Model Curriculum

of

B.Sc. Honours

in

Home Science

3rd and 4th Semester

(Model II A)

Karnataka State Higher Education Council

Government of Karnataka

Model Curriculum

Program Name	**B.Sc**	Total Credits for the Program	**265 Credits**
Core	**Composite Home Science**	Starting year of implementation	**2021-22**

Program Outcomes: At the end of the program the student should 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. Instil 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 favouring 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	**40**	**60**
Practical	**25**	**25**
Projects	**-**	**-**
Experiential Learning (Internships etc.)	**-**	**-**

Contents of Courses for B.Sc. Home Science as Major Subject

Model I C

Semester	Course Name	Course Category	Theory / Practical	Credits	Paper Title	Marks	
						S.A	I.A
3.	CHSCT3.1	DSC- 7	Theory	3	Family Meal Management	60	40
	CHSCP3.1		Practical	2	Family Meal Management	25	25
	CHSCT3.2	DSC- 8	Theory	3	Dyeing printing and finishing of Textiles	60	40
	CHSCP3.2		Practical	2	Dyeing printing and finishing of Textiles	25	25
	CHSCT3.3	DSC- 9	Theory	3	Resource Management	60	40
	CHSCT3.4	OE- 3	Theory	3	A. Bakery Science B. Life skills education	60	40
4.	CHSCT4.1	DSC- 10	Theory	3	Human Development II - Adolescence and Adulthood	60	40
	CHSCP4.1		Practical	2	Human Development II - Adolescence and Adulthood	25	25
	CHSCT4.2	DSC- 11	Theory	3	Traditional Textiles and Costumes of India	60	40
	CHSCP4.2		Practical	2	Traditional Textiles and Costumes of India	25	25
	CHSCT4.3	DSC- 12	Theory	3	Community Development	60	40
	CHSCT4.4	OE- 4	Theory	3	A. Techniques of Food Preservation B. Dyeing and Printing	60	40
	Exit Option with Diploma in Composite Home Science (100 Credits)						

Abbreviation for CHSCT; CHSCP

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

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Third Sem**
Course Title	**Family Meal Management (Theory)**			
Course No.	**CHSCT3.1**	**DCS -7**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I and II of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Design food plans and assess the adequacy of diets to meet the nutritional needs of humans at various stages of life cycle.
2. Assess nutrition issues and conditions and also recommend nutrition intervention and support to promote the health and wellbeing.
3. Have the knowledge, both to develop and critique nutritional interventions designed to improve human health and well-being at specific age associated time points.
4. On completion of the course students will be able to critically assess nutritional requirements and nutritional health status of an individual.

Content	**45 Hrs**
Unit–I Introduction to RDA (Recommended Dietary Allowances /EAR (Estimated Average Requirements) **and Balanced Diet, Importance**	**7 Hrs**
Chapter No. 1 Basic concept and purposes of Recommending the Dietary Allowances and Factors Affecting RDA/EAR	2 Hrs
Chapter No. 2: Requirements RDA/ EAR for various age groups. Uses of ICMR- RDA/EAR in planning balance diet	3 Hrs
Chapter No. 3: Exchange system and Dietary Diversity	2 Hrs
Unit -II - Nutrition in Pregnancy, Lactation, and Infancy	**18 Hrs**

Chapter No 4: Physiological Changes occurring during Pregnancy. Importance of Food and Nutritional Care and Requirement during pregnancy. General Dietary and nutritional Problems and Complications	6 Hrs
Chapter No. 5: Physiology and Hormones involved in Lactation. Food supplements and galactagogues. Factors Affecting the Volume and Composition of Breast Milk. Nutritional Requirements during lactation	6 Hrs
Chapter No. 6: Growth and Development of Infants. Composition of Human Milk and Human Milk Substitute. Bottle Feeding and related Problems. Weaning and Supplementary Feeding Foods. Feeding Problems and Complications. Use of growth charts and standards and prevention of growth faltering	6 Hrs
Unit -III - Nutrition in Childhood, Adolescence, Adult and Elderly	**20 Hrs**
Chapter No. 7: Growth and Development of Pre School, School Going Children and Adolescence. Food and Nutritional Requirements. Factors to be considered while Planning Diet for Children and Adolescents	5 Hrs
Chapter No. 8: Growth Spurt during Adolescence. Food Habits, Dietary Guidelines, Food and Nutritional Requirements. Nutritional and Behavioural Problems and Eating Disorders	5 Hrs
Chapter No. 9: Reference Man and Reference Woman. Food and Nutritional Requirements for Adults doing Different Activities. Role of exercise and Diet. Onset of Non communicable diseases/lifestyle disorders – Prevention and management.	5 Hrs
Chapter No. 10: Processes of Aging. Food and Nutritional Requirements of Elders. Nutrition Related Problems of Old Age. Dietary Guidelines and diet Modifications.	5 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	**Program Outcomes (POs)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Ability to plan and assess the food adequacy of diets to meet the nutritional needs of individuals at various stages of life cycle.	X		X	X			X	X				
Understanding of nutritional issues and condition's ability to recommend nutritional intervention to support and promote the health and wellbeing of individuals							X	X	X	X		

Knowledge, to develop and critique nutritional interventions designed to improve and well-being at specific stage of life cycle.		X				X					X	X
Ability to critically assess the nutritional requirement and nutritional health status of an individual.	X			X							X	X

Pedagogy

Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons. Hands on experience in laboratory

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	15
Test 2	15
Assignment + Project	5 + 5
Total	**60 marks + 40 marks = 100 marks**

Course Title	**Family Meal Management (Practical)**		Practical Credits	**2**
Course No.	**CHSCP3.1**	**DSC-7**	Contact hours	**60 hrs (52 / 56 hrs)**
Content				

1. Planning and Evaluating Menu during Pregnancy
2. Planning and Evaluating Menu during Lactation
3. Planning and Evaluating Menu for Infants (Supplementary Foods)
4. Planning and Evaluating Menu for Pre-schoolers
5. Planning and Evaluating Menu for School Going Children
6. Planning and Evaluating Menu for Adolescents
7. Planning and Evaluating Menu for Adults
8. Planning and Evaluating Menu for Elderly

Note: Prepare any four of the above

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Mahtab, S, Bamji, Kamala Krishnasamy, Brahmam, G.N.V. (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
2	Srilakshmi, B. (2013), Dietetics, New Age International (P) Ltd., New Delhi.
3	SunetraRoday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
4	Longvah, T, Ananthan, R, Bhaskarachary, K, Venkaiah, K. (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
5	Shakuntala Manay, Shadaksharaswamy. M (2013) Foods, Facts and Principles, New Age International Pvt Ltd Publishers, 2nd Edition) Ltd., New Delhi.
6	Swaminathan, M. (2012), Advanced Textbook on Food and Nutrition, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore.

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Third Sem**
Course Title	**Dyeing printing and Finishing of Textiles (Theory)**			
Course No.	**CHSCT3.2**	**DSC- 8**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I and II of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Acquires knowledge on various dyes and skill of different dyeing methods, after treatments on various fibres.
2. Acquires knowledge on pigments and skill of preparing the fabric and printing paste for printing for various printing techniques, after treatments.
3. Understands various finishing techniques and learns basic functional finishes

Content of Theory Course	**45 Hrs**
Unit–I Dyeing	**20 Hrs**
Chapter No. 1 Introduction and preparatory steps for dyeing: History of textile processing, basic definitions and important terminologies related to textile processing, difference between dyeing and printing. **Preparatory process**: Preparation of fabrics for dyeing and printing – Singeing, desizing, scouring, bleaching, mercerizing, and degumming, carbonization, Heat setting: processing method	5 Hrs
Chapter No. 2- Types of dyes and Properties: Definition, classification Synthetic dyes; Basic/cationic dyes, acid, direct, Chrome, disperse, reactive, vat, sulphur, Pigment dyes and properties, Auxiliaries and machineries used for dyeing, Methods for dyeing, Factors affecting dyeing, dyeing of cotton, wool and silk, Dyeing of viscose and polyester, after treatments.	5 Hrs

Chapter No. 3: **Dyeing Methods:** **Fibre dyeing**: Loose stock dyeing, Top dyeing, Gel dyeing, Tow dyeing, Dope dyeing, Flock dyeing. **Yarn dyeing**: Package dyeing, Hank dyeing, Space dyeing. **Resist dyeing**: Mechanical resist, Chemical resist. **Fabric dyeing**: Jigger dyeing, Winch dyeing, Jet dyeing, Soft flow dyeing. **Denim dyeing**: Rope dyeing, Sheet dyeing. **Continuous dyeing**: Pad-batch method, Pad-dry-pad steam process, Pad steam process, Pad-thermo sol-pad steam process. **Garment dyeing**: Garment dyeing machineries, Paddle dyeing machines, Rotary drum dyeing machines, Dip dyeing	5 Hrs
Chapter No 4 - Natural Dyes Definition, history, classification; vegetable, animal, and mineral dyes, characteristics, Mordant; definition, Mordanting techniques; post mordant, pre mordant and simultaneous mordant, Natural dyeing on cellulosic, protein and synthetic fabrics, Natural dyeing methods and limitations.	5 Hrs
Unit -II - Printing	**15 Hrs**
Chapter No 5: Introduction to Printing: Classification of Printing, Preparation of print paste and printing table, Pigments and dyes used, direct style of printing, Resist style of printing, Discharge style of printing, Novel techniques of printing, Fixation and after treatment processes, Dyes for digital textile printing, Difference between dyes and pigments	7 Hrs
Chapter No. 6: Printing Techniques: Traditional printing methods Screen printing and its types, Transfer printing, Carpet and yarn printing, direct print coloration, Discharge, resist and special styles, the production and properties of printing Pastes, Fixation and after treatment processes, the use of digital systems in textile printing	8 Hrs
Unit -III - Finishing	**10 Hrs**
Chapter No. 7: Introduction to Finishing: Definition, Classification: Physical, Chemical and Functional, Objectives of textile finishing, Factors affecting the finishing of textiles: fibre, weave, physical properties, end use	4 Hrs
Chapter No. 8: Types of Finishes: Preparatory finishes, aesthetic finishes and functional finished	3 Hrs
Chapter No. 9: Finishing Techniques: Types of finishing techniques (Basic and advanced), testing the finishes.	3 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge of various dyes and skill of different dyeing methods.	X	X			X		X	X	X		X	
Skills of preparing the fabric and printing paste for printing for various printing techniques.	X	X			X				X		X	
Understanding various finishing techniques and knowledge of functional finishes.	X	X							X			

Pedagogy

Lecture, demonstration, hands on learning through projects, experiments to understand the basic concepts of textiles, industrial visits, collaboration with industries, institutions, and research centres for deeper understanding of the subject.

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	15
Test 2	15
Assignment + Project	5 + 5
Total	**60 marks + 40 marks = 100 marks**

Course Title	**Dyeing printing and Finishing of Textiles (Practical)**		Practical Credits	**2**
Course No.	**CHSCP3.2**	**DSC- 8**	Contact hours	**60 hrs (52 / 56 hrs)**
Content				
1. Preparation of fabric for dyeing and printing a. Scouring, desizing, bleaching				6 Hrs
2. Dyeing: Dyeing of yarn and fabric with different classes of dyes • Dyeing of cotton yarn and fabric with direct dyes, vat and reactive dyes. • Dyeing of silk yarn and fabrics with basic and acid dyes.				10 Hrs
3. Printing Techniques- Preparation of the fabric for Printing, Block Printing, Stencil Printing and Screen Printing				8 Hrs

4. Resist Printing – Preparation of the fabric for printing, Preparation of the dye bath, Tie and Dye techniques and types, Batik printing technique	10 Hrs
5. Natural dyeing: Natural dyeing and Mordanting on cotton, silk and wool	8 Hrs
6. Product development- parts of sewing machine, Construction process-Seams, Plackets, Fullness, Edge finishes, Darning and Patch work	5 Hrs
7. Visit to a Dyeing/ Printing Industry	5Hrs

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Asim Kumar Roy Choudhury., (2006). Textile Preparation and Dyeing, Science Publishers, USA
2	Chavan, R.B. (1979). Textile Printing (Book of Papers) Department of Textile Technology, IIT New Delhi.
3	Leslie W C Miles, "Textile Printing", 2003, Published by Society of Dyers and Colourists
4	Dr. N. N. Mahapatra, "TEXTILE DYEING", WOODHEAD PUBLISHING INDIA PVT LTD, 2018.
5	Howard L. Needles, “TEXTILE FIBERS, DYES, FINISHES, AND PROCESSES", Noyes Publication.
6	TYRONE L. VIGO, "TEXTILE PROCESSING AND PROPERTIES Preparation, Dyeing, Finishing and Performance", Published by ELSEVIER.

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Third Sem**
Course Title	**Resource Management (Theory)**			
Course Code	**CHSCT3.3**	**DSC - 9**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I and II of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Understand the available resources and develop the ability to evaluate the managerial efficiency and effectiveness in the family and other organization.
2. Acquire an understanding of real-world challenges in HRM and identify measures to ensure a stable work environment efficiently through proper coordination, employee empowerment and training practices
3. Critical thinking skills by developing a data-driven approach to improve business productivity and performance.

Content of Theory Course	**45 Hrs**
Unit–I Introduction to Resource Management	**16 Hrs**
Chapter 1 Resource Management Resources: Definition and Classification – Human and Non-Human Resources, Renewable and Non-Renewable resources, Energy conservation and sustainability Management: Definition, Motivating factors, Managerial Process, Decision making and Problem Solving.	6 Hrs
Chapter 2- Time Management Time plan, Tools, Process and practices.	2 Hrs
Chapter 3: Money Management Budget plan, Account Keeping, Saving Process and Practices	3 Hrs
Chapter 4 - Energy Management Fatigue, Work simplification, Workspace management.	5 Hrs

Unit -II - Human Resource Management	**16 Hrs**
Chapter 5: Fundamentals of Human Resource Management Concepts, Roles and Responsibilities, HR policies, Principles and Practices, Managerial Decisions and Problem Solving, Manpower planning and Resourcing, Organization Structure, and behaviour	5 Hrs
Chapter 6: Recruitment and Selection Concepts, Factors Affecting Recruitment, Types of Recruitment, Process of Selection, Selection Tests, Barriers in Selection	5 Hrs
Chapter 7: Performance and Compensation Management Objectives and methods of Performance and Appraisal, Appraisal Forms and Formats, Competency Mapping, Forms and bases for compensation, job evaluation and compensation/evaluation systems, Rewards, Promotion and Transfer.	6 Hrs
Unit -III - Human Resource Development	**13 Hrs**
Chapter 8: Managerial Communication and Skill Development Employee training and development, Managerial Accounting and Business statistics, HR Audit, Corporate Social Responsibility and Business Ethics, Government regulations and Labour Laws.	8 Hrs
Chapter No. 9: International Human Resource Management Human Resources in a Comparative Perspective, International Recruitment and Selection, Challenges of IHRM, International Labor Standards, Approaches to International Compensation	5 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	**Program Outcomes (POs)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Understand the available resources and develop the ability to evaluate the managerial efficiency and effectiveness in the family and other organization.	×	×										
Acquire an understanding of real-world challenges in HRM and identify measures to ensure a stable work environment efficiently through proper coordination, employee empowerment and training practices	×	×				×		×				
Critical thinking skills by developing a data-driven approach to improve business productivity and performance.		×							×		×	

Pedagogy

Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons. Hands on experience in laboratory and in food industry.

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	15
Test 2	15
Assignment + Project	5 + 5
Total	**60 marks + 40 marks = 100 marks**

References	
1	Armstrong, M. (2003). A Handbook of Human Resource Management Practice. Kogan Page, London, UK.
2	Gratton, L. (1994). Implementing Strategic Intent: Human Resource Processes as a Force for Change, Business Strategy Review. 5(1):47-66.
3	Heneman, H. G. and Judge, T. A. (2003). Staffing Organizations, McGraw-Hill, London, UK.
4	Sharma, I. J. 1984. The Culture Context of Indian Managers, Management and Labour Studies, 9:72-80.
5	Singh, K. (2003). Strategic HR Orientation and Firm Performance in India, International Journal of Human Resource Management, 14(4): 530-43.
6	Wright, P. M., T.M. Gardner, L. M. Moynihan and M. R. Allen, (1995). The Relationship between HR Practices and Firm Performance: Examining Casual Order, Personal Psychology, 58(2): 409-47.

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Third Sem**
Course Title	**Bakery Science (Theory + Practical)**			
Course Code	**CHSCT3.4**	**OE-3 A**	No. of Credits	**3**
Contact hours	**Lecture**	**15 hrs**	Duration of SEA/Exam	**2 Hours**
	Practical	**60 Hrs**		
Formative Assessment Marks	**60**		Summative Assessment Marks	**40**

Course Pre-requisite(s): Semester I and II of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Identify ingredients, equipment and tools used for bakery and employ safe food handling practices using contemporary guidelines
2. Acquire the scale to measure ingredients and prepare yeast dough, quick breads, pies, cookies, cakes, icing, pate choux, and savory baking commercially
3. Design and prepare home style crumb topped and two crust pies, product finishes such as washes, glazes, icings, frostings and fillings.
4. Learn proper storage techniques for all baked products and develop skills for setting up a bakery unit to enhance entrepreneurial skills in bakery and confectionery.

Content	**75 Hrs**
Unit–I An overview of Bakery	**24 Hrs**
Chapter 1 Current status and growth rate of bakery industry & its economic importance in India. Classification of Baked Foods, Nutritional Quality and Safety of Products, Storage and Packaging Materials, Basic baking principles, Ingredients uses- liquid and flours (cereal types and flour quality), Guidelines to follow the standards & regulations.	8 Hrs
Chapter No. 2- : Forming the dough ,Mixing and Gluten Development: Blending the ingredients, adding liquid to hydrate flour proteins , developing gluten, Processes that occur during Mixing- Air cell formation, Hydration, Gluten development, Controlling Gluten Development, Methods for Adjusting Gluten Development- Other Ingredients and Additives, Salt, milk, The Baking Process- Melting of fats, leavening, Formation and expansion of gases, Killing of yeast and	8 Hrs

microorganisms, Bread formulation: quality of materials like flour, shortening, yeast, chemical leaveners, flour improvers, preparing bread formula on the basis of the role of ingredients.	
Chapter 3: Bread processing: Flying ferment, calculating desired water temperature, mixing/ kneading, bulk fermentation (physical and chemical changes in proofing), knock back, dough make up (Scaling, rounding, intermediate proofing, molding, panning), Proofing and factors affecting proofing, Baking time and temperature, depanning, cooling, slicing, Introduction and organization of a Bakery Unit, Introduction and Organizational Structure of a bakery Unit, Planning, layout and equipments used in bakery Unit Hands on experience: Preparation of bread, bun	8 Hrs
Unit -II - Preparation and Quality evaluation of Bread, Bun, and Pastries	**26 Hrs**
Chapter 4: Role of ingredients and equipments used, Bread making process –Household Vs. Commercial, Variety of breads, bun, and Pastries, Product quality characteristics of Bread, Bun and pastries, Sensory evaluation of Bread, Bun, and pastries *Visit to bread making unit*	13 Hrs
Chapter 5: Role of Ingredients, Cake mixing methods, Types of cakes-Butter Cake, Sponge Cake and Eggless Cake, Hands on experience: Preparation and evaluation of cakes, Cake judging, Faults and remedies, Different types and techniques of Cake Decoration -icings and fillings, Hands on experience: Modified baked products - high fiber, low / alternate sugar, low fat, gluten free, and millet-based bakery products for special nutritional requirements. *Hands on experience: Preparation of pastries, cake decorations*	13 Hrs
Unit -III - Preparation and quality evaluation of Biscuits, Cookies Macaroons and Muffins	**25 Hrs**
Chapter 6: Role of ingredients, Methods, types and techniques, equipments used for the preparation of Biscuits, Cookies, macaroons and muffins, Product quality, characteristics, faults and corrective measures of Cookies, biscuits, macaroons and muffins, Hands on experience: Preparation & evaluation of Biscuits/Cookies/Muffins, Equipments Used *Preparation of biscuits, cookies, muffins*	12 Hrs
Chapter 7: Product Development – Quality Characteristics, Sensory Evaluation of Products; Types – Hard – Boiled Candies, Crystalline and Non-Crystalline Candies, Toffees, Fruit Drops, Chocolates, Chocolate Chips, Fruit Pie, Apple Pie, Fudge, Fondant, Marsh Mellow, Chewing Gum, Jellies and Confectionaries *Hands on experience: Preparation of Homemade chocolates*	13 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Ability to identify, describe ingredients, equipment and tools used in baking	X		X									
Knowledge of scale to measure ingredients and to prepare dough for various bakery products.		X	X						X			
Skill to use product finishes such as washes, glazes, icings, frostings, and fillings.		X									X	
Scientific understanding of storage techniques for baked products and develop entrepreneurial skills						X					X	

Pedagogy

Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons. Hands on experience in laboratory and in food industry.

Evaluation

Announced and unannounced class tests, seminars and assignments and record works related to their practical works - **60 marks** (Note: Marks interchanged as it is a practical paper)

Summative assessment = 40 marks theory paper, End semester Exam duration of exam 2 hours	
Formative Assessment Occasion / type	**Weightage in Marks**
Continuous Class Assessment	20
Project	20
Demonstration	20
Total	**60 marks + 40 marks = 100 marks**

References	
1	Dubey, S.C. (2017). Basic Baking, 5th Edition, Chanakya MudrakPvt. Ltd., New Delhi.
2	Rainact, AL. (2013). Basic Food Preparation – Complete Manual, 3rd Edition, Orient Longman Pvt Ltd., Mumbai

References	
3	Manay, S &Shanaksharaswami, M. (2014).Foods : Facts and Principles, New Age Publishers, New Delhi
4	Samuel A, Martz (2004). Bakery Technology and Engineering, PAN-TECHI International IncorporatedP.Ltd, Madras.
5	Faridi, F (2004). Dough Rheology and Baked Product Texture, CBS Publication, New Delhi

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Third Sem**
Course Title	**Life Skills Education (Theory)**			
Course Code	**CHSCT3.5**	**OE-3 B**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I and II of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Define life skills and describe different life skills as well as its relevance for emerging adults and youth in contemporary context.
2. Explain importance of life skills education from individual, interpersonal, familial and societal perspectives.
3. Demonstrate abilities to use participatory approach and effective communication strategies in implementing life skills education programme.
4. Critically evaluate the content and implementation of life skills education programmes.
5. Design age appropriate and culturally relevant life skills education curriculum and implementation modules.

Content of Theory Course	**45 Hrs**
Unit–I Concept and Meaning of Life Skills	**25 Hrs**
Chapter 1 Definitions and concept of life skills and life skills education.	5 Hrs
Chapter No. 2- Importance of life skills for overall wellbeing and value of life skills education	5 Hrs
Chapter 3: Core life skills: classification, concepts and strategies to enhance these skills Principles and Components for Planning and Organizing Life Skills Programs	5 Hrs

Chapter 4: Understanding life skills in relation to: A. Group characteristics and needs, B. Contextual specificities and cultural ideologies, including cultural practice that governs everyday life C. Gender nuances that exist within the group of thinking in Adolescence	5 Hrs
Chapter 5: Incorporating 10 important life skills recommended by WHO (self-awareness, empathy, critical thinking, creative thinking, decision making, problem solving, effective communication, interpersonal skills, coping with stress and coping with emotions) while preparing the Life Skills Education programmes/curriculum/modules while ensuring their age appropriateness and cultural and contextual relevance. Skills for self: critical thinking skills, decision making skills, interpersonal communication skills, coping with stress and emotions; self-management skills, ability for empathy and compassion.	5 Hrs
Unit -II - Challenges and Responses in Implementation of Life Skills Education	**10 Hrs**
Chapter 6: Factors responsible for resistance and non-implementation of life skills education from families, schools and society at large	2 Hrs
Chapter 7: Strategies to successfully deal with challenges and advocating for need for life skills education a. (Successful models of life skills education in India as well as globally) b. Importance of Communication in Imparting Life Skills Education	2 Hrs
Chapter 8: Concept and importance of communication.	2 Hrs
Chapter 9: Effective communication strategies for impactful life skills education programme (effective listening, speaking, building and maintaining relationships, understanding group dynamics and functioning in groups, delegating responsibilities).	2 Hrs
Chapter 10: Communicating with the audience: receiving feedback, handling questions, etc.	2 Hrs
Unit -III - Core Approaches and Strategies to Implement Life Skills Programs	**10 Hrs**
Chapter 11: Understanding and developing self-skills/potential: self-awareness, self-esteem self-confidence, creative thinking, interpersonal skills, etc.	3 Hrs
Chapter 12: Use of participatory techniques and methods: individual exercises, group activities, games etc.	2 Hrs
Chapter 13: Important aspects of developing skill specific or issue specific modules to be used by teachers and trainers.	5 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge of life skills		X	X									X
Demonstrate abilities of effective communication					X				X			X
Understand to evaluate culturally relevant life skills		X			X				X			

Pedagogy

Lectures, activities to communicate the skill by participatory approach, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons. Deductive method of learning.

Evaluation

Class tests, seminars and assignments and project works related to their skill - 60 marks *(Note: Marks interchanged as it is a practical paper)*

Summative assessment = 40 marks theory paper	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1& 2	10 +10
Assignment + Project	10 + 10
Total	**60 marks + 40 marks = 100 marks**

Projects

1. Design and development of a life skills module on a select topic.
2. Write a positive case study about a youth awardees/ youth achiever applying positive youth. Development model OR design a community development program utilizing a Positive Youth Development Model.
3. Visit to schools or NGOs implementing life skills programmes.
4. Interview counsellors, schoolteachers and other professionals working with emerging adults and youth to learn from their experiences about felt needs young people and their experiences of implementing life skills education.
5. Prepare a communication module for adolescents in a low-income context.

Evaluation

- ✓ Presentations and one take home practical assignment.

References	
1	Agochiya, D. (2010). Life competencies for adolescents: Training manual for facilitators, teachers, and parents. New Delhi: Sage Publications.
2	Agochiya, D. (2009). Every Trainers Handbook (2nd Ed.). New Delhi: Sage Publications.
3	Dupuy, K., Bezu, S., Knudsen, A. Halvorsen, S. (2018). Life skills in non-formal contexts for adolescent girls in developing countries (CMI Report), Centre for Universal Education at
4	Brookings, Chr. Michelsen Institute. Retrieved from https://www.brookings.edu/wp-content/uploads/2018/04/life-skills-in-non-formal-contexts-for-adolescent.pdf
5	Hodge. K., Danish, S., & Martin, J. (2012). Developing a conceptual framework for life skills interventions. The Counseling Psychologist, XX(X) 1-28. DOI: 10.1177/0011000012462073
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9	Pillai, R.R. (2012). The importance of life skills education for children and adolescents. In Das, S. (Ed.), Souvenir-cum-Scientific update for 22nd Annual Conference of Indian Psychiatric Society. Assam State Branch, Guwahati: ABSCON. Retrieved from https://sites.google.com/site/mindtheyoungminds/souvenir-cum-scientific-update/the-importance-of-life-skills-education-for-children-and-adolescents
10	UNICEF (n.d.). Comprehensive life skills framework- Rights based and life cycle approach to building skills for empowerment. Retrieved from https://www.unicef.org/india/sites/unicef.org.india/files/2020-02/Comprehensive-lifeskills-framework.pdf
11	USAID (n.d.). Life skills and leadership manual. Peace Corps Information Collection and Exchange. Publication No. M0098. Retrieved from https://files.peacecorps.gov/library/M0098.pdf

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Human Development II – Childhood and Adolescence (Theory)**			
Course No.	**CHSCT4.1**	**DSC- 10**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I II and III of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Explain the need and importance of studying childhood and adolescence as a distinctive stage of the life-span.
2. Describe the historical views and theories on childhood and adolescent development.
3. Describe the characteristics, needs and developmental tasks of infancy, early childhood, middle childhood, and early and late adolescence.
4. Identify the biological and environmental factors affecting development during childhood and adolescence.
5. Analyse key issues that influence child and adolescent development.

Content	**45 Hrs**
Unit–I Childhood and Adolescent Development: Introduction	**20 Hrs**
Chapter 1 Concept, meaning and principles of 'growth' and 'development'	4 Hrs
Chapter 2- Concept of critical periods of development during infancy, childhood, and adolescence.	4 Hrs
Chapter 3: Importance of early stimulation and intervention during early years - evidence from neuroscience research. Historical Foundations and Theories of Childhood and Adolescent Development	4 Hrs
Chapter 4 - Historical foundations and scientific beginnings	4 Hrs
Chapter 5 -Brief overview of theories of child and adolescent development – maturational, behavioural, psychosocial, cognitive, social learning, ecological, sociocultural, ethological	2 Hrs

Chapter 6 -Brief overview of theories of child and adolescent development including the maturational, psychodynamic, behavioral, psychosocial, cognitive, social learning, ecological, existential/phenomenological, sociocultural, ethological, sociobiological, and interactionist perspectives	2 Hrs
Unit -II - Development across Childhood and Adolescence	**15 Hrs**
Chapter 7: Major characteristics of different stages of childhood and adolescence (infancy, early, middle and late childhood, puberty, early and late adolescence)	2 Hrs
Chapter 8: What are developmental tasks and milestones, and their importance? With reference to each domain of development (physical, cognitive, language, socio-emotional) characteristics, needs, developmental tasks and milestones of individuals from birth to 18 years are explained. • Neonate (birth–1 month) • Infancy (1 month–2 years) • Early childhood (2-6 years) • Middle childhood (6-11 years) • Adolescence (12-18 years) Familial and Social Influences on Childhood and Adolescent Development	2 Hrs
Chapter 9: Family influences on child and adolescent development	2 Hrs
Chapter 10: Influence of various parenting styles on development, behaviour and functioning during childhood and adolescence	2 Hrs
Chapter 11: Changes in self-esteem, self- concept, and identity from early childhood through adolescence	2 Hrs
Chapter 12: Moral development from early childhood to late adolescence in relation to societal norms and social understanding	2 Hrs
Chapter 13: Development of gender roles and perceptions, changes in gender identity from early childhood through adolescence	3 Hrs
Unit -III - Childhood and Adolescent Development: Key Issues	**10 Hrs**
Chapter 14: Influence of peer relationships on development	2 Hrs
Chapter 15: Physical, psychological, and social effects of substance abuse and risk behaviours	2 Hrs
Chapter 16: Role of nutrition in childhood and adolescent development	2 Hrs

Chapter 17: Brief overview of aggression, gender roles and stereotypes, androgyny, friendship, popularity and rejection, sibling relations, juvenile delinquency, suicide, depression, elopement, puberty, early/late maturation, human sexuality, eating disorders during childhood and adolescence	4 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	**Program Outcomes (POs)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Developmental knowledge of an adolescent stage		×	×	×								
Relate theories to understand adolescent stage						×	×	×				
Factors affecting										×	×	×

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	10
Test 2	10
Assignment + Project	10 + 10
Total	**60 marks + 40 marks = 100 marks**

Course Title	**Human Development II –Childhood and Adolescence (Practical)**		Practical Credits	**2**
Course No.	**CHSCP4.1**	**DSC- 10**	Contact hours	**52 hrs)**

Content

1. Preparation of an album on developmental milestones of children and adolescents.
2. Visit to a paediatric ward
3. Visit to an Anganwadi

3a. Observation of different areas of development (Physical, Motor, Emotional, Language and Intellectual)

3b. Teaching of different activities with the help of teaching aids (Science experience, Nature experience, Dramatization, Rhymes, Story telling, Basic and Creative activities)

4. Interaction with counsellors/clinical psychologists
5. Carry out a case study of an adolescent boy and girl using multiple methods

6. Select a topic related to a significant developmental problem or issue faced by children and adolescents and describe ways to assist them, their teachers, and parents to deal with the problem.

Learning Experience

Regular lectures, exercises on observation and follow up discussion, case studies, films, and documentaries.

Evaluation

Class test, presentation and one essay/take home based on observations

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Berk, L.E. (2017). Child development (9th ed.). Pearson
2	Bhogle, S.(1999).Genderroles: The construct in the Indian context. InT.S. Saraswathi(Ed.),Culture socialization and human development: Theory, research and applications in India(pp. 278-300). New Delhi
3	Kapadia, S. (2017) Adolescence in Urban India: Cultural Construction in a Society in Transition. Springer
4	Keenan, T., Evans, S., & Crowley, K. (2016). An introduction to child development. Sage.
5	Kumar, K.(1993).Study of childhood and family. In T.S. Saraswathi & B.Kaur (Eds.). Human development and family studies in India: An agenda for research and policy,(pp.67-76). New Delhi: Sage.
6	Lightfoot, C., Cole, M., & Cole, S. (2012). The development of children (7th Ed.). New York: Worth Publishers
7	Santrock, J. (2017). A topical approach to life span development (9th ed). New NY. Mcgraw-Hill Higher Education.
8	Saraswathi, T.S., & Kaur, B. (1993). Human Development and family Studies in India an Agenda for research and Policy. New Delhi. Sage.
9	Saraswathi, T. & Oke, Meera. (2013). Ecology of Adolescence in India. Psychological Studies. DOI 58. 10.1007/s12646-013-0225-7.

10	Saraswathi, T.S., Menon, S., & Madan, A. (eds.) (2018) Childhoods in India Traditions, Trends and Transformations. New Delhi. Routledge.
11	Sinha, D., &Misra,R.C.(1999).Socialization and cognitive functioning. In T.S.
12	Saraswathi (Ed.), Culture, socialization and human development: Theory, research and Applications in India (pp.167-187).New Delhi: Sage.
13	Verma, S., & Saraswathi, T. S. (2002). Adolescence in India: Street urchins or Silicon Valley millionaires? In B. B. Brown, R. W. Larson & T. S. Saraswathi (Eds.), The world's youth:
14	Adolescence in eight regions of the globe (p. 105–140). Cambridge University Press https://doi.org/10.1017/CBO9780511613814.005

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Traditional Textiles and Costumes of India (Theory)**			
Course No.	**CHSCT4.2**	**DSC- 11**	No. of Theory Credits	**3**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I II and III of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Acquires knowledge on various dyes and skill of different dyeing methods, after treatments on various fibres.
2. Acquires knowledge on pigments and skill of preparing the fabric and printing paste for printing for various printing techniques, after treatments.
3. Understands various finishing techniques and learns basic functional finishes

Content	**45 Hrs**
Unit–I Introduction to Traditional Textiles	**10 Hrs**
Chapter 1 Textile Arts of India Weaving and weaving communities, Embroideries, Rugs and carpets, Saris Shawls and wraps. History of Indian Traditional Textiles Chronological development of spinning, weaving and dyeing various trade routes.	5 Hrs
Chapter 2- Traditional Costumes- Classification of Traditional Textiles of India Painted and printed, Resist dyed, woven, and embroidered. Traditional Costume and Culture Influence of historical, economic, political and socio-cultural aspects on the evolution of traditional costumes.	5 Hrs
Unit -II - Ornamented and Resist Dyed Textiles	**15 Hrs**
Chapter 3: Pigment painted textiles Patachitra, Pichhavi and Phad Mordant painted textiles Kalamkari-Masulipatnam and Srikalahasti, Mata-ni- pacchedi.	5 Hrs
Chapter 4: Printed textiles Hand block printed, Ajrakh, Rogan, Sanganer, Bagh.	5 Hrs
Chapter 5: Yarn resist Patola, Mashru, Ikat, Bandhana Fabric resist Sugadi, Bhandej, Laheriya	5 Hrs

Unit -III - Woven textiles	20 Hrs
Chapter 6: Woven textiles of India: Rajasthan – Kota Doria, Gujarat –Sujani, Tangaliya, Pachhedi Madhya Pradesh – Chanderi, Maheshwari, Uttar Pradesh – Brocades 3.5 West Bengal – Dacca muslin, Baluchari Tangail, Shawls from Kashmir, Assam and Nagaland, Maharashtra- Paithani, Himroo , Andhra Pradesh and Telangana – Dharvaram, Venkatgiri, Gadwal and Narayanpet, Karnataka – Ilkal, Khann ,Tamil Nadu- Kanjeevaram	10 Hrs
Chapter 7: Traditional Costumes of India: Jammu and Kashmir, Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Orissa, West-Bengal, Assam, Nagaland, Meghalaya, Manipur, Arunachal, Mizoram, Tripura, India Uttar Pradesh, Madhya Pradesh, and Bihar	10 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Acquires knowledge on various dyes and skill of different dyeing methods, after treatments on various fibres.	X	X			X		X	X	X		X	
Acquires knowledge on pigments and skill of preparing the fabric and printing paste for printing for various printing techniques, after treatments.	X	X			X				X		X	
Understands various finishing techniques and learns basic functional finishes.	X	X							X			

Pedagogy

Lecture, demonstration, hands on learning through projects, experiments to understand the basic concepts of textiles, industrial visits, collaboration with industries, institutions and research centres for deeper understanding of the subject.

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	10
Test 2	10
Assignment + Project	10 + 10

Total			60 marks + 40 marks = 100 marks		
Course Title	**Traditional Textiles and Costumes of India (Practical)**			Practical Credits	**2**
Course No.	**CHSCP4.2**	**DSC- 11**		Contact hours	**52 hrs**
Content					
1. Embroideries of India – 1. Kashida of Kashmir 2. Chamba of Himachal Pradesh 3. Phulkari and Bagh of Punjab 4. Chikankari of Uttar Pradesh 5. Kantha of Bengal 6. Embroideries of Manipur 7. Embroideries of Gujarat 8. Gold and Silver embroidery 9. Bead work					30 Hrs
2. Preparation of portfolio • Pictures of traditional textiles with the descriptive analysis • Pictures of the traditional costumes with constructional details. • Samples of embroidery with its theoretical details and Home Apparels- Pillow Cover/Shoulder bag • Drafting, Tracing and construction of Saree Petticoat/Apron					22 Hrs

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Bhatnagar P. (2004), Traditional Indian Costumes and Textiles, Abhishek Publications, New Delhi.

2	Chisti R.K., (2013) Sari tradition and beyond, Roli Publication
3	Dawson, R. (1976). A Complete Guide to Embroidery. London & New York: Marshall Cavendish Publishers.
References	
4	Gillow J & Barnard N (2014), Indian Textiles, 1st Edition, Thames & Hudson, London
5	Gosh, G.& Shukla G. (2014) Ikat textiles of India, 1st Edition, A.PH publishing, New Delhi
6	Ghurye G. S. (1995), Indian Costume, Popular Prakashan, Bombay
7	Irwin, J. H. & Hall, M. (1973). Indian Embroideries. Ahmedabad: Historic Textiles of India at Calico Museum of Textiles.
8	Karolia, A. (2019), Traditional India Handcrafted Textiles: Techniques, Processes and Designs Vol.I and II, Niyogi books, Delhi.
9	Pathak A. (2006), Indian Costumes, Roli Books, Mumbai.
10	Saraf, D. N. (1982). Indian Crafts. New Delhi: Vikas Publishing House Limited.
11	Singh M. (2011) Traditional and Beyond Handcrated Indian Textile, Roli Books Pvt. Ltd, New Delhi.

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Community Development (Theory with Practical)**			
Course No.	**CHSCT4.3**	**DSC- 12**	No. of Credits	**3+2**
Contact hours	**45 hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**60**		Summative Assessment Marks	**40**

Course Pre-requisite(s): Semester I II and III of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Gain knowledge on community development concepts and distinguish community development from community organization.
2. Comprehend significant phases in community development.
3. Envisage the role of community-based organizations in community development.

Content	**45 Hrs**
Unit–I Concept of Community Development	**15 Hrs**
Chapter 1 Concept of Community, Development, and Community work. Meaning and Definition of community development. Basic Principles, Types of community development programmes.	5 Hrs
Chapter 2- Essential elements of community development -Faith behind community development, objectives of the community development programme, philosophy behind community development programme.	5 Hrs
Chapter 3- Major elements involved in India's community development and extension process.	5 Hrs
Unit -II - Community Based Organizations and Phases of Development	**15 Hrs**
Chapter 4: Role, structure, and functions of community organizations Community development processes. Scope of community development. Cultural factors, Role of community development worker.	5 Hrs
Chapter 5: Approaches of community-based organizations. Developing a plan of work. Models of community-based organizations.	5 Hrs

Chapter 6: Phases of community development – definition and needs. Seven Phases of community development: sequence and exclusive roles • Relationship • Assessment • Discussion • Organization • Reflection • Modification • Continuation Personnel involved in community development activities – qualities and role National Extension Service – Role of student volunteers in community development	5 Hrs
Unit -III - Evaluation of community development programmes	**15 Hrs**
Chapter 7: Review of community development programmes Evaluation methods, Analysis /merits, and demerits, Community involvement and assay of Benefits, Incentives and Prizes/ Awards.	5 Hrs
Chapter 8: SDGs– Sustainable Development Goals – concept Significance of SDGs to community development	5 Hrs
Chapter 9: Need for sustainable community development Sustainability in community development- aims, objectives and principles.	5 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	**Program Outcomes (POs)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Knowledge to distinguish between community development and community organization.	X	X	X									
Comprehend significant phases in community development					X	X	X					
Understanding the role of community-based organizations in community development.									X	X	X	

Summative Assessment = 60 marks	
Formative Assessment Occasion / type	**Weightage in Marks**
Test 1	10
Test 2	10
Assignment + Project	10 + 10

Total		60 marks + 40 marks = 100 marks		
Course Title	**Community Development (Practical)**		Practical Credits	**2**
Course No.	**CHSCP4.2**	**DSC- 12**	Contact hours	**52 hrs**

Content

1. Assessment of selected community development programmes.
2. Visit to communities to observe community activities.
3. Prepare a document on community development activities in a model area.
4. Preparation of plan of work.
5. Organize community development programmes in any selected area.
6. Follow up and evaluation of the programmes in progress.

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Banta Sharma Nidaugmayum (2015). Community organization and social registration. New Delhi: Janadaprakashan
2	Indra Godara (2013). Committee and community organization. New Delhi: Black prints publishing
3	Kunal Bhatia (2012). Social Work and Community Development. New Delhi: Sonali publications
4	Reddy A.S.A (2001). Extension Education. Bapatla: Sree Lakshmi Press
5	Thomas William, A.J. (2015). Rural Development Concept and Recent approaches. New Delhi, RAWAT publications

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Techniques of Food Preservation (Theory + Practical)**			
Course No.	**CHSCT4.4**	**OE-4A**	No. of Theory +Practical Credits	**1+2=3**
Contact hours	**15 (Lecture) + 60 (Practical) Hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I and II of any Science program.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Know the principles of preservation behind the methods of preservation
2. Explore the principles of preservation in fruits and vegetable-based products
3. Acquire Skills to prepare cereals and pulse-based preserve products and develop new products with retention in quality

Content	**75 Hrs**
Unit–I Concept of Food Preservation (Theory)	**15 Hrs**
Chapter 1 Importance of food preservation. Types of food spoilage by microorganisms and by enzymes. Basic principles of food preservation	5 Hrs
Chapter 2- Food preservatives- Use of salt, acid, sugar, natural food preservatives and artificial preservatives.	5 Hrs
Chapter 3- Starting a food preserving unit. Product promotion strategy and marketing skills.	5 Hrs
Unit -II - Preservation by using sugar, Salts and chemicals and Fermentation (Practical)	**36 Hrs**
Chapter 4: Role of pectin in preserve foods. Stages in sugar cookery. Sugar concentrates-principles of gel formation. Hands on experience: preparation of jam, jelly, marmalades, sauce, squash. Preserves, candy, glazed crystallised fruits and toffee. Evaluation of pH, acidity and pectin quality	9 Hrs
Chapter 5: Preparation and preservation of fruit juices, RTS. Pickling - principles involved and types of pickles – pickle making. Chemical preservatives- Definition, role of preservation. Permitted preservatives, FSSAI guidelines	9 Hrs

Chapter 6: Food fermented by yeast. Foods fermented by bacteria. Common fermented food, wine and cheese making. ***Visit to fruit and vegetable preservation Industry and wine Industry***	9 Hrs
Unit -III - Preparation of Dehydrated Products (Practical)	**24 Hrs**
Chapter 7: Drying and Dehydration, Different types of dryers, freeze drying, lyophilisation, packing and storage Methods for selected products - rice, sago, wheat, Maida, rice flakes, black gram dal, green gram dal, horse gram dal and roots and tubers. General tips for drying foods	12 Hrs
Chapter 8: Preparation of salted, dehydrated, preserves (traditional Indian varieties of chips, papads, khakhras and masala powders, onion, garlic, ginger etc) Hands on experience: drying of vegetables- peas, potato, carrot, French beans. Reconstitution of dried vegetables, drying and preparation of powders - garlic, ginger, spice mix etc.	12 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge of the principles of preservation methods of preservation	x	x	x			**X**						
Understanding of the principles of preservation of fruits and vegetable-based products					x	x	x		**X**			
Skills to prepare cereals and pulse-based preservative products and develop new products with retention in quality					**X**				x	x	x	

Pedagogy

Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons and documentary film shows. Hands on experience in laboratory and in food industries.

Evaluation (note exam modality changed)

Announced and unannounced class tests, seminars and assignments and Record works related to their

Practical work. – **60marks**.

Formative Assessment Occasion / type	Weightage in Marks	Total Marks
Continuous class assessment	10	40
Project	20	
Demonstration	10	
Summative Assessment	**60**	60
	Total	**100 marks**

References	
1	Srivastava R.P. (2012), Fruit and vegetable preservation – Principles and Practices, International Book Distributing Co., (IBDC), New Delhi.
2	Maria Parloa (2009), canned fruit, preserves and jellies: Household methods of preparation, US Department of Agriculture, Washington.
3	Shafiur, Rahman, M. (2007), Handbook of Food Preservation, 2nd edition, CRC press, New Delhi.
4	The Complete Guide to Food Preservation Step-by-Step Instructions on How to Freeze, Dry, Can, and Preserve Food (Back to Basics Cooking) Paperback – October 22, 2010 by Angela Williams Duea
5	Preserving Everything: Can, Culture, Pickle, Freeze, Ferment, Dehydrate, Salt, Smoke, and Store Fruits, Vegetables, Meat, Milk, and More (Countryman Know How) Paperback – Illustrated, August 4, 2014 by Leda Meredith

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Dyeing and Printing of Textiles (Theory + Practical)**			
Course No.	**CHSCT4.5**	**OE-4B**	No. of Theory +Practical Credits	**1+2=3**
Contact hours	**15 (Lecture) + 60 (Practical) Hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I, II and III of composite Home Science.	
Course Outcomes (COs): At the end of the course the student should be able to: 1. Acquires knowledge on various dyes and skill of different dyeing methods, after treatments on various fibres. 2. Acquires knowledge on pigments and skill of preparing the fabric and printing paste for printing for various printing techniques, after treatments. 3. Understands various finishing techniques and learns basic functional finishes	
Content	**15 Hrs**
Unit–I Dyeing	**6 Hrs**
Chapter 1 Introduction and preparatory steps for dyeing: History of textile processing, basic definitions and important terminologies related to textile processing, Preparatory process, difference between dyeing and printing.	3 Hrs
Chapter 2- Types of dyes and Properties: Definition, classification Synthetic dyes; Basic/cationic dyes, acid, direct, Chrome, disperse, reactive, vat, sulphur, Pigment dyes and properties, Methods for dyeing, Factors affecting dyeing, Dyeing of cotton, wool and silk, Dyeing of viscose and polyester, after treatments.	3 Hrs
Unit -II - Traditional Dyeing and Printing	**4 Hrs**
Chapter 3: Traditional Dyeing Techniques- Bandni, Batik, Ikkat, Pochampalli, Patola, lehariya.	2 Hrs
Chapter 4: Traditional Printing Techniques – Kalamkari, ajrak, Dabu, sanganeri, Bhagru, Khari.	2 Hrs

Unit -III - Printing	5 Hrs
Chapter 7: Introduction to Printing: Classification of Printing, Preparation of print paste and printing table Resist style of printing, Discharge style of printing, Fixation and after treatment processes, Difference between dyes and pigments	2 Hrs
Chapter 8: Printing Techniques: Screen printing and its types, Transfer printing, Discharge, resist and special styles, Fixation and after treatment processes, digital textile printing.	3 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
Acquires knowledge on various dyes and skill of different dyeing methods, after treatments on various fibers.	X	X			X		X	X	X		X	
Knowledge on pigments and skill of preparing the fabric and printing paste for printing for various printing techniques, after treatments.	X	X			X				X		X	
Understands various finishing techniques and learns basic functional finishes.	X	X							X			

Pedagogy

Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, case studies, ICT enabled teaching and learning experiences in terms of video lessons and documentary film shows and visits.

Evaluation (note exam modality changed)

Announced and unannounced class tests, seminars and assignments and Record works related to their Practical work. – **60marks + 40marks = 100**.

Formative Assessment Occasion / type	Weightage in Marks	Total Marks
Continuous class assessment	10	40
Project	20	
Demonstration	10	
Summative Assessment	**60**	60

			Total	**100 marks**
Course Title	**Dyeing and printing of Textile (Practical)**		Practical Credits	**2**
Course No.	**CHSCP4.5**	**OE -4B**	Contact hours	**60 hrs**
Content				
Unit-I: Pre-Preparation of the fabric **Chapter 1.** Preparation of fabric for dyeing and printing a. Scouring, desizing, bleaching, Visit to a dyeing Unit				**36 Hrs**
Unit-II: Dyeing **Chapter 2**- Dyeing: Dyeing of yarn and fabric with different classes of dyes by varying the temperatures, %shade and M: L ratio. a. Dyeing of cotton yarn and fabric with direct dyes, vat and reactive dyes. b. Dyeing of silk, wool and nylon yarn and fabrics with basic and acid dyes. c. Dyeing of polyester yarn and fabric with disperse dyes.				**10 Hrs**
Unit-III: Printing **Chapter 3**- Preparation of a. Blocks, stencil, and screen **Chapter 4**- Printing of fabrics using: i. Direct style - block, stencil, and screen ii. Resist style - Tie &Dye, Batik **Chapter 5**- Product development				**14 Hrs**

Evaluation

Announced and unannounced class tests, seminars and assignments and Record works related to their Practical work. – **60marks + 40marks = 100**.

Practical assessment

Assessment			
Formative assessment		**Summative Assessment**	**Total Marks**
Assessment Occasion / type	**Weightage in Marks**	**Practical Exam**	
Record	10	25	**50 marks**
Prefinal	10		
Project	5		
Total	**25 marks**	**25 marks**	

References	
1	Chavan, R.B. (1979). Textile Printing (Book of Papers) Department of Textile Technology, IIT New Delhi.
2	Giles, G.H. (1974) Laboratory Course in Dyeing Hart & Clough; Bradford; England Kale D.G. (1976) Principles of Cotton Printing. Maharaja Brothers Ahmedabad.
3	Saraiya, N.S. & Gupta P.C. Technology and Management of Printing.
4	Shenai, V.A. (1979). Chemistry of Dyes and Principles of Dyeing. Sevak Publications Mumbai
5	Trotman E.R. (1975). Dyeing and Chemical Technology of Textile Fibre. Charles Griffin & Co. Ltd., London
6	Wynne Andrea (1997). Textiles. The Motivate Series Mcmillain Education Ltd., London.
7	Vilensky L.D. & Gohil E.P. G. (1987) Textile Science, An explanation of fiber properties. CBS Publishers & Distribution, Delhi.

Date: Subject Committee Chairperson

Government of Karnataka

Model Curriculum

Program Name	**BSc Composite Home Science**		Semester	**Fourth Sem**
Course Title	**Entrepreneurship Management / Artificial Intelligence**			
Course No.	**CHSCT4.6**	**SEC -2**	No. of Credits	**3**
Contact hours	**45 Hrs**		Duration of SEA/Exam	**2 Hours**
Formative Assessment Marks	**40**		Summative Assessment Marks	**60**

Course Pre-requisite(s): Semester I, II and III of composite Home Science.

Course Outcomes (COs): At the end of the course the student should be able to:

1. Understand the concept of entrepreneurship, entrepreneur and enterprise
2. Identify ways to approach supportive Institutions and Banks for starting an enterprise
3. Focus on the formation of project proposal and practice effective accounting processes

Content	**45 Hrs**
Unit–I Concept of Entrepreneurship & Enterprise	**15 Hrs**
Chapter 1 Concept of Entrepreneurship Conceptual - meaning, definition and scope of entrepreneurship Entrepreneur- meaning, qualities, functions and types of entrepreneur Enterprise – Definition, nature and classification	5 Hrs
Chapter 2- Forms of Organization – Sole proprietorship, partnership, Joint Stock Company. Role of entrepreneur in economic development. Visit to enterprises to observe the qualities of entrepreneurs	5 Hrs
Chapter 3- Establishing a Small-Scale Enterprise Concept and Classification – Product identification and product selection Infrastructure – Plant Location, Land, building, water, and power 6MS – Manpower, method, machine, material, marketing, mother nature Preparation of case studies of successful entrepreneur	5 Hrs

Unit -II - Institutional Support	**10 Hrs**
Chapter 4: State Level DIC – District Industrial Center SFC – State Finance Corporations SSIDC – State Industrial Development Corporation SIDBI – Small Scale Industrial Development of India SISI – Small Industries Service Institutes ICICI – Industrial Credit Investment Corporation of India	5 Hrs
Chapter 5: Visit to financial and supportive Institution to understand or observe their action modalities. Lectures on the rules and regulation for financial support to entrepreneurs	5 Hrs
Unit -III - Project Formulation & small Enterprises	**20 Hrs**
Chapter 6: Meaning and definition of project. Project formulation techniques – Quantifiable and Non quantifiable projects, Sectoral project, Techno economic project. Project report and preparation of project report	10 Hrs
Chapter 7: Project appraisal – market feasibility, technical feasibility, financial feasibility and economic feasibility. Carryout market survey.	5 Hrs
Chapter 8: Accounting for Small Enterprises. Meaning, need and objectives of accounting. Process of Accounting, Bookkeeping, Journal, Ledger and Balance Sheet, Final Accounts. Auditing – nature and types. Preparation of model project, proposal, and report.	5 Hrs

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

Course Outcomes (COs) / Program Outcomes (POs)	**Program Outcomes (POs)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Generate multi-skilled leaders with a holistic perspective that cuts across disciplines.						X	X	X				
Instill both generic and subject-specific skills to succeed in the employment market.							X	X	X			
Foster a genre of responsible students with a passion for lifelong learning and entrepreneurship.								X	X	X		

Evaluation.

Assessment				
Formative Assessment	**Weightage in Marks**	**Summative Assessment**	**Weightage in Marks**	**Total Marks**
Test 1	10	E.S. E	60	
Test 2	10			
Assignment + Project	10 + 10			
Total	**40 marks**	**60 marks**		**100 marks**

References	
1	Anilkumar, S. Poornima S.C. Mini K. Abraham and Jayashree, K. (2012). Entrepreneurship Development. New Delhi: New Age International Pvt. Ltd., Publishers
2	Badi, R. V. and Badi N. V. (2011), Entrepreneurship. New Delhi: Vrinda Publications pvt. Limited
3	Gordon, E., and Natarajan, K. (2013), Entrepreneurship Development. Mumbai: Himalaya Publishing House
4	Jayashree Suresh. (2016). Entrepreneurial Development. Chennai:Margham Publication
5	Khanka, S.S. (2006). Entrepreneurial Development. New Delhi:S. Chand and Company Limited
6	Radha, V. (2015). Entrepreneurial Development. Chennai: Prasanna Publishers and Distributors
7	Robert, N.A. Hawkins, F. Kernelt, A. (2009). Accounting. New Delhi:Tata Me Graw –Hill Publishing Company Limited
8	Sundara Pandian, P. (2002). Entrepreneurship Development. Virudhunagar: M.M. Publishers

Date: Subject Committee Chairperson