of Lectures
<b>Part A- Fundamentals of Nutrition</b>		
<b>I</b>	Traditional Home Science and its relevance in current era. Contribution made by Indian Home Scientists i.e., M Swaminathan, C.V. Gopalan, S.K. Dey, Rabindra Nath Tagore, Shanti Ghosh, etc.	6
<b>II</b>	Cell, Digestive System; Respiratory and Cardiovascular system; Excretory and Circulatory System.	8
<b>III</b>	Food and Nutrition Food- meaning, Classification and function and food groups Nutrition-Concept of Nutrition Nutrients-Macro (Carbohydrates, Fat, Protein and Energy) and Micro (Vitamins and Minerals), sources, functions, requirement and deficiency diseases	8
<b>IV</b>	Cooking Methods-Objectives, Preliminary preparations- advantages and disadvantages. Methods (Dry and Moist Heat methods), importance, Advantages and Disadvantages. Preservation of Nutrients while Cooking. Traditional methods of	8

	enhancing nutritional value of foods-germination, fermentation, etc. Microwave and Solar Cooking.	
<b>Part B- Human Development</b>		
<b>V</b>	<p>Introduction to Human Development</p> <ul style="list-style-type: none"> <li>• Concept, Definition and need to study Human Development</li> <li>• Domains, Stages of development. Principles of Growth and Development. Determinants of Development-heredity and environment</li> </ul>	8
<b>VI</b>	<p>Prenatal Development and Birth Process:</p> <ul style="list-style-type: none"> <li>• Conception, Pregnancy and Childbirth, Problems of Pregnancy, Stages of prenatal development, Factors affecting pre-natal development</li> <li>• Physical appearance and capacities of the newborn</li> <li>• Maternal and Infant mortality, Reasons, agencies and programmes working for maternal and child welfare.</li> </ul>	8
<b>VII</b>	<p>Infancy:</p> <ul style="list-style-type: none"> <li>• Developmental task during Infancy and Preschool Stage</li> <li>• Physical and Motor Development</li> <li>• Social and emotional development</li> <li>• Cognitive and language development</li> <li>• Common ailments of babyhood</li> </ul>	7
<b>VIII</b>	<p>Early Childhood (Pre-school) years:</p> <ul style="list-style-type: none"> <li>• Developmental Tasks during Early Childhood</li> <li>• Physical and Motor Development</li> <li>• Social and emotional development</li> <li>• Cognitive and language development</li> </ul>	7
<p><b>Suggested Reading</b></p> <ul style="list-style-type: none"> <li>• Dr. Brinda Singh, Manav Sharir evam Kriya Vigyan PanchcheelPrakashan, Jaipur, 2015, 15<sup>th</sup> Ed.</li> <li>• Chatterjee, C.C, “Human Physiology” Medical Allied Agency: Vol I, II.</li> <li>• Text Book of Biology for 10+2 Students (NCERT)</li> <li>• Sumati R Mudami, “Fundamentals of food Nutrition and Diet Therapy”, New Age International Pvt. Ltd, New Delhi, 6<sup>th</sup> Ed. (2018)</li> <li>• Punita Sethi and Poonam Lakda, “Aahar Vigyan, Suraksha evam Poshan”; Elite Publishing House, New Delhi; 2015</li> <li>• Dr. Anita Singh, AaharEvamPoshan Vigyan, star Publication, Agra</li> <li>• Dr.DevinaSahai, AaharVigyan, New Age International Publishers, New Delhi</li> <li>• Berk, L.E. Child Development New Delhi: Prentice Hall (2005) (5<sup>th</sup> ed.).</li> <li>• Berk L.E. Child Development Allyn and Bacon 1992 (6<sup>th</sup>) Edition.</li> </ul>		

- Keenan, T., Evans, S., & Crowley, K. An introduction to child development, Sage (2016)
- Hurlock E. Child Development.
- Aadhunik VikasatmakManovigyan, Shri Vinod Pustak Mandir Agra Edition 3<sup>rd</sup> 2015
  - Suggestive digital platforms web links-ePG-Pathshala, IGNOU & UPRTOU online study material  
Svayam Portal  
<http://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of the following subjects: Open for all  
The eligibility for this paper is 10+2 with any subject

Suggested Continuous Evaluation Methods:

- Seminar / Presentation on any topic of the above syllabus
- Test with multiple choice question/ short and long answer questions

Attendance

Course prerequisites: The eligibility for this paper is 10+2 with any subject

### HSC/UG002- Cooking skills and Healthy Recipe Development (Practical)

Programme/Class: Certificate	Year: I	Semester:I
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG002</b>	Course Title: <b>Cooking skills and healthy recipe development(Practical)</b>	
<b>Course Outcomes:</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> </ul>		
Credits:2	<b>Core Compulsory / Elective</b>	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lab Periods-30(60 hours)		
Unit	Topic	No. of Lectures
<b>I</b>	Basic Cooking skills <ul style="list-style-type: none"> <li>- Weighing of raw materials</li> <li>- Preparing of different food items</li> </ul>	06
<b>II</b>	Preparation of various dishes using different methods of cooking <ul style="list-style-type: none"> <li>- Boiling / steaming</li> <li>- Roasting</li> <li>- Frying-Deep/shallow</li> <li>- Pressure cooking</li> <li>- Hot air cooking/Baking</li> </ul>	08
<b>III</b>	Different styles of cutting fruits and vegetables	06

	<ul style="list-style-type: none"> <li>- Salad Decoration/Dressing</li> <li>- Table setting, Napkin Folding</li> </ul>	
<b>IV</b>	Preparation of nutrient rich dishes <ul style="list-style-type: none"> <li>- Protein rich dish</li> <li>- Carbohydrate rich dish</li> <li>- Fat rich dish</li> <li>- Vitamins rich dish</li> <li>- Minerals rich dish</li> <li>- Fiberrich dish</li> </ul>	10

**Suggested Readings:**

- ❖ Dr. Brinda Singh, Manav Sharir evam Kriya Vigran PanchsheelPrakashan, Jaipur; 2015, 15<sup>th</sup> Ed.
- ❖ Dr. Nitu Singh, PrayogikGrih Vigyan, Sahitya Prakashan, Agra
- ❖ Chatterjee, C.C, “Human Physiology” Medical Allied Agency; Vol I, II.
- ❖ Text Book of Biology for 10+2 Students (NCERT)
- ❖ 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

This course can be opted as an elective by the students of the following subjects: Open for all

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**Suggested Continuous Evaluation Methods:**

- Test with multiple choice question/short and long answer questions
- Menu planning and calculation of nutrient requirement
- Nutritive value calculation of various nutrient rich dish

Course prerequisites: The eligibility for this paper is 10+2 with any subject.

**Suggested equivalent online courses**

- IGNOU and other centrally/state operated Universities/MOOC platforms such as “SWAYAM” in India and abroad.,  
<http://heecontent.upsdc.gov.in/Home.aspx>

**Further Suggestions:**

Student may develop their cooking skills with new healthy recipe development after completion of this course and even start their own food service center

## B.A. I (Home Science)

### Semester II

#### HSC/UG003- Introduction to Clothing and Textiles and Family Resource Management (Theory)

Programme/Class: Certificate	Year: I	Semester: II
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG003</b>	Course Title: <b>Introduction to Clothing and Textiles and Family Resource Management (Theory)</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><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><li>• Appreciate Household Equipments for work simplification</li></ul>		
Credits:4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lectures-60		
Unit	Topic	No. of Lectures
<b>Part- A (Clothing and Textiles)</b>		
<b>I</b>	<b>Introduction</b> a) Introduction to Clothing and Textile (b) Its importance in day-to-day life (c) Scope (d) Classification of textile fibre on the basis of their source (e) General properties of fibers	08
<b>II</b>	<b>Knowing Fibers-</b> Manufacture, processing, properties and uses of (a) Cellulosic Fiber -cotton, Linen, Jute (b) Protein fibers-Wool, Silk (c)Synthetic/Manmade fibers- Nylon, Polyester, Acrylic, Rayon	08
<b>III</b>	<b>Yarn to fabrics</b> (a) Definition of Yarn, Manufacture of Yarn and Yarn Classification (b) Different fabric construction techniques (Weaving, Knitting, Felting, Braiding, Non-woven) (c) Weaving of Cloth-Terminologies and Steps in Weaving (d) Types of weaves-Basic and Decorative	08

<b>IV</b>	<b>Clothing Construction</b> (a) Tools for Clothing construction (b) Introduction to sewing machine, its parts and maintenance, (c) Importance of Drafting, Flat pattern techniques (d) Fabric preparatory steps for stitching a garment-preshrinking, straightening, layout, pinning, marking and cutting.	10
<b>Part B (Family Resource Management)</b>		
<b>V</b>	<b>Introduction to Home Management:</b> Basic Concepts, Purpose and Obstacles of Management. Process of Management –Planning, Organization, Controlling and Evaluation. Motivating Factors in Management –Values, Goals and Standards-Definition and Classification.	08
<b>VI</b>	<b>Resources-</b> Meaning, Characteristics, Types and Factors affecting the use of Resources. <b>Decision making</b> –Concept and characteristics, definition, steps and role of decision making in management, types of decision, factors influencing decision process. <b>Family life cycle-</b> Stages of family life cycle.	08
<b>VII</b>	<b>Time, Energy and Money Management:</b> Time as a Resource, Steps in making Time Plan, Tools and Aids in Time Management. Energy as a Resource, Work Curve, Fatigue-Types, Causative Factors and alleviating techniques Family income as a Resource, Source of Income and Expenditure and Saving, Institutions for family saving, Preparation of family budget in view of family income. Types of budget	10
<p><b>Suggested Readings:</b></p> <ul style="list-style-type: none"> <li>❖ Colbmen P Bernard: Textiles Fiberto Fabric</li> <li>❖ Hollen &amp; Saddler: Introduction to Textile</li> <li>❖ Joseph M: Introduction to Textiles</li> <li>❖ Trotman: Textile Fiber Science</li> </ul> <p>Cutting Tailoring and Dress Making: National open School, B-31-B Kailash Colony, New Delhi-96-3</p> <ul style="list-style-type: none"> <li>❖ R Bhatia &amp; C Arora (1999), Introduction to Clothing and Textile, Printed by Macho Printery, Raopura, Baroda.</li> <li>❖ Complete Guide to Sewing by Reader’s Digest: published by the Reader’s Digest Association (Canada) Ltd. Montreal-Pleasantville, NY, 2002.</li> <li>❖ Deacon R.E. and Firebaugh F.M. (1998) Family Resource Management-Principles and application. N.Delhi: Roy Houghton Mifflin Company.</li> </ul>		

- ❖ Faulkner, R. & Faulkner, S. (1961). *Management for Modern Families*. N. Delhi: Sterling Publisher Ltd.
- ❖ 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). *Management in Family Living*. New Delhi: CBS Publishers (ISBN 13: 9788123908519)
  - ❖ Patni Manju & Sharma Lalita, Grah Prabandh, Star Publication Agra
  - ❖ Varma, Pramila, *Vastra Vigyan AvamParidhan: Madhya Pradesh Hindi Granth Academy, Bhopal.*
- ❖ Varghese, M.A, Ogale, N.N and Srinivasan, K. (2001). *Home Mangement*. New Delhi, New Age International (P) Ltd.
- ❖ Varghese, M.A. *Household Equipment Manual*, S.N.D.T Women’s University, Mumbai.
- ❖ Suggestive digital platform weblinks-  
Svayam Portal,  
<http://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of the following subjects: Open for all

**Suggested Continuous Evaluation Methods:**

- Seminar on any topic of above syllabus.
- Test with multiple choice question/short and long answer questions
- Attendance

Course prerequisites: To study this course, a student must have had ALL in class12<sup>th</sup>.

**Suggested equivalent online courses**

IGNOU and other centrally/state operated Universities/MOOC platforms such as “SWAYAM” in India and abroad.

**Further Suggestions:**

Student may develop their managerial after completion of this course and may join any field.  
As management of Resources is applicable everywhere.

At the End of the whole syllabus any remarks/suggestions:

**HSC/UG004- Clothing & Textiles (Practical)**

Programme/Class: Certificate	Year: I	Semester: II
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG004</b>	Course Title: <b>Clothing &amp; Textiles (Practical)</b>	
<b>Course Outcomes:</b>		
<ul style="list-style-type: none"> <li>• Ability to identify fibers and fabrics</li> <li>• Understanding why fabrics are different</li> <li>• Learning basic sewing skills</li> </ul>		

<ul style="list-style-type: none"> <li>• Learn how garments are stitched</li> </ul>		
Credits:2		Core Compulsory/Elective
Total No. of lab. periods-30(60 hours)		
Unit	Topic	No. of lab. periods
<b>I</b>	<b>Identification of fibers and fabrics</b> (a) Fibre identification tests- Visual burning, solubility and microscopic test- natural and synthetic, pure and blended fibers.(b) Weaves identification and understanding their usage	10
<b>II</b>	<b>Learning to Stitch-</b> (a) Knowing how to stitch- straight-line stitching, stitching at curves and corners (b) Basic Stitching-Temporary Stitching, Permanent and decorative stitching	8
<b>III</b>	<b>Basic Sewing</b> -(a) Seams-Plain seams and its finishing, run and fell seam, French seam (b) Attaching different fasteners (c) Disposal of fullness- darts, gathers, tucks and pleats (d) Neckline Finishing-Facing & Binding	12
<b>Suggested Readings:</b> <ul style="list-style-type: none"> <li>❖ Cutting Tailoring and Dress Making: National open School, B-31-B Kailash Colony, New Delhi-1100048</li> <li>❖ R Bhatia &amp; C Arora (1999), Introduction to Clothing And Textile, Printed by Macho Printery, Raopura, Baroda.</li> <li>❖ Complete Guide To Sewing By Reader's Digest: published by the Reader's Digest Association (Canada) Ltd. Montreal-Pleasantville, NY,2002.</li> <li>❖ Helen J Armstrong, Pattern Making for Fashion Design, Prentice Hall.</li> <li>❖ Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991</li> <li>❖ Metric Pattern cutting &amp; Grading by Winfred Aldrich.</li> <li>❖ Suggestive digital platform weblinks- Svayam Portal, <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a></li> </ul>		
<b>Suggested Continuous Evaluation Methods:</b> <ul style="list-style-type: none"> <li>• Preparation of samples of various types on fabrics'</li> <li>• Evaluation of Prepared garment</li> <li>• Record file preparation and evaluation, Attendance</li> </ul>		
Course prerequisites: Class 12 <sup>th</sup> with any subject		

## B.A. II (Home Science)

### Semester III

#### HSC/UG005- Housing, Interior Decoration and Extension Education (Theory)

Programme/ Class: Diploma	Year: II	Semester:III
Subject: Home Science		
Course Code: <b>HSC/UG005</b>	Course Title: <b>Housing, Interior Decoration and Extension Education (Theory)</b>	
Course outcomes: <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><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>		
Credits:4		<b>Core Compulsory/ Elective</b>
Max. Marks: 25+75		Min. Passing Marks:
Total No. of Lectures-60		
Unit	Topic	No. of Lectures
<b>Part- A (Housing and Interior Decoration)</b>		
I	<b>Housing:</b> Needs of a House, Difference between House and Home, ways to acquire house (Own and rented). Factors influencing selection and purchase of house and site for house building.	8
II	<b>House Planning:</b> Principles of house planning, Planning different residential spaces in a house, Planning house for different income groups.	7
III	<b>Interior Designing:</b> Introduction to Interior designing. Importance of good taste. Objective of interior decoration. Elements of Art- Line, Shape, Texture, Color, Pattern, Light and Space, types of design. Colour: Importance in home decoration, meaning, functions, principles of colour, factors affecting selection of colour in home decoration, colour schemes. Principle of design- Proportion, Balance, Rhythm, Emphasis, Harmony.	8
IV	<b>Home Decors:</b> Furniture (Brief history, importance, selection of furniture, types of furniture, quality,	7

	multipurpose furniture), Furnishing (Curtains and curtain styles, Draperies, Floor Coverings, Lighting), Accessories (Wall painting, Mirrors, wall art, Sculpture, Antiques, Flower arrangements) etc.	
<b>PART B (Extension Education)</b>		
V	<b>Extension Education:</b> Meaning, Concepts, Objective, Scope, Principles, Philosophy of Extension Education, Early Extension Efforts in India, Formal and Non-Formal Education.	8
VI	<b>Extension Teaching &amp; Learning:</b> Role and qualities of an extension worker, Steps in Extension Teaching Process, Criteria for Effective Teaching and Learning.	7
VII	<b>Communication and Extension Teaching Methods:</b> Definition, Importance, Characteristics, Elements, models and challenges in communications Relationship between Communication, Extension and Development Extension Teaching Methods- Classification, Factors guiding the selection and use of Extension teaching methods.	8
VIII	<b>Audio-visual Aids:</b> Definition, Importance, Classification, Selection, Preparation and effective use of Audio- visual aids	7

**Suggested Readings:**

- Khanuja. Reena (2018) Grah Vyavasthaavam Grah Sajja. Agarwal Publications, Agra ISBN: 978-93-81124-96-3
- Patni Manju & Sharma Lalita, Grah Prabandh, Star publications Agra.
- Cherunilam, F., & Hedggade, O. D. (1987). Housing in Bombay: Himalaya Publishing House.
- Craig, H. T. and Rush, O. D. (1966). Homes with Character. Heath, 1966.
- Faulkner, R., and Faulkner, S., (1961). Inside Today's Home. Rev. ed., New York : Holt, Rinehart & Winston, Inc.
- 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 Everyday Designs Florist Review
- Aggarwal, R. (2008). "Communication-today and tomorrow", New Delhi: Sublime Company
- Dubey V. K., Srivastava Archana, Agrawal Garima, Grah Vigyan Prasaravam Sampreshan, Star Publications Agra.
- Harpalini B. D. Patni. Manju, (Prasar Shiksha Avam Sanchar) Star Publications, Agra. ISBN 978-93-81246

- Shaw Geeta Pushp, Shaw Jois Sheela, Prasar Shiksha, Vinod Pustak Mandir Agra. ISBN 81-7457-104-3
- Dhahama, O. P., & Bhatnagar, O. P. (1988). "Education and Communication for Development". New Delhi.- Oxford and IBH Publishin Co. Pvt. Ltd.
- Jaipal Singh." PrasarShikshaavamGramin Vikas" SR Scientific publications, Agra
- Reddy A. (1987)."Extension Education". Bapatha, Andhra Pradesh, India: Sreelakshmi Press.
- Supe A. N. (1983). An introduction to Extension Education, Delhi: Oxford IBH publishing

Suggestive digital platform websites

Swayam Portal,

- <https://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of following subjects: Open for all

Suggested Continuous Evaluation Methods

- Seminar on any topic of the above syllabus
- Test with multiple choice questions/ short and long answer questions.
- Preparation of Audio- visual aids.
- Attendance

Course prerequisites: Class 12<sup>th</sup> with any subject

Suggested equivalent online courses:

IGNOU & Other centrally/ state operated Universities / MOOC platforms such as "SWAYAM" in India and Abroad

Further Suggestions:

It widens the scope for students to join Government and Non-Government organization, upskilling the people at different levels as per their socio-economic structure. Extension work will speed up the basic structures (Gram Panchayat, Village School and Cooperative Societies)etc.

### HSC/UG006- Interior Decoration and Development of Extension Teaching Aids (Practical)

Programme/ Class: Diploma	Year: II	Semester:III
Course Code: <b>HSC/UG006</b>	Course Title: <b>Interior Decoration and Development of Extension Teaching Aids (Practical)</b>	
Course outcomes:		
<ul style="list-style-type: none"> <li>• Developing skills for making time plan for effective balance of work &amp; leisure.</li> <li>• Plan &amp; prepare budget for the family.</li> <li>• Incorporate appropriate work simplification in using household equipments.</li> <li>• Develop understanding for house planning &amp; decoration</li> </ul>		
Credits:2	<b>Core Compulsory</b>	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of lab. Periods-30 (60 hours)		

Unit	Topic	No. of lab periods
I	<ul style="list-style-type: none"> <li>• Preparation of Color wheels and Color schemes.</li> <li>• Flower Arrangement and Floor Decoration (Rangoli) - Application of Design principles and Element of Art, Innovation of new styles.</li> </ul>	8
II	<ul style="list-style-type: none"> <li>• Plans and elevation of different furniture pieces.</li> <li>• Preparing drawings for furniture arrangements considering incomes, size and needs of family.</li> </ul>	8
III	<ul style="list-style-type: none"> <li>• Draw House Plans with Standard Specifications and Furniture Layout.</li> </ul>	7
IV	<ul style="list-style-type: none"> <li>• Preparation of Projected (Film, slides) and Non-Projected communication aids (chart, poster, flash card, bulletin board).</li> </ul>	7

### Suggested Readings:

- Alexander. N. J., (1972). Designing Interior Environment. New York: Harcourt Brace,
- Bhargava, B. (2005). Family Resource Management and Interior Decoration, Jaipur: Apple Printer and V. R. Printers.
- Faulkner, R., and Faulkner, S., (1975). Inside Today's Home, New York : Rinehart
- Gnnodotra, V. and Jaiswal, N. (2008). Management of Work in Home, New Delhi: Dominant publishers and Distributors. (ISBN No. 81-7888-526-3)
- Harmon, S. and Kennon, K. (2018). The codec guidebook for Interiors (5<sup>th</sup> Ed.). New York: Wiley (ISBN: 978-1-119-342319-6)
- Johanovich Inc. Ball, V. K. (1982). Art of Interior Design. New York: John Wiley & Sons.
- Leach, S. D. (1978). Techniques of Interior Design Rendering and Presentation (1<sup>st</sup> Ed.). Architectural Record Books (ISBN-13:978-0070368057)
- Mohanty, A. B. (1985). Guide to house buildings. New Delhi: Inter India Publications
- Patni Manju & Sharma Lalita, Grah Prabandh, Star publications Agra.

Suggestive digital platform websites

- [Bit.ly/3fJfghi](https://bit.ly/3fJfghi)
- <https://bit.ly/39mTwGQ>
- <https://bit.ly/2JoXB2e>
- <https://bit.ly/3ljkrWf>

Swayam Portal,

- <https://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of following subjects: Open for all

### Suggested Continuous Evaluation Methods

- Assessment of Time- Energy, Budget & House Plans.
- Assessment of Market Survey Records
- Assessment of Flower Arrangements and Rangoli.

- Attendance.

Course prerequisites: To study this course, a student must have had the subject ..... in class/12<sup>th</sup>/certificate

Suggested equivalent online courses:

IGNOU & Other centrally/ state operated Universities / MOOC platforms such as “SWAYAM” in India and Abroad

Further Suggestions:

- Students may develop their managerial skills & Interior Designing skills after completion this course with the capability to for a job or start their own ventures. The program giving an opportunity to advancement their knowledge by enrolling for advanced specialized program of their own areas & interest.

## B.A. II (Home Science)

### Semester IV

#### HSC/UG007- Nutrition through Life Span and Human Development (Theory)

Programme/Class: Diploma	Year: II	Semester: IV
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG007</b>	Course Title: <b>Nutrition Through Life Span and Human Development (Theory)</b>	
<b>Course Outcomes:</b> The student at the completion of the course will be able to: <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><li>• Explain the physical &amp; Physiological changes during middle childhood, adolescent and adulthood stage</li><li>• Identify the biological and environment factors affecting personality.</li><li>• Learn about the characteristics, needs and developmental tasks of Middle childhood years, Adolescent &amp; Adulthood stage</li></ul>		
Credits:4	Core Compulsory	
Max. Marks: 25+75		
Total No. Lectures-60		
Unit	Topic	No. of lectures
<b>Part A- (Nutrition through Life Span)</b>		
<b>I</b>	Meal planning- Definition, importance, factors affecting meal planning, Balanced Diet, RDA	07
<b>II</b>	Nutrition During Infancy and Childhood - Nutrition Requirement, RDA and Diet Plan	07
<b>III</b>	Nutrition during Adolescence, Adulthood and Old age Nutrition Requirement, RDA and Diet Plan	08
<b>IV</b>	Nutrition during special condition pregnancy and lactation-Nutrition Requirement, RDA and Diet Plan	08
<b>Part B (Human Development)</b>		
<b>V</b>	Middle Childhood Years Development tasks and characteristics of middle childhood period <ul style="list-style-type: none"><li>• Physical and motor development</li></ul>	8

	<ul style="list-style-type: none"> <li>• Social and emotional development.</li> <li>• Cognitive development</li> <li>• Language development</li> </ul>	
VI	<p>Puberty and Adolescence</p> <ul style="list-style-type: none"> <li>• Development tasks and characteristics</li> <li>• Significant physical physiological influencing and hormonal changes in puberty.</li> </ul> <p>Self and Identity, Factors influencing Identity &amp; Personality development.</p> <ul style="list-style-type: none"> <li>• Family and peer relationship</li> </ul> <p>Problems- Drug and Alcohol abuse, STD, HIV/AIDS, Teenage Pregnancy.</p>	8
VII	<p>Cognitive, Language and Moral Development during Adolescence:</p> <ul style="list-style-type: none"> <li>• Perspective on cognitive development, development of intelligence and Creativity</li> <li>• Adolescent language</li> <li>• Adolescent Morality</li> </ul>	7
VIII	<p>Introduction to Adulthood</p> <ul style="list-style-type: none"> <li>• Concept, transition from adolescence to adulthood</li> <li>• Development tasks of Adulthood</li> <li>• Physical and physiological changes from young adulthood to late adulthood</li> </ul> <p>Responsibilities and adjustment-educational, occupational, material and parenthood</p>	7

• **Suggested Readings:**

- 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
- Monaster G.J. 1 Adolescent Development Life Tasks. Mc. Graw Hill (1997)
- Ambron S.R. Child Development Holt, Rinehart and Winston 1978 (II 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 Book and Cole Publishing Company 1980.
- AadunikVikasatmakManovigyan, Shri Vinod Pustak Mandir Agra Edition 3<sup>rd</sup> 2015.
- Harpalani, AaharvigyaanavamUpcharatmak Poshan, Star Publication, Agra
- Suggestive digital platform web links- IGNOU & UPRTOU online study material

Svayan Portal

<http://heecontent.upsdc.gov.in/Home.aspx>

**Suggested Continuous Evaluation Method:**

- Seminar on any topic of the above syllabus.
- Test with multiple choice questions/ short and long answer questions
- Attendance

**Suggested equivalent online courses:**

IGNOU & Other centrally/ state operated Universities / MOOC platforms such as “SWAYAM” in India and Abroad

**Further Suggestions:**

Students can opt. dietitian, nutrition advisor/ Nutritionist as a career in private and government sector as well as extend knowledge by joining advance course in same discipline.

It widens the scope for students to join Government and Non-Government organization upskilling the people at different levels as per their socio-economic structure.

**HSC/UG008- Meal Planning and Practical based on aspects of Human Development  
(Practical)**

Programme/ Class: Diploma	Year: II	Semester: IV
Subject: Home Science		
Course Code: <b>HSC/UG008</b>	Course Title: <b>Meal Planning and Practical based on aspects of Human Development (Practical)</b>	
Course Outcomes: <ul style="list-style-type: none"> <li>• Learn to cope up with adolescent and adulthood problem</li> <li>• Understand and handle development related issues more efficiently.</li> <li>• Able to know human behaviour.</li> <li>• Understand individual differences.</li> </ul>		
Credits: 2	Core Compulsory/ Elective	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of lab. Period-30 (60 hours)		
Unit	Topics	No. of lab. periods
I	Planning and preparation of diets for different age groups.	6
II	Planning of Diet for Special Conditions (Pregnancy, Lactation, Old age)	4
III	Visit to Child Care Centres/anganwadi	1
IV	Study of physical, social, emotional, cognitive, language development Observations of child rearing practices in families from different social classes.	6
V	Interviews of adolescent girls and boys to understand their life style, behaviour and problems.	8

VI	Carry out case studies to know more about the different life stages e.g., school going children, adolescents, young adults.	5
<p><b>Suggested Readings:</b></p> <ul style="list-style-type: none"> <li>• Monaster G. J. 1 Adolescent Development Life Taska, Mc Graw Hill (1977)</li> <li>• Ambron S. R. Child Development Hekt, Renhart and Winston 1978 (IInd Edition).</li> <li>• 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.</li> <li>• Boeknek G. Human Development Brook and Cole Publishing Company 1980</li> <li>• Aadhunik VikasatmakManovigyan, Shri Vinod Pustak Mandir Agra Edition 3<sup>rd</sup> 2015</li> </ul> <p>Suggestive digital platforms weblinks- ePG- Pathshalainfilibnet, IGNOU, &amp; UPRTOU online study material.  <a href="https://bit.ly/3922ZTH">https://bit.ly/3922ZTH</a></p> <p>Swayam Portal,  <a href="https://heecontent.upsdc.gov.in/Home.aspx">https://heecontent.upsdc.gov.in/Home.aspx</a></p>		
<p><b>Suggested Continuous Evaluation Methods</b></p> <ul style="list-style-type: none"> <li>• Assessment of observation report</li> <li>• Preparation of questionnaire</li> <li>• Visits records</li> <li>• Attendance</li> </ul>		

## B.A. III (Home Science)

### Semester 5

#### HSC/UG009- Surface Ornamentations of fabrics (Theory)

Programme/ Class: Degree	Year: III	Semester: V
<b>Subject: Home Science</b>		
<b>Course Code: HSC/UG009</b>	<b>Course Title: Surface Ornamentation of Fabrics (Theory)</b>	
<b>Course Outcomes:</b>		
<ul style="list-style-type: none"><li>• Knowing why fabrics look differently</li><li>• Identify the different techniques of fabric from surface</li><li>• Learn about finishes done on fabric</li><li>• Knowing about dyeing fabrics</li><li>• Learn how printing on fabrics is carried</li><li>• Knowing the traditional embroideries in India</li><li>• Identifying traditional textiles of different states</li><li>• Knowing the importance of appropriate laundry method</li></ul>		
<b>Credits: 4</b>		<b>Core Compulsory</b>
<b>Max. Marks: 25+75</b>		<b>Min. Passing Marks:</b>
<b>Total No. of Lectures-60</b>		
<b>Unit</b>	<b>Topics</b>	<b>No. of Lecture</b>
<b>I</b>	<b>Techniques of Creating variety on fabrics</b> (a) weaving (b) finishing of fabrics (c) dyeing of fabrics (d) printing fabrics (e) embroidery and other decoration methods	<b>8</b>
<b>II</b>	<b>Finishes</b> (a) Classification of fabric finishes (b) Study of purpose and process of finishes (i) General Purpose finishes- Bleaching, Mercerization, Sizing, Beatling, Calandring, Sanforization, Tentering, Singeing, Scouring, Embossing, Napping, Flocking (ii) Functional Finishes	<b>8</b>
<b>III</b>	<b>Dyeing</b> (a) Classification of dyes- Natural v/s Synthetic, advantages and limitations (b) Theory of Dyeing (c) Properties and use of Dyes-Basic, Acidic, Direct, Azoic, Neutral, Sulphur, Vat, Disperse and Reactive dyes (d) Resist Dying Techniques-Tie- Die, Batik	<b>8</b>
<b>IV</b>	<b>Printing</b> (a) Direct Printing- Block, Screen, Stencil, Roller (b) Transfer Printing (c) Discharge printing, Resist Printing (d) Polychromatic, Inkjet and Digital printing techniques (e) After treatment of dyed and printed goods	<b>8</b>
<b>V</b>	<b>Traditional Embroideries:</b> Meaning and status of traditional crafts of India, Knowing about the Traditional Embroideries of different states: Zardozi, Kashida of Kashmir, Phulkari of	<b>6</b>

	Punjab, Kantha of Bengal, Chikankari of UP, Kasuti of Karnataka, Sindh and Kutch work of Gujarat.	
<b>VI</b>	<b>Traditional Textiles:</b> Knowing the Traditional textiles of different states of India(a) Woven fabrics- Baluchars, Brocades, Kashmir carpets, Patola, Ikat, Pochampalli, Chanderi (b) Printed, painted and dyed –Sanganeri, Bhagru, Kalamkari, Madhubani, Bandhani	<b>7</b>
<b>VII</b>	<b>Water</b> (a) Water and its uses in textile industry, properties (b) types of water used for processing (c) Hardness and removal of Hardness of water.	<b>7</b>
<b>VIII</b>	<b>Laundry and dry cleaning of fabrics and garments (a)</b> Methods of Laundry and Dry cleaning (b) Dry cleaning process (c) Reagentsof Laundry- Blues, Bleaches, Optical Brighteners, Stiffening agents (d) Types of soaps and detergents (e) Cleaning action of soaps and detergents.	<b>8</b>

**Suggested Readings:**

- Marsh JT: Textile Finishes
- Trotman Er: Dyeing and Chemical Technology of Fibres
- Joseph M: Introduction to Textiles
- Corbman P Bernard: Textiles- Fibre to Fabric
- Hollen & Saddler: Introduction to Textile
- 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, RockportPublishers,1996
- W. S. Murphy: Textile Finishing, Abhishek Publication, 2000
- Naik. D. Shailaja, Traditional Embroideries of India, New Age International Publishers, 1996
- Naik. D. Shailaja, Jacquie. A. Willson: Surface Designing of Textile Fabrics, New Age International Publishers, 2006
- Bharga, Bela. VastraVigyaan, Univ. Book House Pvt. AvamDhulai Kala, University Book House Pvt Ltd. Jaipur
- Patni, Majnu, VastraVigyaanAvamParidhan ka Parichay, Star Publications, Agra.  
Suggestive digital platforms weblinks-  
Swayam Portal,  
<https://heecontent.upsdc.gov.in/Homeaspx>

This course can be opted as an elective by the students of following subjects: Open for all

**Suggested Continuous Evaluation Methods**

- Seminar on any topic of the above syllabus
- Test with multiple choice questions/ short and long answer questions.
- Subjective long questions
- Attendance

Course prerequisites: To study this course the student must have had the subject ALL in class/12<sup>th</sup>



### HSC/UG010- Community Development and Programme Planning (Theory)

Programme/ Class: Degree	Year: III	Semester: V
<b>Subject: Home Science</b>		
<b>Course Code: HSC/UG010</b>	<b>Course Title: Community Development and Programme Planning (Theory)</b>	
<b>Course Outcomes:</b>		
<ul style="list-style-type: none"> <li>• Understand the Community Development dynamics &amp; organizing system for Development.</li> <li>• Create awareness about the various development programmes</li> <li>• Identify the leadership pattern in the community.</li> <li>• Impart skills to implement, monitor &amp; evaluate programmes.</li> </ul>		
<b>Credits: 4</b>		<b>Core Compulsory</b>
<b>Max. Marks: 25+75</b>		<b>Min. Passing Marks:</b>
<b>Total No. of Lectures-60</b>		
<b>Unit</b>	<b>Topics</b>	<b>No. of Lecture</b>
<b>I</b>	<b>Community Development:</b> Meaning, Definition, Functions, Objectives, Philosophy, Principles of Community Development Programmes in India.	<b>8</b>
<b>II</b>	<b>Community Development Organization:</b> Meaning, Types, Principles, Role & Administrative Structure at the National, State, District, Block & Village levels.	<b>8</b>
<b>III</b>	<b>Home Science Extension Education in Community Development:</b> Origin, Concept, Need, Importance and Contribution of Home Science Extension Education in National Development.	<b>7</b>
<b>IV</b>	<b>Recent Development Programme for Women &amp; Children:</b> Support to training and Employment for women (STEP), Swarn Jayanti Gram Swarozgar Yojna (SGSY), Integrated Child development Services (ICDS) etc.	<b>7</b>
<b>V</b>	<b>Support Service of Youth Development:</b> NCC, NSS, Youth Camp, Youth Clubs etc.	<b>7</b>
<b>VI</b>	<b>NGO &amp; Other organizations:</b> Contribution towards community services, Types & Role of NGO-WHO, CARE, UNICEF, UNESCO, UNDP/CRY, HELP-AGE INDIA.	<b>8</b>
<b>VII</b>	<b>Leadership:</b> Concept, Definitions, Types, Importance, Function and Role of Community leaders, Methods of Identifying and Training of Leaders	<b>7</b>
<b>VIII</b>	<b>Programme Planning: Programme planning component cycle and its components-</b> Designing the project- Defining the objectives, Identifying resources, approach, feasibility and Work plan. Implementation, Monitoring and Evaluation	<b>8</b>
<b>Suggested Readings:</b>		
<ul style="list-style-type: none"> <li>• Clark John. (1991). Voluntary Organizations: Their Contribution to Development, London: Earth Scan</li> <li>• Dahama, O. P. &amp; Bhatnagar O. P. "Extension and Rural Welfare". New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.</li> </ul>		

- Ghosh Bhola Nath, (1996), “Rural Leadership and Development” Mohit Publications, New Delhi.
- Julie Fisher. (2003). Governments, NGO’s and the Political Development of the Third World. Jaipur: Rawat Publications
- Mohsionnadeem, (1985), “Rural Development through Government Program” Mittal Publications New Delhi.
- Mnju Patni & Harpalini, (2018) Prasar Shiksha AvamSancha,r Star Publications, Agra.
- Reddy, A (1987).” Extension Education”. Bapatha, Andhra Pradesh, India: Sreelakshmi Press.
- Ravi Shankar Kumar Singh. (2003)Role of NGO’s in Developing Countries (Potentials, Constraints and Policies). New Delhi: Deep & Deep Publications (P) Ltd

Suggestive digital platforms weblinks-

- <https://bit.ly/3l3Ayaj>
- <https://bit.ly/35RnyAi>
- <https://www.un.org/en/universla-dectlaratio-human-rights/>
- <https://www.un.org/en/womenwatch/daw/cedaw/text/econvention.html>
- [https://www.ohchr.org/EN/Professional Interest/Pages/CRC.aspx](https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx)
- <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
- <https://bit.ly/39ROD8X>
- <https://www.unicef.com>
- <https://www.who.int/about>
- <https://www.careindia.org>

Suggested Continuous Evaluation Methods

- Seminar on any topic of the above syllabus
- Test with multiple choice questions/ short and long answer questions.
- Attendance

### HSC/UG011- Techniques of Surface Ornamentation of Fabrics (Practical)

Programme/Class: Degree	Year:III	Semester:V
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG011</b>	Course Title: <b>Techniques of Surface Ornamentation of Fabrics (Practical)</b>	
Course outcomes: 1- Performing printing on fabrics 2- Performing the traditional embroideries of India. 3- Identifying traditional textiles of different states. 4- Performing different appropriate laundry methods.		
Credits:2		Core Compulsory
Total No. of lab. Periods-30		
Unit	Topic	No. of lab. Periods
I	Stain removal & demonstration of dry cleaning, visit to a commercial dry-cleaning unit/Textile mill.	04

II	Identification of labels.	01
III	Dying Techniques- Tie- Die, Batik	06
IV	Printing Techniques- Block, Screen, Stencil, Roller, Spray	06
V	Traditional Embroideries of different states: Zardozi, Kashida of Kashmir, Phulkari of Punjab, Kantha of Bengal, Chikankari of UP, Kasuti of Karnataka, Sindhi and Kutch work of Gujarat	07
VI	Preparation of different weaves on Cardboard	06

**Suggested Readings:**

- Marsh JT: Textile Finishes
- Trotman Er: Dyeing and Chemical Technology of Fibres
- Joseph M: Introduction to Textiles
- Corbman P Bernard: Textiles- Fibre to Fabric
- Hollen & Saddler: Introduction to Textile
- 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, RockportPublishers,1996
- W. S. Murphy: Textile Finishing, Abhishek Publication, 2000
- Naik. D. Shailaja, Traditional Embroideries of India, New Age International Publishers, 1996
- Naik. D. Shailaja, Jacquie. A. Willson: Surface Designing of Textile Fabrics, New Age International Publishers, 2006
- Bharga, Bela. VastraVigyaan, Univ. Book House Pvt. AvamDhulai Kala, University Book House Pvt Ltd. Jaipur
- Patni, Majnu, VastraVigyaanAvamParidhan ka Parichay, Star Publications, Agra. Suggestive digital platforms weblinks- Swayam Portal, <https://heecontent.upsdc.gov.in/Home.aspx>

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/ short and long answer questions
- Menu planning and calculation of nutrient requirement.

**Suggested equivalent online courses:**

IGNOU and other central/state operated Universities/MOOC platforms such as “SWAYAM” in India and abroad Swayam Portal.

<http://heecontent.upsdc.gov.in/Home.aspx>

**B.A. III (Home Science)  
Semester VI**

**HSC/UG012- Dietetics and Therapeutic Nutrition (Theory)**

Programme/Class Degree	Year: III	Semester: VI
<b>Subject: Home Science</b>		
Centre Code <b>HSC/UG012</b>	Course Title: <b>Dietetics and Therapeutic Nutrition (Theory)</b>	
Course outcomes: 1- Knowledge of principles of diet therapy 2-Develop and understand modification of the normal diet for therapeutic purposes 3-Practical knowledge of dietary management in some common disorders.		
Credits:4		Core Compulsory
Total Lectures- 60		
Unit	Topics	No. of Lectures
<b>I</b>	Introduction (a) Definition of Health Dietetics and Therapeutic Nutrition (b) Importance of Diet Therapy (c) Facts about fast foods/ Junks foods (d) Objectives of therapeutic Diet (e) Principles of diet therapy	07
<b>II</b>	Diet and feeding methods (a) Modification of normal diets for therapeutic purposes (b)Methods of modifications <ul style="list-style-type: none"> <li>• On the basis of nutrients</li> <li>• On basis of consistency</li> </ul> (c) Different feeding methods <ul style="list-style-type: none"> <li>• Oral feeding</li> <li>• Tube feeding</li> </ul>	07
<b>III</b>	Energy Metabolism (a) The calorific value of food (b) Measurement of energy exchange in the body (c) Factors influencing the Basal Metabolic Rate (d) Factors influencing total energy requirement of body	08
<b>IV</b>	Diet during fevers and infections (a) Introduction to fever –Acute Fever, Chronic fever (b) Important changes in nutrition during fever (c)Modification of the diet	07
<b>V</b>	Diet during Digestive systems disorders (a)Peptic Ulcers-Causes, symptoms and diet modification (b)Diarrhea and Constipation-Causes, treatment and diet modification	08
<b>VI</b>	Weight Management (a) Overweight and Obesity -Introduction to obesity	

	<ul style="list-style-type: none"> <li>-Causes of Obesity</li> <li>-Diet Modification</li> </ul> <p>(b) Underweight</p> <ul style="list-style-type: none"> <li>-Causes</li> <li>-Treatment</li> <li>-Diet Therapy</li> </ul>	07	
<b>VII</b>	<p>Therapeutic Diets in Cardiac Diseases</p> <p>(a) Atherosclerosis</p> <ul style="list-style-type: none"> <li>-Introduction</li> <li>-Dietary factors influencing lipid level in blood</li> <li>-Modification of diet and Meal Pattern</li> </ul> <p>(b) Hypertension</p> <ul style="list-style-type: none"> <li>- Causes and symptoms</li> <li>-Diet in Hypertension</li> </ul>	08	
<b>VIII</b>	<p>Endocrinal Disorders</p> <p>(a) Introduction to endocrinology</p> <p>(b) Various endocrine glands and their functions: Thyroid, Adrenal and Pancreas</p> <p>(c) Diabetes Mellitus-occurrence types, symptoms, metabolic changes, dietary modification and educating the patient</p>	08	

**Suggested Readings:**

- ❖ Sumati R Mudambi- “Fundamentals of food, Nutrition and Diet Therapy”, New Age International Pvt. Ltd, New Delhi, 6<sup>th</sup> Edition (2018).
- ❖ B Srilakshmi- “Dietetics”, New Age International Publishers, New Delhi 2017.
- ❖ Bamji MS, Krishnaswamy K and Brahman GNV (Eds) (2009), Text book of Human Nutrition, 3<sup>rd</sup> Edition, Oxford & IBH Publishing Co. Pvt. Ltd New Delhi.
- ❖ Dr. Brinda Singh-Aahar Vigyan evam Poshan, PanchsheelPrakashan, Jaipur, 2015; 13<sup>th</sup> Ed.
- ❖ Dr. Devinasahani, Samanya Evam Upcharatmak Poshan, New Age International Publishers.
- ❖ Dr. Sheel Sharma, “Nutrition and Diet Therapy”, PEEPEE Publishers and Distributers (P) Ltd. Delhi, 2014, 1<sup>st</sup> Ed.
- ❖ Shubhangini A Joshi, - “Nutrition and Dietetics”, Mc Graw Hill Education Private Ltd., New Delhi, 2013.
- ❖ Kumud Khanna- “Text book of Nutrition and Dielectric”, Elite Publishing House Pvt. Ltd, New Delhi, 7<sup>th</sup> Ed. 2013.
- ❖ M Swaminathan-Essentials of food nutrition, Vol II, Applied Aspects, The Bangalore Printing and Publishing Co. Ltd, Bangalore, 2<sup>nd</sup> Edition 1985, Reprint 1997.

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions
- Menu Planning and calculation of nutrient requirement
- Seminar on any above topics

**Suggested equivalent online courses:**

IGNOU and other centrally/state operated Universities/ MOOC platforms such as “SWAYAM” in India and abroad.

<http://heecotent.upsdc.gov.in/Home.aspx>

**Further Suggestions:**

- Students can opt. dietitian, nutrition advisor/ Nutritionist as a career in private and government sector as well as extend knowledge by joining advance course in same discipline.

### HSC/UG013- Family Welfare and Community Education (Theory)

Programme/Class: Degree	Year: III	Semester: VI
<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG013</b>	Course Title: <b>Family Welfare and Community Education (Theory)</b>	
Credits: 4		Core Compulsory
Total No. of Periods-60		
Unit	Topic	No. of lab. Periods
I	Child and Family Welfare: Children's rights and National Policy for Children. Demographic profile of child in India. Children with special needs. Deprived Children and abused children, juvenile Delinquency.	15
II	Family and child welfare services working at national and international level; C.S.W.B., ICCW, ICDS and others, W.H.O. UNICEF, CARE, ICCW and ILO. Rural extension services and community ICDS, DWCRA, IRDP and CHEB	15
III	Family relationship, Child Parent relationship, responsibilities of parts relationship of home, school and community.	10
IV	The role of teacher and other specialists in parents and community education programmes. Teacher as motivator, community work, guidance of child, youth ethical consideration in dealing with parents and community.	20
<b>Suggested Readings:</b>		
<ol style="list-style-type: none"> <li>1. Gangrade, K.D. (1971) Community Organization in India. Popular Prakashan, New Delhi</li> <li>2. Dahama, O. P. and Bhatnagar, O.P. (1980) Extension and Communication for Development, Oxford and IBH.</li> <li>3. State of World Children, UNICEF Annual Publication.</li> <li>4. Hans Nagpaul. (1980) Culture, Education and Social Welfare. Chand and Company, New Delhi.</li> <li>5. Chaudhry, D. Paul, (1980). Child Welfare and Development. NIPCCD, New Delhi.</li> </ol>		
<b>Suggested Continuous Evaluation Methods:</b>		
<ul style="list-style-type: none"> <li>• Test with multiple choice questions/ short and long answer questions</li> <li>• Menu planning and calculation of nutrient requirement.</li> </ul>		
<b>Suggested equivalent online courses:</b>		
IGNOU and other central/state operated Universities/MOOC platforms such as "SWAYAM" in India and abroad Svayam Portal. <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>		

### HSC/UG014- Therapeutic Diet Preparation and Nutrient Evaluation (Practical)

Programme/Class: Degree	Year: III	Semester: VI
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<b>Subject: Home Science</b>		
Course Code: <b>HSC/UG014</b>	Course Title: <b>Therapeutic Diet Preparation and Nutrient Evaluation (Practical)</b>	
Course outcomes: 1-Gain Knowledge of principles of diet therapy 2-Develop and understand modification of the normal diet for therapeutic purposes 3-Practical knowledge of dietary management in some common disorders.		
Credits:2		Core Compulsory
Total No. of lab. Periods-30		
Unit	Topic	No. of lab. Periods
I	Modification of normal diet for therapeutic purposes, preparation and presentation	06
II	Therapeutic Diet preparation and Nutrient Calculation of -Diet in fever -Diet in diarrhea -Diet in Constipation	08
III	Therapeutic Diet Preparation and Nutrient Calculation of some common Disorders -Diet in Diabetes Mellitus -Diet in Hypertension -Diet in Atherosclerosis	08
IV	Dietary Modification for weight management- Preparation and Nutrient Calculation of diet in- -Overweight & obesity -Underweight	08
<b>Suggested Readings:</b>		
<ul style="list-style-type: none"> <li>❖ Sumati R. Mudambi- “Fundamental of food, Nutrition and Diet Therapy”, New Age. International Pvt. Ltd, New Delhi, 6<sup>th</sup>Edition (2018).</li> <li>❖ B. Srilakshmi, “Dietetics”, New Age International Publishers, New Delhi 2017</li> <li>❖ Bamji MS, Krishnaswamy K and Brahmam GNV(Eds)(2009), Text book of Human Nutrition, 3<sup>rd</sup> edition, Oxford &amp; IBH Publishing Co. Pvt. Ltd. New Delhi.</li> <li>❖ Dr. Sheel Sharma, “Nutrition and Diet Therapy” PEEPEE Publishers and Distributers (P) ltd. Delhi, 2014, IstEd.</li> </ul>		
<b>Suggested Continuous Evaluation Methods:</b>		
<ul style="list-style-type: none"> <li>• Test with multiple choice questions/ short and long answer questions</li> <li>• Menu planning and calculation of nutrient requirement.</li> </ul>		
<b>Suggested equivalent online courses:</b>		
IGNOU and other central/state operated Universities/MOOC platforms such as “SWAYAM” in India and abroad Swayam Portal. <a href="http://heecontent.upsdc.gov.in/Home.aspx">http://heecontent.upsdc.gov.in/Home.aspx</a>		
<b>Further Suggestions:</b>		
Students can opt. dietitian; nutrition advisor/Nutritionist as a career in private and government sector as well as extend knowledge by joining advance course in same discipline.		

### MINOR ELECTIVE

### HSC/UG015- TECHNIQUES OF FOOD PRESERVATION

Programme/ Class: Certificate		Year: I	
Subject: Home Science			
Course Code: <b>HSC/UG015</b>		Course Title: <b>TECHNIQUES OF FOOD PRESERVATION</b>	
Credits: 4		<b>Minor Elective</b>	
Unit	Topic	No. of Lectures	
I	<b>Food Microbiology</b> Principles of Food Preservation, microorganisms associated with foods- bacteria, yeast and mold, Importance of bacteria, yeast and molds in foods. Classification of microorganisms based on temperature, pH, water activity, nutrient and oxygen requirements, typical growth curve of microorganisms. Classification of food based on pH, Food infection, food intoxication, definition of shelf life, perishable foods, semi perishable foods, and shelf stable foods.	12	
II	<b>Food Preservation by Low temperature</b> Freezing and Refrigeration: Introduction to refrigeration, cool storage and freezing, definition, principle of freezing, freezing curve, changes occurring during freezing, types of freezing i.e., slow freezing, quick freezing, introduction to thawing, changes during thawing and its effect on food.	9	
III	<b>Food Preservation by high temperature</b> Thermal Processing- Commercial heat preservation methods: Sterilization, commercial sterilization, Pasteurization, and blanching.	6	
IV	<b>Food Preservation by Moisture control</b> Drying and Dehydration - Definition, drying as a means of preservation, differences between sun drying and dehydration (i.e. mechanical drying), heat and mass transfer, factors affecting rate of drying, normal drying curve, names of types of driers used in the food industry. Evaporation – Definition, factors affecting evaporation, names of evaporators used in food industry.	9	
V	<b>Food Preservation by Irradiation</b> Introduction, units of radiation, kinds of ionizing radiations used in food irradiation, mechanism of action, uses of radiation processing in food industry, concept of cold sterilization.	9	
/	<b>PART B (Practical)</b>		
VII	<ul style="list-style-type: none"> <li>• Methods of Sampling.</li> <li>• Concept of shelf life of different foods</li> </ul>	03	

VIII	<ul style="list-style-type: none"> <li>To study the concept of Asepsis and sterilization</li> <li>Determination of pH of different foods using pH meter.</li> </ul>	05
VII	<ul style="list-style-type: none"> <li>Study quality characteristics of foods preserved by drying/dehydration/ freezing.</li> <li>To perform pasteurization of fluids using different methods.</li> <li>To perform blanching of different plant foods.</li> </ul>	07
<b>Suggested Readings:</b> <ol style="list-style-type: none"> <li>B. Srilakshmi, Food science, New Age Publishers,2002</li> <li>Meyer, Food Chemistry, New Age,2004</li> <li>Bawa. A.S, O.P Chauhan et al. Food Science. New India Publishing agency, 2013</li> <li>Frazier WC and Westhoff DC, Food Microbiology, TMH Publication, New Delhi, 2004</li> </ol>		

### HSC/UG016 - Entrepreneurship Management

Programme/ Class: Diploma		Year: II
Subject: Home Science		
Course Code: <b>HSC/UG016</b>	<b>Entrepreneurship Management</b>	
Credits: 4		<b>Minor Elective</b>
Unit	Topic	No. of Lectures
<b>Part- A (Theory)</b>		
I	Entrepreneurship – Definition, need, scope and characteristics of entrepreneurship development and employment promotion Identification of Opportunities	8
II	Entrepreneur and enterprise, entrepreneurial qualities, assessing entrepreneurial qualities, environment scanning and opportunity identification. Methods source and type of opportunity, assessment criteria and profiling opportunities.	9
III	Infrastructure and support system, Industrial support agencies, Procedure and steps involved in setting up an enterprise, sources of information and industry organization.	9
IV	Project planning and formulation of project, identification and product selection, generating project ideas, short listing, final	9

	selection market survey, market alternatives, an overview of the future, Product development, Product Selection, Preparation of project report	
V	Enterprise management, Basic management concepts, personnel management, product management, material management, financial management and accounting, market management, crisis management.	10
<b>PART B (Practical)</b>		<b>No. of Lab Periods</b>
VI	Interaction with entrepreneurs, Visit to industry, Project planning formulation and report preparation, Case studies	4
VII	SWOT analysis with respect to entrepreneurial competencies through case profiling of successful entrepreneurs and enterprises.	5
VIII	Survey of an institution facilitating entrepreneurship development in India.	3
IX	Preparation of business plan.	3

**RECOMMENDED READINGS**

1. Ramachandran, Entrepreneurship Development, Mc Graw Hill
2. Katz, Entrepreneurship Small Business, Mc Graw Hill
3. Byrd Megginson, Small Business Management An Entrepreneur's Guidebook 7th ed, McGrawHill
4. Fayolle A (2007) Entrepreneurship and new value creation. Cambridge, Cambridge University Press
5. Hougaard S. (2005) The business idea. Berlin, Springer
6. Lowe R & S Mariott (2006) Enterprise: Entrepreneurship & Innovation. Burlington, Butterworth Heinemann

**VOCATIONAL MINOR**

**HSC/UG017-Basics of Nutrition and Hygiene**

<b>Subject: Home Science</b>	
Course Code: <b>HSC/UG017</b>	Course Title: <b>Basics of Nutrition and Hygiene</b>

**Course Outcomes:**

The student at the completion of the course will be able to:

- Prepare the students to understand physiology-based courses
- Students will get familiar with different methods of cooking
- Acquaint students with practical knowledge of nutrient-rich foods
- Explain the need and importance of studying

Credits: 3		<b>Vocational Minor</b>
Max. Marks: 25+75		Total No. of Lectures-45
Units	Topic	No. of Lectures
<b>Theory</b>		
<b>I</b>	Introduction to Food and its functions, food groups, meaning of nutrition, Concept of Health.	5
<b>II</b>	Composition, Classification, functions, sources, digestion, Absorption and Utilization of Macronutrients (Carbohydrates, Fat, Protein) and Energy.	8
<b>III</b>	Composition, functions, sources, digestion, Absorption and Utilization of Micronutrients (Vitamins and Minerals), sources, functions, requirement and deficiency diseases	8
<b>IV</b>	Food Spoilage, factors contributing to food spoilage, personal hygiene, evaluating food for freshness, evaluating canned food for spoilage, food hygiene during cooking and serving, public health department and food sanitation. Food sanitation at household level.	3
<b>V</b>	Agents of contamination, sources and reservoirs of infection, modes of transmission of infection, mode of entry into a susceptible host, prevention and control of infection and disease.	6
<b>Practical</b>		
<b>V</b>	Basic Cooking skills -Weighing of raw materials -Preparing of different food items	2
<b>VI</b>	Preparation of various dishes using different methods of cooking - Boiling / steaming - Roasting - Frying-Deep/shallow - Pressure cooking - Hot air cooking/Baking	5
<b>VII</b>	Different styles of cutting fruits and vegetables - Salad Decoration/Dressing - Table setting, Napkin Folding	2
<b>VIII</b>	Preparation of nutrient rich dishes	6

	<ul style="list-style-type: none"> <li>- Protein rich dish</li> <li>- Carbohydrate rich dish</li> <li>- Fat rich dish</li> <li>- Vitamins rich dish</li> <li>- Minerals rich dish</li> <li>- Fiber rich dish</li> </ul>	
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**Suggested Reading**

- Dr. Brinda Singh, Manav Sharir evam Kriya Vigyan PanchcheelPrakashan, 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)
- 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
- Dr. Anita Singh, AaharEvamPoshan Vigyan, star Publication, Agra
- Dr.DevinaSahai, AaharVigyan, New Age International Publishers, New Delhi
  - Suggestive digital platforms web links-ePG-Pathshala, IGNOU & UPRTOU online study material  
Svayam Portal  
<http://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of the following subjects: Open for all

The eligibility for this paper is 10+2 with any subject

Suggested Continuous Evaluation Methods:

- Seminar / Presentation on any topic of the above syllabus
- Test with multiple choice question/ short and long answer questions

Attendance

Course prerequisites: The eligibility for this paper is 10+2 with any subject