



# **NATIONAL EDUCATION POLICY 2020 INITIATIVES**

## **CURRICULUM FRAMEWORK FOR FOUR-YEAR UNDER GRADUATE PROGRAM (HONOURS) IN HOME SCIENCE**

## **PREAMBLE**

The role of education is paramount in nation building. One of the major objectives of UGC is maintenance of standards of higher education. Over the past decades the higher education system of our country has undergone substantial structural and functional changes resulting in both quantitative and qualitative development of the beneficiaries. Such changes have gained momentum with the introduction of Choice Based Credit System (CBCS) which further expects Learning Outcome-Based curriculum to maximize the benefits of the newly designed curriculum. The Learning Outcome-Based Curriculum in Home Science/ Family and Community Sciences will help the teachers of the discipline to visualize the curriculum more specifically in terms of the learning outcomes expected from the students at the end of the instructional process. The commission strives to promote the link of students with the society/industry such that majority of the students engage in socially productive activities during their period of study in the institutions and at least half of the graduate students will secure access to employment/self-employment or engage themselves in pursuit of higher education. The model curriculum envisages to cater to the developmental trends in higher education, incorporating multi-disciplinary skills, professional and soft skills such as team work, communication skills, leadership skills, time management skills and inculcate human values, professional ethics, and the spirit of

innovation/entrepreneurship and critical thinking among students and promote avenues for display of these talents, linking general studies with professional courses. Besides imparting disciplinary knowledge to the learners, curriculum should aim to equip the students with competencies like problem solving, analytical reasoning and moral and ethical awareness. Introduction of internship and appropriate fieldwork/case studies are embedded in the curriculum for providing wider exposure to the students and enhancing their employability.

Learning outcomes specify what exactly the graduates are expected to know after completing a programme of study. The expected learning outcomes are used as reference points to help formulate graduate attributes, qualification descriptors, programme learning outcomes and course learning outcomes. Keeping the above objectives of higher education in mind the Learning Outcome-Based Curriculum Framework (LOCF) for the discipline of Home Science has been prepared and presented here.

## **ACKNOWLEDGEMENT**

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**Structure of  
B.Sc Honours in  
Home Science  
(Model I C)**

## Model Curriculum

**Name of the Degree Program: B.Sc.**

**Discipline Core: Home Science Total**

**Credits for the Program: 185 Credits**

**Starting year of implementation: 2021-22**

**Program Outcomes:**

**By the end of the program the students will be able to:**

**(Refer to literature on outcome based education (OBE) for details on Program Outcomes)**

1. Deliver quality tertiary education through learning while doing.
2. Reflect universal and domain-specific values in Home Science.
3. Involve, communicate and engage key stakeholders.
4. Preach and practice change as a continuum.
5. Develop the ability to address the complexities and interface among of self, societal and national priorities.
6. Generate multi-skilled leaders with a holistic perspective that cuts across disciplines.
7. Instill both generic and subject-specific skills to succeed in the employment market.
8. Foster a genre of responsible students with a passion for lifelong learning and entrepreneurship.
9. Develop sensitivity, resourcefulness and competence to render service to families, communities, and the nation at large.
10. Promote research, innovation and design (product) development favoring all the disciplines in Home Science.
11. Enhance digital literacy and apply them to engage in real time problem solving and ideation related to all fields of Home Science.
12. 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

**Assessment:**

**Weightage for assessments (in percentage)**

Type of Course	Formative Assessment / IA	Summative Assessment
Theory		
Practical	25	25
Projects	-	-
Experiential Learning (Internships etc.)	-	-

## Contents of Courses for B.Sc. Home Science

### Model I C

Sem.	Course No.	Course Category	Theory/ Practical	Credits	Ability Enhancement Compulsory Courses (AECC), Languages (Credits) (L+T+P)		Skill Enhancement Courses (SEC)		
							Skill based (Credits) (L+T+P)	Value based (Credits) (L+T+P)	
1	CHASCT1.1	DSC-1	Theory	3	L1-1(3), L2-1(3)  (4 hrs. each)		SEC-1: (2)  (1+0+2)	Yoga (1)  (0+0+2)	Health & Wellness (1)  (0+0+2)
	CHSCP1.1		Practical	2					
	CHSCT1.2	DSC-2	Theory	3					
	CHSCP1.2		Practical	2					
	CHSCT1.3	DSC-3	Theory	3					
CHSCT1.4	OE-1	Theory	3						
2	CHASCT2.1	DSC-4	Theory	3	L1-2(3), L2-2(3)  (4 hrs. each)	Environ  mental  Studies (2)		Sports (1)  (0+0+2)	NCC/NSS/R& R(S&G)/ Cultural (1) (0+0+2)
	CHSCP2.1		Practical	2					
	CHSCT2.2	DSC-5	Theory	3					
	CHSCP2.2		Practical	2					
	CHSCT2.3	DSC-6	Theory	3					
CHSCT2.4	OE-2	Theory	3						
Exit option with Certificate in Home Science (52 credits)									
3	CHASCT3.1	DSC-7	Theory	3	L1-3(3), L2- 3(3)  (4 hrs each)		SEC- 2: (2) (1+0 +2)	Sports (1)  (0+0+2)	NCC/NSS/R&R(S&G)/  Cultural (1) (0+0+2)
	CHSCP3.1		Practical	2					
	CHSCT3.2	DSC-8	Theory	3					
	CHSCP3.2		Practical	2					
	CHSCT3.3	DSC-9	Theory	3					
CHSCT3.4	OE-3	Theory	3						
4	CHASCT4.1	DSC-10	Theory	3	L1-4(3), L2- 4(3)  (4 hrs each)	Constitu  tion of India (2)		Sports (1)  (0+0+2)	NCC/NSS/R&R(S&G)/C  ultural (1) (0+0+2)
	CHSCP4.1		Practical	2					
	CHSCT4.2	DSC-11	Theory	3					
	CHSCP4.2		Practical	2					
	CHSCT4.3	DSC-12	Theory	3					
CHSCT4.4	OE-3	Theory	3						

Exit option with Diploma in Home Science (100 credits)									
5	CHSCT5.1	DSC-13	Theory	3			SEC-3: (2) (1+0+2)	Sports (1) (0+0+2)	NCC/NSS/R&R(S&G)/Cultural (1) (0+0+2)
	CHSCP5.1		Practical	2					
	CHSCT5.2	DSC-14	Theory	3					
	CHSCP5.2		Practical	2					
	CHSCT5.3	DSC-15	Theory	3					
	CHSCT5.5	DSE-1	Theory	3					
	CHSCT5.4	VOC-1	Practical	3					
6	CHSCT6.1	DSC-16	Theory	3			SEC-4: (2)	Sports (1) (0+0+2)	NCC/NSS/R&R(S&G)/Cultural (1) (0+0+2)
	CHSCP6.1		Practical	2					
	CHSCT6.2	DSC-17	Theory	3					
	CHSCP6.2		Practical	2					
	CHSCT6.3	DSC-18	Theory	3					
	CHSCT6.5	DSE-2	Theory	3					
	CHSCT6.4	VOC-2	Practical	3					
Exit option with Bachelor Science Degree in Home Science (144 credits)									
7	CHSCT7.1	DSC-19	Theory	3					
	CHSCP7.1		Practical	2					
	CHSCT7.2	DSC-20	Theory	3					
	CHSCP7.2		Practical	2					
	CHSCT7.3	DSE-3	Theory	2					
	CHSCT7.4		Theory	3					
	CHSCT7.5	VOC-3	Theory	3					
	CHSCT7.6		Theory	3					
8	CHSCT8.1	DSC-21	Theory	3					
	CHSCP8.1		Practical	2					
	CHSCT8.2	DSC-22	Theory	3					
	CHSCP8.4	DSE-4	Theory	3					
	CHSCT8.3	VOC-4	Practical	3					
	CHSCT8.5		Theory	6(3+3)					
Award of Bachelor of Science Honours in Home Science with Specialisation (185 credits)									

\*In lieu of the research Project, two additional elective papers/ Internship may be offered

**Abbreviation for CHSCT; CHSCP**

- CHSC – Composite Home Science; DSC – Discipline Core; T – Theory/ P – Practical; 1 – First Semester; 2- Second Semester



## List of Discipline Specific Electives

Semester	DSE Papers
<b>V</b>	<ul style="list-style-type: none"> <li>• Food Microbiology and Food Safety /</li> <li>• Guidance and Counselling /</li> <li>• Resource Management- Concepts and Contexts /</li> <li>• Heritage Textiles /</li> <li>• Project Proposal Writing</li> </ul>
<b>VI</b>	<ul style="list-style-type: none"> <li>• Functional Foods and Nutraceuticals /</li> <li>• Family Studies /</li> <li>• Finance Management &amp; Accounting /</li> <li>• Apparel /Industrial Production and merchandising management /</li> <li>• NGO Management and CSR</li> </ul>
<b>VII</b>	<ul style="list-style-type: none"> <li>• Experimental Techniques of Nutrition/</li> <li>• Building Core Capabilities for life – Children and Adults /</li> <li>• Interior Product Design /</li> <li>• Garment Construction Techniques</li> </ul>
<b>VIII</b>	<ul style="list-style-type: none"> <li>• Food Epidemiology /</li> <li>• Science of Early Childhood /</li> <li>• Architectural Drafting /</li> <li>• Textile Chemistry /</li> <li>• Participatory Learning for Action</li> </ul>

## List of Open Electives

<b>Semester</b>	<b>OE Papers</b>
<b>I</b>	<ul style="list-style-type: none"><li>• Developmental Communication /</li><li>• Introduction to Resource Management</li></ul>
<b>II</b>	<ul style="list-style-type: none"><li>• Sustainable Development through Energy Conservation /</li><li>• Adolescent Brain and Behaviour</li></ul>
<b>III</b>	<ul style="list-style-type: none"><li>• Fundamentals of Baking /</li><li>• Science of Play Across the Life Span</li></ul>
<b>IV</b>	<ul style="list-style-type: none"><li>• Techniques of Food Preservation /</li><li>• Dyeing and Printing</li></ul>

## Curriculum Structure for the Undergraduate Degree Program B.Sc. HOME SCIENCE

**Total Credits for the Program:** 185 Credits

**Starting year of implementation:** 2021-2022

**Name of the Degree Program:** BSc Degree/Honors

**Discipline/Subject:** Home Science

**Program Articulation Matrix:**

This matrix lists only the core courses. Core courses are essential to earn the degree in that discipline/subject. They include courses such as theory, laboratory, project, internships etc. Elective courses may be listed separately

Semester	Title /Name of the course	Program outcomes that the course addresses (not more than 3 per course)	Pre-requisite course(s)	Pedagogy##	Assessment\$
1	DSC 1- Fundamentals of Textiles	PO- 2 PO – 8 PO- 9	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Demonstration</li> <li>• Projects and experiments</li> <li>• Collaboration with industries and institutions</li> </ul>	Formative and Summative Assessment
	DSC 2- Fundamentals of Interior Design	PO- 7 PO- 8 PO- 10	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Skill oriented programs</li> <li>• Demonstrations</li> <li>• Workshops</li> <li>• Tutorial</li> <li>• Lectures</li> <li>• Collaborations</li> <li>• Experimental Learning</li> <li>• Presentations</li> <li>• Creative Thinking</li> </ul>	Formative and Summative Assessment
	DSC 3 Human Development I- Child Development	PO- 3 PO- 7 PO- 9	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Presentations</li> <li>• Case Studies</li> <li>• Creative Thinking</li> </ul>	Formative and Summative Assessment
	OE – 1 • Developmental Communication	PO – 1 PO - 2	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Tutorial</li> <li>• Lectures</li> </ul>	Formative and Summative Assessment

	<ul style="list-style-type: none"> <li>• Introduction to Resource Management</li> </ul>	PO- 2 PO- 6 PO- 10	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Presentations</li> <li>• Case Studies</li> </ul>	
				<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Demonstration</li> <li>• Projects and experiments</li> <li>• Presentations</li> </ul>	Formative and Summative Assessment
2	DSC 4- Basics of Nutrition	PO- 2 PO – 5 PO- 9	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Regular lectures</li> <li>• Demonstrations</li> <li>• Group discussions</li> <li>• Case studies</li> <li>• ICT enabled teaching and learning experiences in terms of video lessons</li> <li>• Hands on experience in laboratory</li> </ul>	Formative and Summative Assessment
	DSC 5- Extension Education and Communication	PO- 1 PO-2	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Community Oriented practices</li> </ul>	Formative and Summative Assessment
	DSC 6- Human Physiology	PO- 1 PO – 4 PO- 12	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Presentations</li> </ul>	Formative and Summative Assessment
	OE – 2 <ul style="list-style-type: none"> <li>• Sustainable Development through Energy Conservation /</li> </ul>	PO- 2 PO- 7 PO- 9	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Tutorial</li> <li>• Lectures</li> <li>• Presentations</li> <li>• Case Studies</li> </ul>	Formative and Summative Assessment
	<ul style="list-style-type: none"> <li>• Adolescent Brain and Behaviour</li> </ul>	PO- 2 PO- 5 PO- 12	12+/ Equivalent Pass	<ul style="list-style-type: none"> <li>• Tutorial</li> <li>• Lectures</li> <li>• Presentations</li> <li>• Case Studies</li> </ul>	Formative and Summative Assessment

# SYLLABUS FOR B.SC. HOME SCIENCE (HONS)

## B.SC. HOME SCIENCE SEMESTER

I

Course Title: <b>FUNDAMENTALS OF TEXTILES (DSC 1) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA / Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s): Standard 12 and its equivalence with minimum 35%**

### Course Outcomes: (COs)

At the end of the course the student should be able to:

1. Develop the skill of identifying and analyzing various types of fibres, yarns and fabrics.
2. Knowledge of textile care and maintenance
3. Awareness on sustainable textiles and its application daily life.

### Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Develop an understanding of various types of fibres, yarns and fabrics		x						x	x			
Understanding of textile care and maintenance		x				x		x	x		x	
Awareness on sustainable textiles and its application.				x	x	x		x	x		x	

## B.SC. HOME SCIENCE SEMESTER I

**Title of the Course: FUNDAMENTALS OF TEXTILES**

<b>Course : DSC 1</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 hours</b>
<b>Unit I - STUDY OF FIBRES, YARNS AND FABRICS</b>	<b>23 Hours</b>
<p><b>Chapter 1</b> - Classification of fibres, Structure, Composition, Origin, manufacture of natural and man-made fibres, Identification of fibres, Properties and characteristics of natural and man-made fibres, Understanding Fibre blends</p> <p>Fibre testing methods, Recent developments in fibres</p> <p><b>Chapter 2</b> - Yarn Classification, Yarn Types, Yarn Spinning, Advanced yarn spinning methods, Man-made filament yarn processing, Fancy yarns, Yarn Testing Methods</p> <p><b>Chapter 3</b> - Weaving - Types of weaves, properties and applications, Parts of Loom and Types of looms, Design, Weaving preparation, Weaving process, draft and peg plan for weaving. Testing of woven fabrics</p> <p><b>Chapter 4</b> - Knitting- Knitting needles- Types, Classification of knitting, Types of Knitting machines, Properties of knitted fabrics, Care and Maintenance of knitted fabrics, quality assessment.</p> <p><b>Chapter 5</b> - Non-Woven and other types of fabrics - Nonwoven Fibre Preparation and Web formation, Bonding Processes, Finishing of Nonwovens - Non Woven fabrics- properties, Felting, Netting, Lacing, Bonding, Leather, foam, fur, composites. Evaluation and Application of Nonwovens</p>	5 Hrs
	5 Hrs
	5 Hrs
	4 Hrs
	4 Hrs
<b>Unit II- LAUNDRY SCIENCE</b>	<b>12 Hours</b>
<b>Chapter 6-</b> Materials, Reagents, Equipment and Process involved in laundering.	3 Hours

	3 Hours
<b>Chapter 7</b> - Dry & wet laundry (Stain removal techniques)	3 Hours
<b>Chapter 8</b> - Various sources of water and types of hardness and its impact on clothes during laundry	3 Hours
<b>Chapter 9</b> - Starches, Stiffeners and Softeners, Additional laundry agents	
<b>Unit III – ECO-TEXTILES &amp; FASHION</b>	<b>10 Hours</b>
<b>Chapter 10</b> - Eco fibres and fabrics, carbon footprint, Eco mark for fabrics, Eco fibres and their applications and impact on the environment, its comparison with the other manmade fibres.	3 Hours
<b>Chapter 11</b> - Textile waste and Up-cycling, Reuse, recycle, Concept of Reconstruction - Redesign, repair and recycle	4 Hours
<b>Chapter 12</b> - Eco fashion terminologies, Eco fashion labels, Benefits of eco labels.	3 Hours

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Assignment + Project	15
<b>Total</b>	25 + 25 = 50

**Practical – 2 Credits**

**52 Hours**

**List of Experiments to be conducted**

1. Fibre identification: Identification of natural and manmade fibres by following three methods by Microscopic test, burning test and Solubility test.
2. Study of Yarn:
3. Detail study on types of yarns,
4. Count of yarn using Beesley's yarn count balance, T
5. Twist by twist tester,
6. Crimp by crimp tester

7. Strength of the yarn by single yarn or lea strength tester
8. Characteristics of Fabric:
9. Fabric count using pick glass,
10. Shrinkage
11. Thickness of Fabric
12. Tensile strength (breaking strength and elongation) using tensile strength tester, tearing strength using tearing strength tester, Fabric GSM.
13. Care of Textiles - Stain removal techniques, Starching using different types of starches
14. Knitting – Any two types
15. Crochet – Basic stitches with one product.
16. Collection of different types of fabrics and Identification of the type of fibre, yarn and weave from the same.

<b>Formative Assessment - 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Assignment + Project	15
<b>Total</b>	<b>25 marks + 25 marks = 50 marks</b>

## **PEDEGOGY**

- Lectures
- Demonstration
- Projects and experiments
- Collaboration with industries and institutions

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**Date**

**Course Coordinator**

**Subject Committee Chair person**

## B.SC. HOME SCIENCE SEMESTER I

Course Title: <b>FUNDAMENTALS OF INTERIOR DESIGN (DSC 2) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA / Exam: 2 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

**Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Gain knowledge on application of elements of art and principles of design in Interiors.
2. Analyze the traditional and contemporary furniture designs and furnishing styles
3. Understand the history of Interior design at local, National and International levels
4. Evaluate case studies on global market trends and techniques in the area of design.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Gain knowledge on application of elements of art and principles of design in Interiors.	×							×	×			
Analyze the traditional and contemporary furniture designs and furnishing styles								×				×
Understand the history of Interior design at local, National and International levels				×								
Evaluate case studies on global market trends and techniques in the area of design								×		×		

## B.SC. HOME SCIENCE SEMESTER I

**Title of the Course: FUNDAMENTALS OF INTERIOR DESIGN**

<b>Course: DSC 2</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture Hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT OF COURSE</b>	<b>45 Hrs</b>
<b>Unit – 1 DESIGN ASPECTS</b>	<b>12 Hrs</b>
<b>Chapter No.1:</b> Design, Definition, Characteristics and classification of Design, History of Design, Terminologies in Interior design and decoration  <b>Chapter No. 2:</b> Elements of Design and its application  <b>Chapter No.3:</b> Principles of Design and its application  <b>Chapter No. 4:</b> Colors in Interiors - Meaning of colour, Colour Spectrum – VIBGYOR, Dimensions of colour, Colour Systems -Prang and Munsell colour systems, Colour schemes and its significance in interiors, Colour psychology and Colour dynamics, Skills in rendering colours to interiors	2 Hrs
	3 Hrs
	3 Hrs
	4 Hrs
<b>Unit – 2 DECORATION AND FURNISHINGS FOR INTERIORS</b>	<b>15 Hrs</b>
<b>Chapter No. 5: Lighting and Its Accessories</b> - Lighting types, Lighting fixtures, suitable for various activities, Lighting accessories and their role in interiors, Effect of natural light and artificial light.  <b>Chapter No. 6: Decoration</b> - Flower arrangement, Rangoli and Floral Decorations, Accessories and decoration - Recent Trends & Innovation  <b>Chapter No. 7: Furnishings-</b> Soft Furnishings and Hard Furnishings, Selection, use and care of household linens and other furnishings  <b>Chapter No. 8: Window Treatments and Curtain Styles-</b> Hard windows and Soft Windows, Curtain Styles	4 Hrs
	3 Hrs
	3 Hrs
	5 Hrs

<b>Unit – 3 FURNITURE DESIGN</b>	<b>18 Hrs</b>
<b>Chapter No. 9:</b> History of Furniture Design, History of Interior design in India- traditional styles of design and decoration in homes. Global Furniture Styles.	7 Hrs
<b>Chapter No. 10:</b> Selection and arrangement of furniture, Upholstered furniture material, techniques and design	3 Hrs
<b>Chapter No. 11:</b> Design of furniture and its work heights, Comfortable working postures with design considerations for residential and commercial work spaces, Furniture design based on anthropometric dimensions	8 Hrs

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Assignment + Project	15
<b>Total</b>	<b>25 + 25 = 50</b>

**Practical: 2 Credit**

**52 Hours**

**List of Experiments to be conducted**

1. Illustrate the different types of design
2. Illustrate the application on Elements of Art and Principles of Design.
3. Develop Prang and Munsell Colour chart.
4. Illustrate the different colour schemes for various interiors.
5. Market Survey on lighting accessories, furnishings and Furniture
6. Flower Arrangements- Different types and styles
7. Create an album on furniture styles – Traditional, Modern and Contemporary.
8. Design Research – Evaluation of Case Studies
  - Decoration – trends and classic style to suit lifestyle
  - Furniture Designs - international markets and global trends, marketing techniques, branding, promotion and presentation, work opportunities, intellectual property.

<b>Formative Assessment = 25 marks + Summative Assessment = 25 Marks = 50 Marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Project	15
<b>Total</b>	<b>25 marks + 25 marks = 50 marks</b>

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5. John Pile and Judith (2013). A History of Interior Design, Wiley Publishers
6. Penny Spark (2009). Designing the Modern Interior, Berg Publishers
7. Choudhary, A.K.R. (2000). Modern Concepts of Colour and Appearance, Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
8. Hilliard, E. (2000). Brilliant Colour at Home, Kyle Cathie Ltd, London

**Date**

**Course Coordinator**

**Subject Committee Chair person**

## B.SC. HOME SCIENCE SEMESTER 1

Course Title: <b>HUMAN DEVELOPMENT I - CHILD DEVELOPMENT (DSC 3) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 60 marks	Duration of ESA / Exam: 2 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 40 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

**Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Gain a scientific understanding of growth and development of a child.
2. Identify and suggest referral services for developmental delays.
3. Create a stimulative environment for early childhood.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Gain a scientific understanding of growth and development of a child.		x		x	x						x	
Identify and suggest referral services for developmental delays.								x	x		x	
Create a stimulative environment for early childhood.								x		x		x

## B.SC. HOME SCIENCE SEMESTER 1

**Title of the Course: HUMAN DEVELOPMENT I - CHILD DEVELOPMENT**

<b>Course: DSC 3</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit – 1 INTRODUCTION TO CHILD DEVELOPMENT</b>	<b>14 hrs</b>
<b>(a) Child Development as an Interdisciplinary Science</b>	
<b>Chapter No. 1:</b> Definition and meaning; Interdisciplinary nature, Principles of Child Development, Nature versus nature, Child Development and Child Psychology	4 hrs
<b>Chapter No. 2:</b> Methods of studying Child Development, Careers in Child Development	3 hrs
<b>(b) Biological Foundations</b>	3 hrs
<b>Chapter No. 3:</b> Evolutionary base of behavior, Heredity and behavior	
<b>Chapter No. 4:</b> Biology and behavior, Nervous system in action (Sensation and perception - sensing , organizing, identifying and recognizing , the visual system, visual system, hearing , and other senses organizational process in perception)	4 hrs
<b>Unit – 2 DOMAINS OF DEVELOPMENT</b>	<b>24 hrs</b>
<b>(a) Physical and Motor development</b>	6 hrs
<b>Chapter No. 5:</b> Physical development. Perceptual development	
<b>Chapter No. 6:</b> Motor development	2 hrs
<b>(b) Cognitive Development and Language</b>	3 hrs
<b>Chapter No. 7:</b> Concept and overview, Cognitive processes, Piaget's Theory	1 hrs
<b>Chapter No. 8:</b> Intelligence and intelligence assessment, Theory of understanding	2 hrs
<b>Chapter 9:</b> Language: Overview, concepts, role of the environment	6 hrs
<b>(c ) Socio emotional Development</b>	2 hrs
<b>Chapter No. 10:</b> Overview of social development, Overview of emotional development	
<b>Chapter No. 11:</b> Motivation: Motivation genes and obesity, motivation	2 hrs

theory, motivation for personal achievement, <b>Chapter No. 12:</b> Child care: Parenting and types, Effect on personality, Child rearing practice	
<b>Unit – 3 CHILDREN AS A VULNERABLE GROUP</b>	<b>7 hrs</b>
<b>Chapter No. 13.</b> Concept of children as a vulnerable group	3 hrs
<b>Chapter No. 14.</b> Laws to protect children	2 hrs
<b>Chapter No. 15.</b> Welfare schemes - health, education	2 hrs

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 = 100

## References

1. Child Psychology Made Simple, Richard Lansdown
2. Psychology and life education, Richard J.Gerrig, Philip G Zimbardo, Pearson
3. Human Development – A life Span view, Kail Robert and Cavanaugh John, 7<sup>th</sup> edition  
(also online book)
4. Life Span Development, Santrock John, 14<sup>th</sup> edition (also online book)

**Date**

**Course Coordinator**

**Subject Committee Chair person**



## B.SC. HOME SCIENCE SEMESTER 1

<b>Course Title: DEVELOPMENTAL COMMUNICATION (OE-1) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA/Exam: 2 hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

### Course Outcomes (COs):

At the end of the course the student should be able to:

1. Understand the concept and process of development and communication
2. Sensitize about issues related to society, environment, health, and education.
3. Acquire experiential learning skills on media and development communication.

### Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Understand the concept and process of development and communication	×	×	×									
Sensitize about issues related to society, environment, health, and education.					×	×	×					
Acquire experiential learning skills on media and development communication.									×	×	×	

## B.SC. HOME SCIENCE SEMESTER 1

**Title of the Course: DEVELOPMENTAL COMMUNICATION**

<b>Course: OE 1</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit-I Communication and developmental Concept</b>	<b>15 Hrs</b>
<p><b>Chapter No. 1.</b> Meaning, definition, scope and importance of communication            Functions of communication – information function, command or instructive function, influence or persuasive function and integrative function. Elements of Communication – five elements – communicator, communicate, message, channel and feedback</p> <p><b>Chapter No. 2.</b> Means of Communication – Oral, Written, Sign / signal, action, object. Types of Communication – Formal and Informal Communication. Advantages and Limitations of communication media</p> <p><b>Chapter No. 3.</b> Definition, basic concept, nature, significance and functions and dysfunctions. Models of Development- Basic Needs model, Philosophy and principles of development communication.</p>	<b>5 Hrs</b>
	<b>5 Hrs</b>
	<b>5 Hrs</b>
<b>Unit-II Media and Development Communication</b>	<b>15 Hrs</b>
<p><b>Chapter No. 4.</b> Development Communication: Definition, Scope, Objectives, Role of ICT in Development communication.            Traditional media – types, characteristic role in development communication</p> <p><b>Chapter No. 5.</b> Development reporting – roles and responsibilities of development reporter, ethics in reporting, required skills and issues in development reporting            News reporting – definition of news, ingredients and qualities of news, news value, types of news reports, structure of news reports</p>	<b>5 Hrs</b>
	<b>5 Hrs</b>

<b>Chapter No. 6.</b> Radio news, features and commentaries, radio and development communication, Television and cinema – role in development communication.	<b>5 Hrs</b>
<b>Unit -III Skills for Development Communication (Experiential Learning)</b>	<b>15 Hrs</b>
<b>Chapter No. 7.</b> Photography – Role of photography in communication, Video films – planning and execution based on a topic.	<b>7 Hrs</b>
<b>Chapter No. 8.</b> - Editing procedure – optical effects, music titles and other accessories. Editing for a short video – 3 mins, 5 mins etc, Flyers – preparation and importance of flyer’s for a specific message.	<b>8 Hrs</b>

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 =100

### References:

1. Capila.A. (2001). Images of Women in the Folk Songs of Garhwal Himalayas. New Delhi: Concept Publishers
2. Communication for Development in the Third World Theory and Practices (1991). New Delhi: Sage Publications
3. Dhanraj patil. (2010). Communication for rural development in India. New Delhi: Serials Publications
4. Gupta.D. (2007). Development Communication in Rural Sector. New Delhi: Mukhopadhyay, Abhijeet Publication
5. Joshi Uma. (1997). Textbook of Mass Communication and Media. New Delhi: Anmol Publications
6. Joshi Uma. (2001). Understanding Development Communication. New Delhi: Dominant Publishers

**Date**

**Course Coordinator**

**Subject Committee Chairperson**

## B.SC. HOME SCIENCE SEMESTER 1

Course Title: INTRODUCTION TO RESOURCE MANAGEMENT (OE 1)	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA/Exam: 2 hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

### Course Outcomes (COs):

At the end of the course the student should be able to:

1. Describe the bi-directional relationship between resources and family functioning.
2. Develop the ability to evaluate the managerial efficiency and effectiveness of decision making techniques.
3. Improve time management and evaluate outcomes of effective time management.
4. Simplify work and increase work efficiency through proper energy managerial process and posture training.

### Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Describe the bi-directional relationship between resources and family functioning		X		X		X						
Develop the ability to evaluate the managerial efficiency and effectiveness of decision making techniques.		X		X		X						
Improve time management and evaluate outcomes of effective time management.		X		X		X			X			
Simplify work and increase work efficiency through proper energy managerial process and posture training		X		X		X			X	X		

## B.SC. HOME SCIENCE SEMESTER 1

**Title of the Course: INTRODUCTION TO RESOURCE MANAGEMENT**

<b>Course: OE 1</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit-I Management – Contexts and Concepts</b>	<b>10 Hrs</b>
<b>Chapter No. 1.</b> Management – Definition , Management process, Motivating factors of Management- Goals, Values and Standards,	<b>2 Hrs</b>
<b>Chapter No. 2.</b> Decision Making – Definition, Types of Decisions, Decision making process	<b>3 Hrs</b>
<b>Chapter No. 3.</b> Resources- Definition, Classification, Effective use of resources, Conventional and Non – Conventional Resources	<b>5 Hrs</b>
<b>Unit-II Resource Management</b>	<b>15 Hrs</b>
<b>Chapter No. 4.</b> Human Resource Management -	<b>10 Hrs</b>
<b>Chapter No. 5.</b> Time Management - Concept, Importance, Tools in time management, Process of time management, making time plans – factors and steps, Time demands during different stages of the family life cycle.	<b>5 Hrs</b>
<b>Unit -III Energy Management and Body Mechanics</b>	<b>20 Hrs</b>
<b>Chapter No. 6 –</b> Energy Management- Definition, Significance and managerial process, Energy Expenditure and its assessment, Fatigue, Work simplification techniques; Comfortable reach and Working heights, of work spaces, Space dimensions for different work centers; Stature of workers and its application on work centers.	<b>6 Hrs</b>
<b>Chapter No. 7. –</b> Ergonomics – Definition, Significance, Ergonomics and Design, Anthropometry, Assessment using ergonomic Tools.	<b>6 Hrs</b>
<b>Chapter No. 8.-</b> Posture and Body Mechanics - Principles of Body Mechanics, Mechanics of Posture (Sitting, Standing and Sleeping), Risk due to lifestyle, causes and remedies, Preventing injuries through exercises,	<b>8 Hrs</b>

Stress into poor posture and its management.	
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<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 = 100

### **References:**

1. Ergonomics for Improved Productivity Proceedings of HWWE 2017 Volume 2, Mohammad Muzammil, Abid Ali Khan, Faisal Hasan.
2. Handbook of Human Factors and Ergonomics in Consumer Product Design, 2 Volume Set (Ergonomics Design & Mgmt. Theory & Applications) 1st Edition by Waldemar Karwowski (Editor), Marcelo Soares (Editor), Neville A. Stanton (Editor).
3. Introduction to Human Factors and Ergonomics, R.S. Bridger, 7 December 2017
4. Ergonomics For The Layman Applications In Design 2020, Edition by Mukhopadhyay P, Taylor & Francis Ltd
5. Working Postures: A Literature Review
6. July 2004 Journal of Occupational Rehabilitation, 14(2):14359 DOI:10.1023/B:JOOR.0000018330.46029.05, SourcePubMed
7. International Journal of Industrial Ergonomics, Volume 8, Issue 1, August 1991, Pages 3-15

**Date**

**Course Coordinator**

**Subject Committee Chair person**

## B.SC. HOME SCIENCE SEMESTER 2

Course Title: <b>Basic Nutrition and Food Science (DSC4) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA / Exam: 2 hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

### **Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Summarize and critically discuss and understand both fundamental and applied aspects of Food Science and nutrition.
2. Able to explain functions of specific nutrients in maintaining health
3. Identifying nutrient specific impact and apply the principles from the various factors of foods and related disciplines to solve practical as well as Real world problems
4. Use current information Technologies to locate and apply evidence-based guidelines and protocol and get imported with critical thinking to take leadership roles in the field of health, diet special nutritional needs and nutritional counseling.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

<b>Course Outcomes (COs) / Program Outcomes (POs)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Summarize and critically discuss and understand both fundamental and applied aspects of Food Science and nutrition.	X		X	X			X					
Able to explain functions of specific nutrients in maintaining health							X	X	X	X		
Identifying nutrient specific impact and apply the principles from the various factors of foods and related disciplines to solve practical as well as Real world problems						X					X	X
Use current information Technologies to locate and apply evidence-based guidelines and protocol and get imported with critical thinking to take leadership roles in the field of health, diet special nutritional needs and nutritional counseling.	X			X							X	X



## B.SC. HOME SCIENCE SEMESTER 2

**Title of the Course: Basic Nutrition and Food Science**

<b>Course: DSC 4</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit-I. Introduction of Food Groups, Food Pyramid and Cooking Methods</b>	<b>8 Hrs</b>
<b>Chapter No. 1</b> Definition and Terms used in Food Science and Nutrition - Health, Food, Nutrition, Nutrients and Malnutrition	<b>2 Hrs</b>
<b>Chapter No. 2:</b> Various classifications of Foods and Food Groups - Definition, Classification and Functions of Foods, Basic Food Groups and Need for Grouping Foods and Application of Food Groups in Planning Adequate/Balanced Diets – Introducing EAR.	<b>3 Hrs</b>
<b>Chapter No. 3:</b> Culinary terms and Methods of Cooking - An Overview of culinary terms - Different Modes of heat transfer like Radiation, Conduction and Convection. Moist heat methods - Boiling, Simmering, Poaching, Steaming, Pressure cooking. Dry heat methods - Air as medium of cooking - Grilling, broiling, roasting, Baking. Fat as medium of cooking -Sautéing, Shallow fat frying, Deep fat frying. Combined (Moist and dry) Methods - Braising, Stewing. Other cooking methods -Microwave cooking, and Solar cooking. Advantages and Disadvantages of Cooking methods	<b>3 Hrs</b>
<b>Unit-II. Nutritional Significance of different Food Groups</b>	<b>17 Hrs</b>
<b>Basic Concepts, classification, Composition, nutritive value and Role in Cookery</b>	
<b>Chapter No 4: Cereals and Cereal Products-</b> a). Types of cereals: wheat, rice, millets,	<b>4 Hrs</b>

b) Cereal Products Flaked rice, puffed rice, wheat flour) Principles and properties of Cereals and its utility: Germination (Amylase Rich Foods- ARF), fermentation, Parboiling, Gelatinization, Dextrinization, Gluten formation <b>Chapter No. 5</b> Pulses and Legumes <b>Chapter No. 6:</b> Fruits and Vegetables <b>Chapter No. 7: a)</b> Milk and Milk Products: including Fortified milk & its importance; b) Eggs-Basic structure of an egg and biological value, Quality evaluation and grading of eggs; c) Meat, poultry and fish <b>Chapter No. 8:</b> a) Nuts, oils and Oil seeds; b) Salt, Sugar and Jaggery; C) Spices & Condiments -Importance and their functional properties	<b>2 Hrs</b>
	<b>2 Hrs</b>
	<b>6 Hrs</b>
	<b>3 Hrs</b>
<b>Unit – 3 Nutrients</b>	<b>20 hrs</b>
<b>Chapter No. 9: Macro Nutrients</b> Definition, Classification, Dietary Sources, Functions, Recommended Dietary Allowances, clinical signs and symptoms of Deficiency diseases and Excess of a) Energy; b) Carbohydrates; C) Fats; d) Proteins; e) Water <b>Chapter No. 10: Minerals</b> Definition, Classification, Dietary Sources, Functions, Recommended Dietary Allowances, clinical signs and symptoms of Deficiency diseases and Excess of a) Calcium; b) Phosphorus; c) Magnesium; d) sodium; e) Potassium; f) Iron; g) Zinc; h) Iodine; i) Fluorine <b>Chapter No. 11: Vitamins</b> Classifications, functions, sources, Clinical signs and symptoms of deficiency, requirements of a) Fat Soluble Vitamins - A, D, E and K b) Water Soluble Vitamins-B Complex Vitamins- Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin and Vitamin C	<b>5 Hrs</b>
	<b>7 Hrs</b>
	<b>8 Hrs</b>

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 = 100

**Practical: 2 Credits****52 Hrs**

1. Weights and measures
2. Standardization of recipes
3. Enhancing the traditional recipes with specific nutrients (Protein, carbohydrate, vitamin A, Vitamin C, Calcium and Iron.
4. Cereal and millet preparation
5. Leavened and unleavened products, Fermented products and malted products
6. Pulse Cookery
7. Vegetable cookery – Effect on pigments and enzymatic browning in fruits and vegetables
8. Milk cookery
9. Egg cookery
10. Sugar and Jaggery – Syrup formation crystallization and caramelization
11. Fat and oil cookery

<b>Formative Assessment = 25 marks + Summative Assessment = 25 Marks = 50 Marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Project	15
<b>Total</b>	<b>25 marks + 25 marks = 50 marks</b>

**References:**

1. Khanna K, Gupta S, Seth R, Mahna R, Rekhi T (2004). The Art and Science of Cooking: A Practical Manual, Revised Edition. Elite Publishing House Pvt Ltd.
2. Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). Basic Food Preparation: A Complete Manual, Fourth Edition. Orient Black Swan Ltd.
3. Rekhi T and Yadav H (2014). Fundamentals of Food and Nutrition. Elite Publishing House Pvt Ltd., Delhi.
4. Srilakshmi B (2014). Food Science, 6th Edition. New Age International Ltd., Delhi.
5. Bamji MS, Krishnaswamy K, Brahmam GNV (2016). Textbook of Human Nutrition, 4th edition. Oxford and IBH Publishing Co. Pvt. Ltd.

6. Byrd-Bredbenner C, Moe G, Beshgetoor D, Berning J. Wardlaw's Perspectives in Nutrition, McGraw- Hill International Edition, 9th edition, 2013.
7. Antia, F.P. (2005): Clinical Nutrition and Dietetics, Oxford University Press, Delhi
8. Gordon M Ward law (1999) Perspectives in Nutrition 4<sup>th</sup>ed.WCB/Mcgraw Hill. International edition.
9. Mahan, L.K., Arlin, M.T. (2000): Krause's Food, Nutrition and Diet therapy, 11th edition, W.B.Saunders Company, London.
10. Passmore, R and Davidson S (1986) Human Nutrition and Dietetics.Living stone Publishers.
11. Robinson, C.H;Lawler, M.R.Chenoweth, W.L;andGarwick,A.E (1986):Normal and Therapeutic Nutrition,17th Ed., Mac Millan Publishing Co

**Date**

**Course Co-ordinator**

**Subject Committee Chairperson**

## B.SC. HOME SCIENCE SEMESTER 2

Course Title: Extension Education and Communication (DSC 5) (Theory)	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA/Exam: 2 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

### Course Outcomes (COs):

At the end of the course the student should be able to:

1. Understand the Concept of Extension Education and Communication
2. Develop skills in the use of Extension methods and media.
3. Become aware of Extension teaching and Learning.

### Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Understand the Concept of Extension Education and Communication.		x	x	x								
Develop skills in the use of Extension methods and media.						x	x	x				
Become aware of Extension teaching and Learning.										x	x	x

## B.SC. HOME SCIENCE SEMESTER 2

**Title of the Course: Extension Education and Communication**

<b>Course: DSC 5</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit – 1 EXTENSION EDUCATION AND ADULT LEARNING</b>	<b>15 Hrs</b>
<b>Chapter No. 1.</b> Extension Education Definition, meaning, objectives, principles, scope, and Philosophy. Qualities of an Extension facilitator. Home science extension – Concept, definition, objectives, and philosophy, Contribution of Home Science Extension towards development of society.	<b>5 Hrs</b>
<b>Chapter No. 2.</b> Extension Teaching – Concept, goals, characteristics, steps, phases in extension education process. Edgar Dale’s cone of experience. Adult learning, factors affecting, types. Teaching process – types of teaching methods, principles of teaching. Qualities of a good teacher.	<b>5 Hrs</b>
<b>Chapter No. 3.</b> Leader and leadership – types, styles, qualities, functions, advantages, and disadvantages of working with the leaders. Training camps.	<b>5 Hrs</b>
<b>Unit – 2. Extension Teaching Methods &amp; Media Communication</b>	<b>15 Hrs</b>
<b>Chapter No. 5.</b> Definition, Aims and objectives, classification. Each of the Extension methods merits and limitations.	<b>5 Hrs</b>
<b>Chapter No. 6.</b> Audio visual aids – definition, role of visual aids in teaching, important audio, visual and other extension methods for effective teaching.	<b>5 Hrs</b>
<b>Chapter No. 7.</b> Visual Media - it's preparation and usage for the following: - a. Electronic Media - i. Radio ii. Television iii. Films. Group Media and it's usage in Extension b. Print Media - i. News Paper ii. Magazines. Mass media and their uses for extension	<b>5 Hrs</b>

c. Folk Media - Meaning and Characteristics ii. Major Indian Folk forms ii. Importance of Folk forms.	
<b>Unit - 3 Diffusion and Adoption of Extension</b>	<b>15 Hrs</b>
<b>Chapter No. 8.</b> Diffusion and Adoption, Innovation decision process, its stages, four main elements in diffusion of innovations.	<b>5 Hrs</b>
<b>Chapter No. 9.</b> Difference between communication and diffusion.	<b>5 Hrs</b>
<b>Chapter No. 10.</b> Steps in adoption process, important factors related to adoption of practices.	<b>5 Hrs</b>

<b>Formative Assessment</b>	
Assessment Occasion/ type	Weightage in Marks
Test 1	10
Test 2	10
Assignment + Project	20
Total	60 marks+40 marks = 100 marks

**Practical: 2 Credits**

**52 Hrs**

1. Content analysis of news/programmes.
2. Edgar Dale's cone of experience.
3. Selection and preparation of developmental message using different methods and media: -
  - a. Planning for the community.
  - b. Developing message to the community.
  - c. Evaluation of teaching aids used.
4. Using an appropriate example apply the stages of an adoption process.
5. Do an Interviewing/case study about a leader or successful social worker or organization itself which does community development work.
6. Using any communication media design/develop a tool to use for community effectiveness.

<b>Formative Assessment = 25 marks + Summative Assessment = 25 Marks = 50 Marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	-
Project	15
<b>Total</b>	<b>25 marks + 25 marks = 50 marks</b>

### **References:**

1. P.M Khan and L. L Somani (2010): Fundamentals of Extension Education. Agrotech publishing company.
2. Wittch and schuller (2002): Audio Visual Materials, Havper& Row publications.
3. Extension Education by S.k. Waghmare (2007) New Age India publications.
4. Fundamentals of Teaching Home Science by Arvind Chandra, Anupam Shah and Uma Joshi (2010) International publishers.
5. A textbook of Audio-Visual aids by Lalit Kishore (2002) United publications.
6. Education and Communication for Development by O.P Dahama and O.P Bhatnagar (2007) revised edition. New Age India publications.

**Date**

**Course Co-ordinator**

**Subject Committee Chairperson**



## B.SC. HOME SCIENCE SEMESTER 2

<b>Course Title: Human Physiology (DSC 6) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA / Exam: 2 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

**Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Gain knowledge into the structure and functions of cells, tissues and organs of human body
2. Understand the anatomy and physiology of the various systems in the human body
3. Comprehend the functions of systems.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

<b>Course Outcomes (COs) / Program Outcomes (POs)</b>	1	2	3	4	5	6	7	8	9	10	11	12
Gain knowledge into the structure and functions of cells, tissues and organs of human body		x	x	x					x			x
Understand the anatomy and physiology of the various systems in the human body			x					x	x	x		x
Comprehend the functions of systems.			x					x		x		x

## B.SC. HOME SCIENCE SEMESTER 2

**Title of the Course: HUMAN PHYSIOLOGY**

<b>Course: DSC 6</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit – 1 INTRODUCTION TO HUMAN BODY</b>	<b>15 Hours</b>
<b>(a) Introduction to Physiology</b>	
<b>Chapter No. 1:</b> Basic concepts of Cell structure, tissues, organs and their functions.	<b>2 Hrs</b>
<b>Chapter No. 2:</b> Structure and Functions of lymph System	<b>2 Hrs</b>
<b>Chapter No. 3:</b> Structure and Functions of Skeletal System	<b>2 Hrs</b>
<b>(b) Cardiovascular System and Respiratory System</b>	
<b>Chapter No. 4:</b> Blood and its composition ,Functions; Blood groups , coagulating of blood	<b>3 Hrs</b>
<b>Chapter No. 5:</b> Structure and functions of heart Cardiac cycle, Heartrate, Cycle, Heart Rate, Cardiac Output, Blood Pressure (Systolic &Diastolic Blood pressure), Pathophysiology, ECG, Common disorders: anemia, myocardial ischemia and infarction	<b>3 Hrs</b>
<b>Chapter No. 6:</b> Physiological Anatomy of Respiratory Tract, Mechanism of Respiration, Transport of Respiratory Gases in Blood, Gaseous Exchange in Lungs and tissues	<b>3 Hrs</b>
<b>Unit – 2 PHYSIOLOGY OF DIGESTIVE SYSTEM AND EXCRETORY SYSTEM</b>	<b>12 Hrs</b>
<b>(c) Digestive System</b>	
<b>Chapter No. 7:</b> Principal accessory organs- salivary glands, liver, gall bladder, pancreas- structure & function	<b>3 Hrs</b>
<b>Chapter No. 8:</b> Digestion and absorption of food and role of enzymes and hormones, Role of gut hormones & enzymes in Digestion and	

mechanisms involved in absorption of food	
<b>Chapter No. 9:</b> Common disorders of the digestive system :Diarrhea, constipation, vomiting, obstructive jaundice, gastroenteritis, and acidity	<b>2 Hrs</b>
<b>(d) Excretory System</b>	
<b>Chapter No. 10:</b> Structure of Excretory System- Kidney, Nephron, Urinary Bladder, Role of kidney in homeostasis	<b>2 Hrs</b>
<b>Chapter No. 11:</b> Urine Formation, Composition of Urine, micturition, Glomerular Filtration Rate(GFR), Acute glomerulonephritis, Chronic glomerulonephritis, Nephrotic Syndrome and Renal failure	<b>3 Hrs</b>
	<b>2 Hrs</b>
<b>Unit – 3 PHYSIOLOGY OF ENDOCRINE SYSTEM, REPRODUCTIVE SYSTEM AND NERVOUS SYSTEM</b>	<b>18 Hrs</b>
<b>(e) Endocrine System</b>	
<b>Chapter No.12:</b> Introduction to Endocrinology, Location and functions of endocrine glands	<b>2 Hrs</b>
<b>Chapter No. 13:</b> Functions and Hormones secreted by Pituitary Gland, Thyroid Gland ,Parathyroid Gland, Adrenal Gland , Sex glands, Pancreas	<b>3 Hrs</b>
	<b>2 Hrs</b>
<b>Chapter No. 14:</b> Disorders of hypo and hyper secretion of the glands	<b>2 Hrs</b>
<b>(f) Reproductive System</b>	
<b>Chapter No. 15:</b> Structure, hormones secreted by male and female reproductive organs	<b>3 Hrs</b>
<b>Chapter No. 16:</b> Physiology of Menstruation- Estrogen vs Progesterone, -Pregnancy and associated changes, physiology of lactation	<b>3 Hrs</b>
	<b>3 Hrs</b>
<b>(g) Nervous system</b>	
<b>Chapter No. 16:</b> Structure and functions of Neuron, Brain	
<b>Chapter No. 17:</b> Central nervous system - Autonomic Nervous System, Parasympathetic Nervous System	

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 = 100

### **References**

1. Chatterjee C.C (2016), Human Physiology Volume I, Medical Allied Agency, Kolkata
2. Chatterjee C.C (2004), Human Physiology Volume II, Medical Allied Agency, Kolkata. Sembulingam, K. (2000) Essentials of Medical Physiology, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi
3. Chaudhri, K. (1993) Concise Medical Physiology, New Central Book Agency (Parentral) Ltd., Calcutta.

**Date**

**Course Coordinator**

**Subject Committee Chairperson**

## B.SC. HOME SCIENCE SEMESTER 2

Course Title: <b>SUSTAINABLE DEVELOPMENT THROUGH ENERGY CONSERVATION (OE-2) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 40 marks	Duration of ESA / Exam: 2 hrs
Model Syllabus Authors:	Summative Assessment Marks: 60 marks

**Course Pre-requisite(s):** Standard 12 and its equivalence with minimum 35%

**Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Understand the environmental aspects of non-conventional and alternate energy resources.
2. Understand greenhouse effect and how greenhouse gases benefit and harm the earth.
3. Understand the technical and commercial aspects of energy conservation.
4. Understand solid waste management and water conservation through the concept of reduce, reuse, recycle and compost.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Understand the environmental aspects of non-conventional and alternate energy resources				x	x			x	x	x		
Understand greenhouse effect and how greenhouse gases benefit and harm the earth				x				x		x		
Understand the technical and commercial aspects of energy conservation				x				x				
Understand solid waste management and water conservation through the concept of reduce, reuse, recycle and compost.				x	x							

## B.SC. HOME SCIENCE SEMESTER 2

**Title of the Course: SUSTAINABLE DEVELOPMENT THROUGH ENERGY CONSERVATION**

<b>Course: OPEN ELECTIVE- OE 2</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture Hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit – 1 NON- CONVENTIONAL ENERGY RESOURCES</b>	<b>11 Hrs</b>
<b>Chapter No.1:</b> Renewable energy sources: Working principles and application of - Solar, Wind, Hydro, Tidal, Geothermal, Biomass and Bio-fuels, Hydroelectric power, Hybrid systems, Photovoltaic cells.  <b>Chapter No. 2:</b> Energy Conservation, Definition, energy saving devices, Energy conservation at home and community  <b>Chapter No.3:</b> Eco-Friendly Ways to Reduce Energy.	<b>6 Hrs</b>
	<b>2 Hrs</b>
	<b>3 Hrs</b>
<b>Unit – 2 SUSTAINABLE BUILDING TECHNOLOGIES</b>	<b>20 Hrs</b>
<b>Chapter No. 4:</b> Greenhouses: Greenhouse Technology – Advantages, Classification of greenhouse, Construction of a cost effective greenhouse – materials required.  <b>Chapter No. 5:</b> Recent trends for the future of green energy– Green micro grid technology  <b>Chapter No. 6:</b> Heating and cooling systems, screens and auxiliary systems for a greenhouse Sustainable Building Technologies for Greenhouse Gas Emission Reduction, Carbon Foot Prints, Hydroponic greenhouses	<b>6 Hrs</b>
	<b>4 Hrs</b>
	<b>10 Hrs</b>
<b>Unit – 3 REDUCE, REUSE AND RECYCLE</b>	<b>14 Hrs</b>
<b>Chapter No. 7:</b> Meaning and Objectives of Reduce, Reuse and Recycle	<b>2 Hrs</b>

<b>Chapter No. 8:</b> Water management and its conservation	<b>4 Hrs</b>
<b>Chapter No. 9:</b> Waste management – organic and inorganic wastes	<b>4 Hrs</b>
<b>Chapter No. 10:</b> Application of 3 R's for sustainable building	<b>4 Hrs</b>

<b>Formative Assessment = 100 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	60 + 40 = 100

## References

1. Energy Management and Conservation; K. V. Sharma and P. Venkateshaiah: I K International Publishing House Pvt. Ltd.
2. Guide to energy management, 7th Edition, Barney L. Capehart, Wayne C. Turner, William J. Kennedy; ISBN-10: 0-88173-671-6, Published by The Fairmont Press, Inc
3. Journal on Energy Conservation and Management: Elsevier, ISSN: 0196-8904
4. Non-Conventional Energy Sources, G.D. Rai (2009), Khanna Publishers, New Delhi
5. Greenhouse Technology (The Future Concept of Horticulture): Ghosh, A.: Kalyani Publishers, New Delhi.

**Date**

**Course Coordinator**

**Subject Committee Chairperson**

## B.SC. HOME SCIENCE SEMESTER 2

Course Title: <b>Adolescent Brain and Behaviour (OE – 2) (Theory)</b>	
Total Contact Hours: 45 Hrs	Course Credits: 3
Formative Assessment Marks: 30 marks	Duration of ESA / Exam: 2 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 70 marks

**Course Pre-requisite(s):** Minimum understanding of Child Development - DSC3

**Course Outcomes (COs):**

At the end of the course the student should be able to:

1. Knowledge of brain changes during adolescence.
2. Awareness of influence of brain on behaviour.
3. Develop critical thinking skills.

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)**

Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge of brain changes during adolescence		X	X									X
Awareness of influence of brain on behaviour.					X				X			X
Develop critical thinking skills		X			X				X			



## B.SC. HOME SCIENCE SEMESTER 2

**Title of the Course: ADOLESCENT BRAIN AND BEHAVIOUR**

<b>Course: OE-2</b>	
<b>Number of Theory Credits</b>	<b>Number of lecture hours/semester</b>
<b>3</b>	<b>45</b>

<b>CONTENT</b>	<b>45 Hrs</b>
<b>Unit – 1 THE DEVELOPING BRAIN</b>	<b>10 hrs</b>
<b>Chapter No. 1:</b> Brain development during late childhood and Adolescence including cell migration, pruning, and arborisation, development of the grey and white matter and functional implications of those brain changes	<b>7 Hrs</b>
<b>Chapter No. 2:</b> Brain Plasticity in late childhood and adolescence	<b>3 Hrs</b>
<b>Unit – 2 BRAIN AND COGNITION</b>	<b>14 hrs</b>
<b>Chapter No. 3:</b> Overview of thinking in Adolescence	<b>5 Hrs</b>
<b>Chapter No. 4:</b> Self-control	<b>2 Hrs</b>
<b>Chapter No. 5:</b> Decision making	<b>5 Hrs</b>
<b>Chapter No. 6:</b> Resilience	<b>2 Hrs</b>
<b>Unit – 3 BRAIN AND SOCIO-EMOTIONAL DEVELOPMENT</b>	<b>14 hrs</b>
<b>Chapter No. 7:</b> Identity formation and crisis resolution	<b>3 Hrs</b>
<b>Chapter No. 8:</b> Motivation	<b>3 Hrs</b>
<b>Chapter No. 9:</b> Fear	<b>2 Hrs</b>
<b>Chapter No. 10:</b> Dating	<b>2 Hrs</b>
<b>Chapter No. 11:</b> Violence	<b>2 Hrs</b>
<b>Chapter No. 12:</b> Risk Taking	<b>2 Hrs</b>

<b>Unit – 4 POLICIES AND SAFETY</b>	<b>7 hrs</b>
<b>Chapter No. 13: Social Policies, Judicial Policies, Protective Organizations and Services</b>	<b>7 Hrs</b>

<b>Formative Assessment = 60 marks</b>	
<b>Assessment Occasion / type</b>	<b>Weightage in Marks</b>
Test 1	10
Test 2	10
Assignment + Project	20
<b>Total</b>	<b>60 marks + 40 marks = 100 marks</b>

## References

1. Coon Dennis, Mitterer John, “Introduction to Psychology: Gateways to Mind and Behaviour”, Thomson Wadsworth Publishing 11<sup>th</sup> Edition
2. Peterson Christopher, “Psychology: A BioPsychoSocial Approach” Longman Publishing 2<sup>nd</sup> Edition
3. Vasta Ross, Haith Marshall, Miller Scott, “Child Psychology: The Modern Science”, John Wiley and Sons
4. Shaffer David, “Developmental Psychology: Childhood and Adolescence”, Brooks / Cole Publishing Company

**Date**                                      **Course Coordinator**                                      **Subject Committee**  
**Chairperson**



