

SRI SARADA COLLEGE FOR WOMEN (AUTONOMOUS)

**Reaccredited with “B++” Grade by NAAC
(Affiliated to Periyar University) SALEM – 16**



DEPARTMENT OF HOME SCIENCE

**CHOICE BASED CREDIT SYSTEM (CBCS) LEARNING
OUTCOME BASED CURRICULUM FRAMEWORK**

(LOCF)

B.Sc. HOME SCIENCE

2026-2029 BATCH

CONTENT

- 1. Introduction**
- 2. Programme Outcomes (PO) of UG Degree Programme**
- 3. Programme Specific Outcomes (PSO) of UG Degree Programme**
- 4. Highlights of the Programme**
- 5. Credit Distribution for UG Programme**
- 6. Consolidated Semester Wise and Component Wise Credit Distribution**
- 7. Curriculum design and scheme of examination**
- 8. Methods of Evaluation and Assessment**

INTRODUCTION

Home Science is both multidisciplinary and interdisciplinary in its context encompassing five major disciplines which includes Family Resource Management, Foods and Nutrition, Textiles and Clothing, Human Development, and Extension Education. Each discipline has one or more specific areas of specialization. Each specialization under Home Science offers a wide array of courses that prepares students for employment or setting up an enterprise in a wide range of sectors such as healthcare, childcare, food and hospitality, textiles, home and office interiors. Further, all courses of the programme are designed to improve the lifestyle of the individual, family and society that could most certainly contribute to the holistic development of the community.

The course curriculum for this programme has been planned to improve the employability potential and increase the scope for higher education. Globalization has created a market for jobs with different skills in the areas of food and healthcare industries and can thus contribute to the professional growth of students enrolled in this programme. This programme facilitates action-based research in the various fields with the advantage of nurturing critical and analytical thinking that pave the way for innovation and entrepreneurship.

Nutrition professionals are in high demand due to the fast-paced lifestyle, and an increasing incidence of lifestyle related disorders affecting all sections of the population. With growing awareness to lead healthier lifestyles, courses relating to foods and nutrition can provide the framework for developing skills and knowledge to become a well-trained Nutritional professional. The programme can also contribute in designing community- based interventions for a healthier society. For a Home maker, this programme will give an insight into the management of different resources on a day to day basis, and keeping abreast with the challenges posed by modern day living.

LEARNING OUTCOME BASED CURRICULUM FRAMEWORK GUIDELINES BASED REGULATIONS FOR UNDER GRADUATE PROGRAMME	
Programme:	B.Sc. Home Science
Programme Code:	UHSC
Duration:	3 years [UG]
Programme Outcomes:	PO1: Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study PO2: Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups. PO3: Critical thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development. PO4: Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations. PO5: Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints. PO6: Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

	PO7: Cooperation/Team work: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team PO8: Scientific reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective. PO9: Reflective thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society. PO10 Information/digital literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data. PO 11 Self-directed learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion. PO 12 Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups. PO 13: Moral and ethical awareness/reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work. PO 14: Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way. PO 15: Lifelong learning: Ability to acquire knowledge and skills, including ,learning how to learn, that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.
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Programme Specific Outcomes	
On successful completion of the programme, the student:	
PSO1	Acquires fundamental knowledge in the core areas of Home Science
PSO2	Develops competency in the application of knowledge in different settings such as family and community
PSO3	Displays skills in oral and written communication for effective dissemination of knowledge gained in a particular field of Home Science to benefit society and mankind
PSO4	Acquires skills that create professionals in different fields related to Home Science
PSO5	Can pursue higher education, research, teaching, entrepreneurship or render service in the government, public or corporate sector

Highlights of the Revamped Curriculum

- The curriculum focuses on meeting the demands of the Food and Hospitality industries, Healthcare, Child care, Textiles, Home and Office interiors, and Social Welfare sectors.
- This student centric programme ensures knowledge and skill development by providing hands on training, on-the-job internships, projects, lab practices, experiential activities, exposure to entrepreneurial skills and training for competitive examinations.
- The course content is comparable to world class curriculum.
- The courses are updated to include recent developments in the field of Home Science.
- References are updated and web resources are cited.
- Each course in the curriculum carries either a practical/activity or experiential learning component to ensure skill development along with acquiring knowledge in the subject.
- Potential for employability has been enhanced through mandatory internships.
- Digital literacy and competency is ensured using ICT enabled learning environment.

Value additions in the Revamped Curriculum:

Semester	Newly introduced Components	Outcome / Benefits
I	Foundation Course To ease the transition of learning from higher secondary to higher education, providing an overview of the pedagogy of learning Literature and analysing the world through the literary lens gives rise to a new perspective.	• Instill confidence among students • Create interest for the subject

I, II, III, IV	Skill Enhancement Course (Discipline centric / Generic / Entrepreneurial)	• Industry ready graduates • Skilled human resource • Students are equipped with essential skills to make them employable • Training on language and communication skills enable the students gain knowledge and exposure in the competitive world. • Discipline centric skill will improve the Technical knowledge of solving real life problems. • Inculcating Indian Knowledge system to gain insight into Ancient Wisdom.
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III	Elective course	• Strengthening the domain knowledge • Introducing the stakeholders to the State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature • Emerging topics in higher education/ industry/ communication network / health sector etc. are introduced with hands-on-training.
IV	Elective course	• Exposure to industry moulds students into solution providers • Generates Industry ready graduates • Employment opportunities enhanced
V	Elective course	• Self-learning is enhanced Application of the concept to real situation is conceived resulting in tangible outcome
VI	Elective course	• Enriches the study beyond the course. • Developing a research framework and presenting their independent and intellectual ideas effectively.
Extra Credits: For Advanced Learners		• To cater to the needs of peer learners / research aspirants.
Skills acquired from the Courses		• Knowledge, Problem Solving, ability, Professional Competency, Professional Communication and Transferrable Skill.

Credit Distribution for UG Programme

Sem I	Credit	Hr.	Sem II	Credit	Hr.	Sem III	Credit	Hr.	Sem IV	Credit	Hr.	Sem V	Credit	Hr.	Sem VI	Credit	Hr.
Part 1. Language – Tamil	3	6	Part.1 Language – Tamil	3	6	Part.1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	5.1 Core Course – CC IX	5	5	6.1 Core Course – CC XIII	4	6
Part. 2 Englis h	3	6	Part. 2 Englis h	3	6	Part .2 English	3	6	Part.. 2 Englis h	3	6	5.2 Core Course – CC X	1	5	6.2 Core Course – CC XIV	4	6
1.3 Core Course – CC I	5	5	2.3 Core Course – CC III	4	5	3.3 Core Course – CC V	5	5	4.3 Core Course – CC VII	4	4	5. 3.Core Course CC -XI	4	5	6.3 Core Course – CC XV	4	6
1.4 Core Course – CC II	3	4	2.4 Core Course – CC IV	4	4	3.4 Core Course – CC VI	3	4	4.4 Core Course – CC VIII	4	4	5. 4.Core Course – CC -XII	4	5	6.4 Elective - Discipline Specific - IV	3	5
1.5 Elective I Generic	5	5	2.5 Elective II Generic	5	5	3.5 Elective -Discipline Specific I	5	5	4.5 Elective - Disciplin e Specific II	5	5	5. 4.Core Course – Project with viva- voce	4	5	6.5 Elective Discipline Specific -V	3	5
1.6 Skill Enhancem e nt Course	2	2	2.6 Skill Enhancem e nt Course	2	2	3.6 Skill Enhanceme n t Cours	1	1	4.6 Skill Enhanceme n t Course	2	2	5.5 Elective - Discipli	4	5	6.6 Extension Activity	1	-

SEC-1			SEC-2			e SEC-4, (Entrepreneurial Skill)			SEC-6 (IKS)			ne Specific III					
1.7 Skill Enhancement - (Foundation Course)	2	2	2.7 Skill Enhancement Course – SEC-3	2	2	3.7 Skill Enhancement Course SEC-5	2	2	4.7 Skill Enhancement Course SEC-7	2	2	5.7 Value Education	2	2	6.7 Professional Competency Skill	2	2
						3.8 E.V.S. 3.9 Health & wellness	- 1	1 -	4.8 E.V.S	2	1	5.8 Summer Internship	2	-			
	23	30		23	30		23	30		25	30		26	30		21	30
Total – 141 Credits																	

Consolidated Semester wise and Component wise Credit distribution

Parts	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total Credits
Part I	3	3	3	3	-	-	12
Part II	3	3	3	3	-	-	12
Part III	13	13	13	13	22	18	92
Part IV	4	4	4	6	4	3	25
Total	23	23	23	25	26	21	141

Part I, II, and Part III components will be separately taken into account for CGPA calculation and classification for the undergraduate programme and the other component. Part IV has to be completed during the duration of the programme as per the norms, to be eligible for obtaining the UG degree.

Total Credits: 141

EXTRA CREDITS FOR EXTRA SKILLS

Total Extra Credits -28 (20% of the total credits)

B.Sc. HOME SCIENCE
CURRICULUM DESIGN AND SCHEME OF EXAMINATION
(APPLICABLE TO STUDENTS ADMITTED DURING THE ACADEMIC
YEAR 2026-2027)

SEMESTER-I

Part	Course Code	Course Title	Course Type	Hrs. / Week L/T/P	Credits	CIA	ESE	TOTAL
I	26ULTC1/ 26ULHC1/ 26ULSC1	Tamil/Hindi/ Sanskrit –I	Language	6	3	30	70	100
II	26ULEC1	English – I	English	6	3	30	70	100
III	26UHSCC1	Food Science	Core Course	5	5	30	70	100
	26UHSCCQ1	Basic Cookery Practical	Core Course	4	3	40	60	100
	26UHSCGEC1	Chemistry – I	Generic Elective	3	3	30	70	100
	26UHSCGECQ1	Chemistry Practical – I		2	2	40	60	100
IV	26UHSSEC1	Food Product Development	Skill Enhancement Course	2	2	30	70	100
	26UHSSEFC	Perspectives in Home Science	Foundation Course	2	2	30	70	100
Total				30	23			
*Extra Skills (Out of College Hours)						*Credits	*Marks	
Articulation and Idea Fixation						-	-	
Physical Fitness Practice						-	-	
Society Connect Activity						-	-	

***Extra credits are given for extra skills and courses qualified in MOOC / NPTEL**

Title of the Course		FOOD SCIENCE								
Category Core	Year-I	L	T	P	O	Credits	Inst Hrs	Marks		
	Sem-I							CIA	External	Total
Code	26UHSCC1	Y	Y			5	5	30	70	100

Learning Objectives

To enable the students to:

Understand the science of food and factors that affect its quality, Nutritive value and shelf life.

Understand the physical, biological and chemical characteristics of various foods and their uses.

Apply knowledge of foods in planning diets and preparing meals that are safe, nutritious and palatable.

UNIT	CONTENT	HOURS
UNIT I	Nutrient content of foods and Cooking Methods- Classification of foods according to nutrient content. Food groups for balanced diets. Study of the different cooking methods-dry heat, moist and combination methods, solar cooking, microwave cooking - merits and demerits, dishes prepared by these methods.	10
UNIT II	Cereals, Millets, Pulses, Legumes and Nuts - Classification of Cereals, Structure, nutrient composition, storage, processing, milling, parboiling, scientific methods of preparation and cooking, acceptability and palatability of rice, wheat, maize and millets Cooking of starches- Dextrinization and gelatinization, retrogradation and resistant starch. Pulses and legumes - Types, nutritive value, methods of cooking, effect of soaking and germination, judicious combination of cereals and pulses- complementary effect, soyabeans, fava beans and kesaridhal- methods to inactivate /remove toxins. Nuts- types, composition, market forms, roasting, steaming of nuts, nuts butters; uses in sweets, baking, and confectionery; Storage.	10
UNIT III	Vegetables and Fruits Vegetables: Classification, nutritive value, effect of cooking on colour, texture, flavour, appearance and nutritive value, Purchase - storage and preservation Fruits: Classification, nutritive value, changes during ripening, enzymatic browning, uses, preservation.	10

UNIT IV	Fleshfoods, Eggs, and Milk Meats – structure, nutritive value, selection of meat, postmortem changes in meat, ageing, factors affecting tenderness of meat, methods of cooking and storage. Poultry-types, nutritive value, selection and cooking Fish-classification, nutritive value, selection, storage, cooking and preservation. Eggs Structure, nutritive value, methods of cooking, storage, preservation and uses in cookery; foam formation and factors affecting foam formation Milk and Milk Products Nutritive value, kinds of milk, pasteurization, and homogenization, coagulation of milk, fermentation of milk; milk products-whole and skimmed milk, milk powders and yogurt, ghee, butter, cheese. Storage and preservation.	15
UNIT V	Fats and Oils, Sugars, Food Adjuncts and Beverages Fats and Oils: Types, sources-animal fats and vegetable fats, functions, hydrogenated fat, emulsification, rancidity, smoking point. harmful effects of reheated oils. Sugars: Types and market forms of sugars; stages of sugar cookery, crystallization, factors affecting crystallization, uses in confectionery. Food adjuncts and food additives Spices and condiments: classification, source, use in food preparation. Beverages Classification-fruit based beverages; milk-based beverages nutritive value and uses, alcoholic beverages, coffee, tea and cocoa, malted beverages. methods of preparation of coffee and tea. Food adulteration Definition, common adulterants in food, Introduction to Artificial Intelligence, Definition and Importance of AI in Food Science, Applications of AI in food quality and safety, AI techniques for adulteration detection: Machine Learning, Computer Vision (image-based detection), Sensor-based systems (Electronic Nose and Electronic Tongue). Advantages of AI over conventional method	15
	PRACTICAL 1. Cereal and Pulse-Experimental Cookery, gelatinization, Dextrinisation 2. Vegetable and Fruit-Experimental Cookery, enzymatic browning. 3. Meat, Egg and Milk-Experimental Cookery; whipping quality of eggs 4. Study of the smoking temperature of Fats 5. Stages of Sugar cookery, factors affecting crystallization 6. Preparation of coffee and tea by different methods. 7. Preparation of food as each applying the different cooking methods	15
	TOTAL	70

ACTIVITY

- A survey of processed forms of cereals, pulses, dairy/meat products available in the market. Comparison of convenience foods and natural/whole foods
- Market survey of processed beverages
- Identify common adulterants in foods

COURSE OUTCOMES

After successful completion of the course the student will be able to:

CO No.	Course Outcome	Knowledge Level	Units Covered
CO1	Understand the concepts of food groups, balanced diets, and the principles of different cooking methods and their effects on food quality.	K2	I
CO2	Describe the structure, composition, cooking characteristics, and nutritional significance of cereals, pulses and nuts.	K2	II
CO3	Analyze the nutritional value, quality changes during processing and cooking and storage of vegetables and fruits.	K3	III
CO4	Analyze the composition, nutritive value, cooking and storage of meat, poultry, fish, eggs, milk, and milk products in relation to their quality characteristics.	K4	IV
CO5	Evaluate the properties and applications of fats, oils, sugars, food adjuncts, beverages, and assess the role of Artificial Intelligence techniques in food quality and safety.	K5	V

Books for Study:

- Srilakshmi, B. Food Science, (2019) 9th edition, New Age International Pvt., New Delhi.

References:

- Manay, S. and Shadaksharaswamy, M. (1987) Foods Facts and Principles. New Age International Publishers, New Delhi.
- Peckham, G. C. and Freeland-Graves, J. H. (1979) Foundations of Food Preparation, 4th edition, Macmillan Publishing Co. Inc., New York.
- Shewfelt R. L. (2015) Introducing Food Science. CRC Press, Taylor and Francis Group. Boca Raton
- Thangam E. Philip, Modern Cookery for Teaching and the Trade Volume-1 & 2 (6th Revised Edition), Orient Black
- Vaclavik, V. A. and Elizabeth, W. C. (2013) Essentials of Food Science. 2nd ed. Springer Publication, New Delhi

e-Learning resources

- <https://ia801408.us.archive.org/20/items/textbookoffoodsc0000khad/textbookoffoodsc0000khad.pdf>
- <https://egyankosh.ac.in/handle/123456789/32947> <https://unacademy.com/content/>

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	1	3	2	3	2	2	3
CO2	3	3	3	1	3	2	3	2	2	S
CO3	3	3	3	1	3	2	3	2	2	3
CO4	3	3	3	1	3	2	3	2	2	3
CO5	3	3	3	1	3	2	3	2	2	3

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	3	3
CO2	3	3	2	3	3
CO3	3	3	2	3	3
CO4	3	3	2	3	3
CO5	3	2	2	3	3
Weightage	15	14	10	15	15
Weightedpercentage(roundedof) ofCourseContributiontoPos	3	3	2	3	3

Strong 3 Medium 2 Low 1

Title of the Course	CHEMISTRY (FOR HOME SCIENCE)						
Paper No.	Elective -I(GE)						
Category	Generic Elective	Year Semester	I I	Credits	3	Course Code	26UHSCGEC1
Instructional hours per week	Lecture	Tutorial I	Lab Practice		Total		
	3	-	-		3		
Prerequisites	Higher secondary chemistry						
Objectives of the course	This course aims at providing knowledge on - basics of atomic orbitals, chemical bonds, hybridization and fundamentals of organic chemistry - concepts of nuclear chemistry and industrial chemistry - importance of specialty drugs and artificial sweeteners - separation and purification techniques.						
Course Outline	UNIT I 15 Hours Chemical Bonding and Nuclear Chemistry Chemical Bonding: Molecular Orbital Theory-bonding, antibonding and non-bonding orbitals. MO diagrams for Hydrogen, Helium, Nitrogen; discussion of bond order and magnetic properties. Nuclear Chemistry: Fundamental particles - Isotopes, Isobars, Isotones and Isomers-Differences between chemical reactions and nuclear reactions- group displacement law. Nuclear binding energy - mass defect - calculations. Nuclear fission and nuclear fusion - differences – Stellar energy. Applications of radioisotopes – carbon dating, rock dating and medicinal applications. UNIT II 15 Hours Industrial Chemistry Fuels: Fuel gases: natural gas, water gas, semi water gas, carbureted water gas, producer gas, CNG, LPG and oil gas (manufacturing details not required). Silicones: Synthesis, properties and uses of silicones. Fertilizers: Urea, ammonium sulphate, potassium nitrate, NPK fertilizer, superphosphate, triple superphosphate. UNIT III 15 Hours Fundamental Concepts in Organic Chemistry Hybridization: Orbital overlap hybridization and geometry of CH₄, C₂H₄, C₂H₂ and C₆H₆. Polar effects: Inductive effect and consequences on <i>k_a</i> and <i>k_b</i> of organic acids and bases, electromeric, mesomeric, hyper conjugation and steric-examples and explanation. Reaction mechanisms: Types of reactions- aromaticity-aromatic electrophilic substitution; nitration, halogenation, Friedel-Craft's alkylation and acylation. Heterocyclic compounds: Preparation, properties of pyrrole and pyridine.						

	UNIT IV 15 Hours Drugs and Speciality Chemicals Definition, structure and uses: Antibiotics viz., Penicillin, Chloramphenicol and Streptomycin; Anaesthetics viz., Chloroform and ether; Antipyretics viz., aspirin, paracetamol and ibuprofen; Artificial Sweeteners viz., saccharin, aspartame and cyclamate; Organic halogen compounds viz., Freon, Teflon. UNIT V 15 Hours Analytical Chemistry Introduction to qualitative and quantitative analysis. Principles of volumetric analysis. Separation and purification techniques: extraction, distillation and crystallization. Chromatography: principle and applications of column, paper and thin layer chromatography.
Extended Professional Component (is a part of internal component only, Not to be included in the external examination question paper)	Questions related to the above topics, from various competitive examinations UPSC/ JAM /TNPSC others to be solved (To be discussed during the Tutorial hours)

Skills acquired from this course	Knowledge, Problem solving, Analytical ability, Professional Competency, Professional Communication and Transferable skills.
Recommended Text	1. Veeraiyan, V, Textbook of Ancillary Chemistry; High mount publishing house, Chennai, 1st Ed., 2009. 2. Vaithyanathan, S, Text book of Ancillary Chemistry; Priya Publications, Karur, 2006. 3. Arun Bahl, Bahl, B. S, Advanced Organic Chemistry; S. Chand and Company, New Delhi, 23rd Ed., 2012. 4. Soni, P. L, Chawla, H. M, Text Book of Inorganic Chemistry; Sultan Chand & sons, New Delhi, 29th Ed., 2007.
Reference Books	1. Soni, P.L,& Mohan Katyal, Text book of Inorganic chemistry; Sultan Chand and Company, New Delhi, 29th Ed., 2007. 2. Sharma, B. K, Industrial Chemistry; GOEL publishing house, Meerut, 16th Ed., 2014. 3. Jayashree Gosh, Fundamental Concepts of Applied Chemistry, Sultan & Chand, 1st Ed., 2006.

Course Learning Outcomes

On completion of the course the students should be able to

CO1: describe the theories of chemical bonding, nuclear reactions and its applications.

CO2: evaluate the efficiencies and uses of various fuels and fertilizers.

CO3: explain the type of hybridization, electronic effect and mechanism involved in the organic reactions.

CO4: demonstrate the structure and uses of antibiotics, anaesthetics, antipyretics and artificial sugars.

CO5: identify an appropriate method for the separation of chemical components

Title of the Course	CHEMISTRY PRACTICAL- I (Home Science)						
Course No.	Elective -I (GE)						
Category	Generic Elective	Year	I	Credit	1	Course Code	26UHSCGECQ1
		Semester	I				
Instructional	Lecture	Tutorial		Lab Practice		Total	
hours per week	-	-		2		2	
Prerequisites	Higher Secondary Chemistry						
Objectives of the course	This course aims to provide knowledge on the - basics of preparation of solutions. - principles and practical experience of volumetric analysis.						
Course Outline	Volumetric analysis 1. Estimation of sodium hydroxide using standard sodium carbonate. 2. Estimation of hydrochloric acid using standard oxalic acid. 3. Estimation of ferrous sulphate using standard Mohr's salt. 4. Estimation of oxalic acid using standard ferrous sulphate. 5. Estimation of potassium permanganate using standard sodium hydroxide. 6. Estimation of magnesium using EDTA. 7. Estimation of ferrous ion using diphenyl amine as indicator.						
Reference Book	Venkateswaran, V, Veerasamy, R, Kulandaivelu, A.R, <i>Basic Principles of Practical Chemistry</i> ; Sultan Chand & sons, 2 nd Ed., 199.						

Course Outcomes

On completion of the course the students should be able to

On successful completion of the course the students should be able to

CO1: gain an understanding of the use of standard flask and volumetric pipettes, burette.

CO2: design, carry out, record and interpret the results of volumetric titration.

CO3: apply their skill in the analysis of water /hardness.

CO4: analyze the chemical constituents in allied chemical products.

Title of the Course		FOOD PRODUCT DEVELOPMENT								
Category Non-major Elective	Year I	L	T	P	O	Credits	Inst Hrs	Marks		
	Sem-I							CIA	External	Total
	Code	26UHSSEC1	Y				2	2	30	70

Learning Objectives
To enable the students to :
Understand the steps involved in new food product development.
Learn about consumer preferences and market trends.
Understand concepts about subjective and objective evaluation of new product.

UNIT	CONTENT	HOURS
UNIT I	Introduction to New Food Product development Food products, definition, Classification, Characterization Reasons for new food product development Factors shaping new product development-Social concerns, health concerns impact of technology and marketplace influence.	6
UNIT II	Product Development: a) New Product Development Team b) Sources of New Product ideas c) Designing new product d) Stages of product development e) Causes of product failure/ success in product development	6
UNIT III	Product Evaluation and Quality Control Quality attributes – physical, chemical, nutritional, microbial, and sensory indicators Principles and types of assessment of quality. Subjective and objective methods of evaluation of product quality. Role of sensory evaluation in consumer product acceptance; requirements for sensory analysis - Sensory panel	6
UNIT IV	Packaging and labelling Packaging Material-types; factors affecting type of packaging material used; Aseptic packaging, modified atmosphere packaging.	6
UNIT V	Marketing the product Product life cycle Costing the product and determining the sales price Advertising and test marketing the product	6
	TOTAL	30

COURSE OUTCOMES

After successful completion of the course the student will be able to:

CO1	Define the basic concepts in food product development, packaging, costing advertising and marketing	K1
CO2	Explain the need, characteristics and factors influencing the new product; test marketing, packaging and quality attributes	K2
CO3	Illustrate the quality attributes, food safety, packaging and labelling regulations and marketing tools for a food product	K3
CO4:	Analyse the significance of packaging, labelling, advertising, costing and quality concepts for the new food product	K4
CO5:	Develop a new food product and evaluate its quality and acceptability	K6

References:

1. Earle M., Earle RL. and Anderson A. (2001) Food Product Development: Maximizing success, Woodhead Publishing Ltd, Food Series, No. 64,2001.
2. Fuller, GW (2011). New food product development: From concept to marketplace. 3rded. New York, NY: CRC Press
3. Lawless HT and Klein BP (1991) Sensory Science Theory and Applications in Foods.Marcel Dekker Inc.
4. Moskowitz HR, Saguy IS and Straus T (2009). An Integrated approach to New FoodProduct Development. ed. New York, NY: CRC Press
5. Paine FA, Paine HY (Eds.) (1992) A handbook of Food Packaging (2nd ed.), BlackieAcademic and Professional.
6. Sharma A (2018). Food product Development. CBS Publishers & Distributors Pvt Ltd

e-Learning Resources:

- <https://www.destechpub.com/wp-content/uploads/2015/01/Methods-for-Developing-New-Food-Products-preview.pdf>
- <https://www.youtube.com/watch?v=iL0iIGpa4vg>
- <https://www.youtube.com/watch?v=5kOXUH8kaCs>

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	2	1	3	1	2	3
CO2	3	3	3	3	2	2	3	2	2	3
CO3	3	3	3	2	2	2	3	2	2	3
CO4	3	3	3	3	2	2	3	3	2	3
CO5	3	3	3	2	2	2	3	3	2	3

Strong 3 Medium 2 Low 1

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	3	3	1	3	3
CO2	3	3	3	3	3
CO3	3	3	2	3	3
CO4	3	3	3	3	3
CO5	3	3	1	3	3
Weightage	15	15	10	15	15
Weighted percentage (rounded of) of Course Contribution to Pos	3	3	2	3	3

Strong 3 Medium 2 Low 1

Title of the Course		PERSPECTIVES OF HOME SCIENCE							
Category Foundation Course	Year I	L	T	P	O	Credits	Inst Hrs	Marks	
	Sem-I							CIA	External
Code	26UHSSEFC		Y			2	2	30	70
								100	

Learning Objectives
To enable the students to :
Understand the concept scope and philosophy of Home Science and its components.
Learning cultural and human values through Home Science.
Understand the concept of food and nutrition and principles of Diet Therapy.
Know the trends and opportunities in Home Science.
Enable the students to gain knowledge in different areas of Home Science.

UNIT		HOURS
UNIT I	Meaning and components of Home Science Meaning of home science education-Philosophy of home and family, Components of Home Science, career perspectives -its a relation to other disciplines –science and humanities.	6
UNIT II	Interior design and Resource Management and Textile and Clothing Concepts of interior design- Importance of good taste components of an artistic interior –design, elements and principles. Resource classification, characteristics and type of goals, values and standards. Textile fibre- definition, classification natural and manmade, Yarn- definition, types of yarn. Fabric- definition, types of fabric woven knitted and non woven. Apparel- selection and care.	6
UNIT III	Foods and nutrition and food service management and dietetics Classifications of food according to function and food groups .Balanced diet- meaning and importance meal planning, macro and micro nutrients of food. Introduction to dietetics principles of diet therapy objectives. Classification of commercial and non- commercial food service operation.	6
UNIT IV	Human development Human development definition goals, Prenatal development and its stages infancy, childhood and adolescence- characteristic developmental task. Adulthood and old age- characteristics and problems.	6

UNIT V	Home Science and Extension education Extension education – meaning, definition, objective principles of extension education Home Science extension service at village, block and district level.	6
	TOTAL	30

COURSE OUTCOMES

After successful completion of the course the student will be able to:

CO1	Understand the concepts of home science and its components	K1
CO2	Identify good design, list their goals and values and understand the term textile fibre and yarn	K1
CO3	Enlist the principles of diet therapy and functioning of food service institution	K2
CO4:	Know the key aspects human growth and development at each stages of life span	K3
CO5:	Know the role of extension education in community development	K3

References:

- Manay, S. and Shadaksharaswamy, M. (1987) Foods Facts and Principles. New Age International Publishers, New Delhi
- Guthrie, H.A. (1989) Introductory Nutrition. 7th ed. Times Mirror / Mosby College Publishing, St. Louis
- Hurlock E.B., (1972). Child Development, New York: McGraw Hill Book company.
- Srilakshmi B. (2011) Dietetics, sixth edition, New age Publishing Press, New Delhi.
- Sekhri, S. (2011) Textbook of Fabric Science: Fundamentals to Finishing. India: PHI Learning Pvt. Ltd.
- Nickell & Dorsey (2002), “Management in Family Living”, CBS; 4th edition, ISBN-13: 978-8123908519
- Pankajam, G. (2000): Extension – Third Dimension of Education, Gyan Publishing House, New Delhi. Learning Resources
 - <http://ecoursesonline.iasri.res.in/course/view.php?id=243>
 - https://onlinecourses.swayam2.ac.in/cec19_mg32/preview

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	3	2	3	3	2	3
CO2	3	3	3	2	3	2	3	3	2	3
CO3	3	3	3	2	3	3	3	3	2	3
CO4	3	3	3	2	3	3	3	3	3	3
CO5	3	3	3	2	3	2	3	3	3	3

Strong 3 Medium 2 Low 1

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage (rounded of) of Course Contribution to Pos	3	3	3	3	3

Strong 3 Medium 2 Low 1

