SRI SARADA COLLEGE FOR WOMEN (AUTONOMOUS)

$\mathbf{SALEM}-\mathbf{16}$

Reaccredited with "B++" Grade by NAAC

(Affiliated to Periyar University)



TANSCHE Syllabus

DEPARTMENT OF HOME SCIENCE

(For the academic year 2023 – 26)

Programme	B.Sc. Home Science
Code	
Duration	3 years [UG] On successful completion of the programme, the student:
Program -me	PO1: Disciplinary Knowledge and Skills
Outcome s	Demonstrates theoretical and practical knowledge and understanding in subjects related to Food Science and Nutrition/ Textiles and Clothing/ Resource Management/ Extension and Communication/Human Developmentand Family Studies
	PO2: Effective Communicator
	Is capable of effective communication of subject specific scientific informationthrough oral and written formats using ICT wherever necessary. Explores communication skill set to engage key stakeholders such as the family and community.
	PO3: Critical thinking, Analytical reasoning and problem solving
	Applies disciplinary knowledge, understanding and transferable skills to thegiven context. Is capable of identifying and analysing problems and issues and seek solutions to real-life problems
	PO4: Research and Scientific Reasoning Demonstrates skills in research through collection of relevant qualitative andquantitative data, analysis and interpretation of data using appropriate methodologies for formulating evidence based solutions and arguments
	PO5: Co-operation/ Team Work Is capable of contributing significantly and working enthusiasticallyboth independently and in a group

PO6: Digital Literacy

Demonstrates competency in accessing relevant and authentic information and data from electronic media with a motive to learn and synthesize information for academic and extension work presentation; prepare computer aided designs and use specific software

PO7: Multicultural competence

Recognizes and assesses societal, environmental and cultural issues related to area of study within the local and global context

PO8: Moral and Ethical awareness/reasoning:

Displays moral responsibility and values; Has a professional approach, is objective, unbiased and truthful in all aspects of work and refrains from unethical practices such as plagiarism, fabrication, falsification, misinterpretation of the data and breaching intellectual property rights

PO9: Leadership readiness/qualities

Possesses leadership skills, takes initiative, mobilizes resources has the capacity to lead community based projects and initiatives successfully

PO10: Lifelong learning

Is capable of staying motivated to be updated consistently with content, concepts, theories, specializations, fields, technologies, books and avenues to meet professional and personal needs at any given instant.

Progra	Programme Specific Outcomes					
On suc	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 focusses 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.

TEACHING METHODOLOGIES

Teaching methods : Chalk and Board, Experiential learning, Student centric learning and Small projects and Practical assignments; Virtual Classroom, LCD projector, Smart Class, Video Conference and Guest Lectures by eminent people.

Training students to engage in self-study without relying on faculty (for example – library and internet search, manual and handbook usage, etc.)

Library, Net Surfing, Manuals, NPTEL, Naan Mudhalvan Courses Other university websites

SRI SARADA COLLEGE FOR WOMEN (AUTONOMOUS), SALEM-16

DEPARTMENT OF HOME SCIENCE

B.Sc. HOME SCIENCE PROGRAMME STRUCTURE UNDER CBCS (For the students admitted in 2023-24 onwards) Total Credits: 140+ Extra Credits (Maximum 28) SEMESTER-I

Part	Course	Course Title	Code	Hrs.	Credits
				/	
				we Fk	
			23ULTC1/		
Ι	Language – I	Tamil/Hindi/Sanskrit –I	23ULHC1/	6	3
	0 0		23ULSC1		
II	English –I	English – I	23ULEC1	6	3
III		Food Science	23UHSCC1	5	5
	Core Course – I				
III			23UHSCCQ1	4	3
	Core Course – II	Basic Cookery Practical			
III	Elective- I(GE)	Chemistry – I 23UHSCGEC1		3	3
III	Elective- I(GE)	Chemistry Practical – I 23UHSCGECQ		2	2
IV	Skill Enhancement	Food Product	23UHSSEC1	2	2
	Course-I	Development			
V	Foundation	Perspective In Home	23UHSSEFC	2	2
	Course	Science			
		Total		30	23
	Articulation and Idea Fix	ation Skills			
VI	Physical Fitness Practice	- 35 hours per Semester			
	Advanced Diploma in Fo	od ServiceManagement Lev	el -1: Certificate Co	ourse 10)0
	hours per year.				

SEMESTER - II

Part	art Courses Course Title Paper Co		Paper Code	No. of Hours	Credit				
				110015					
Ι	Language	Tamil /	23ULTC2/	6	3				
		Hindi /	23ULHC2/23ULSC2						
		Sanskrit-							
		II							
II	English	General English - II	23ULEC2	6	3				
III	Core Course – III	Human Physiology	23UHSCC2	5	4				
	Core Course – IV	Principles of ResourceManagement	23UHSCC3	4	4				
	Elective- II(GE)	Chemistry - II	23UHSCGEC2	3	3				
	Elective- II(GE)	Chemistry Practical - II 23UHSCGECQ2		2	2				
IV	Skill Enhancement Course II- (NME)Indian Knowledge System	Indian Health Sciences	23UHSSEC2	2	2				
	Skill Enhancement Course – III	Bakery (Practical)	23UHSSECQ3	2	2				
			Total	30	23				
V	Articulation and Idea Fiz	xation Skills	1	I					
	Physical Fitness Practice	e 35 Hours per Semester							
	Advanced Diploma in Fo Year	Advanced Diploma in Food Service Management Level-I: Certificate course 100 Hoursper Year							
	Extra credits are given for	or extra skills and courses q	ualified in MOOC / NPT	EL					

SEMESTER - III

Part	Courses	Course Title Paper Code		No. of Hours	Credits				
Ι	Language	Tamil -III Hindi - III Sanskrit-III	23ULTC3/ 23ULHC3/ 23ULSC3	6	3				
II	English	General English – III	23ULEC3	6	3				
	Core Course – V	Human Nutrition	23UHSCC4	5	5				
III	Core Course -VI	Nutrition Practical	23UHSCCQ2	4	3				
	Elective Course – I (Discipline specific)	Introduction to Fashion Designing	23UHSDSEC1	5	5				
IV	Skill Enhancement Course IV	Consumer Education (Entrepreneurial Skill)	23UHSSEC4	1	1				
	Skill Enhancement Course – V	Fundamentals of Research in Nutritional Sciences	23UHSSEC5	2	2				
		Environmental studies	23UEVSC	1	-				
			Total	30	22				
V	Articulation and Idea	Fixation Skills							
	Physical Fitness Practice 35 Hours per Semester								
	Advanced Diploma in Food Service Management Level-II : Diploma course 100 Hours per Year								
	Extra credits are given for extra skills and courses qualified in MOOC / NPTEL								

SEMESTER - IV

Part	Courses	Course Title	Paper Code	No. of Hours	Credits				
Ι	Language	Tamil -III Hindi - III Sanskrit-III	23ULTC4/ 23ULHC4/ 23ULSC4	6	3				
II	English	General English – III	23ULEC4	6	3				
	Core Course – VI	Nutrition through Life Cycle	23UHSCC5	4	4				
	Core Course -VII	Human Development	23UHSCC6	4	4				
	Elective Course – II	Concepts in Apparel Designing (Theory)	23UHSDSEC2	3	3				
(Discipline specific)		Basics of Garment Construction (Practical)	23UHSDSECQ	2	2				
IV	Skill Enhancement Course VI	Women Health and Wellness	23UHSSEC6	2	2				
	Skill Enhancement Course – VII	Computer Applications in Home Science	23UHSSEC7	2	2				
		Environmental studies	23UEVSC	1	2				
			Total	30	25				
V	Articulation and Idea	a Fixation Skills		<u> </u>	L				
	Physical Fitness Prac	ctice 35 Hours per Semes	ter						
	Advanced Diploma in Hoursper Year	n Food Service Managem	ent Level-II : Dip	loma cou	rse 100				
	Extra credits are given for extra skills and courses qualified in MOOC / NPTEL								

B.Sc. Home Science-Nutrition, Food Service Management and Dietetics/Clinical Nutrition/ Clinical Nutrition and Dietetics/Foods and Nutrition/Food Science and Nutrition/Interior Design and Decor

S.No.	Contents	SEM
	List of Mandatory Courses/ Core Courses/Allied Courses*	
1.	Food Science	Ι
2.	Basic Cookery Practical	Ι
3.	Human Physiology-Theory and Practical	II
4.	Basics of Food Microbiology - Theory and Practical	II
5.	Human Nutrition	III
6.	Nutrition Practical	III
7.	Nutritional Biochemistry-Theory and Practical	IV
8.	Human Development	IV
9.	Nutrition through the lifecycle-Theory and Practical	IV
10.	Public Health Nutrition	V
11.	Nutrition Education and Communication	V
12.	Fibre to Fabric	V
13.	Food Preservation-Theory and Practical	VI
14.	Food Safety and Quality control	VI
15.	Foundations of Entrepreneurship	<u>V/VI</u>
16.	Quantity Food Production and Service-Theory and Practical	V
17.	Dietetics	
18.	Dietetics Practical	
19.	Food Service Management	
20.	Sports Nutrition	
21.	Functional loods for Chromic Disease	
22.	Interior Description	
$\frac{23.}{24}$	Clinical Nutrition Theory and Practical	11/111 VI
24.	*Allied Chemistry offered by Chemistry Department is	V 1
25.	mandatory	
	List of Elective/Non-Major Elective**/ Skill Enhancement	
	Optional Courses**	
1.	House Keeping	
2	Food Product Development	
2.	Consumer Education	
5.		
4.	Life skill Strategies and Techniques	
5.	Landscape Design and Ornamental Gardening	
6.	Concepts in Apparel Designing	
7.	Introduction to Fashion Designing	
8.	Fundamentals of Art and Design	
9.	Women's Health and Wellness	
10	Fundamentals of Research in Nutritional Sciences	
11	Family Dynamics	
11.	Foundations of Dalting and Confectionery	
12.	Foundations of Baking and Confectionery	
13.	Changing trends in Extension Education	
14.	Front office Management	
15.	Nutritional Assessment and Diet Counselling	
16.	Pre-School and Crèche Management	
	**The elective courses listed above can also be considered for Skill	
	Enhancement or Non-Major Elective and the credits and hours can	
	be reduced accordingly.	

Internship – Internship in Hospitals / Food industry / Catering establishment / Health care facility/Fitness centre/ NGO	
List of Compulsory Skill Enhancement Courses to be offered	
1. Computer Applications in Home Science SC7	IV
2. Aptitude and Reasoning skills for Competitive Examinations	VI
SC8	

Title of						FOOD	SCIENCI	E		
Category	Year - I	L	Τ	Р	0	Credits	Inst	Marks		
Core							Hrs	CIA	External	Total
	Sem-I									
Code	23UHSCC1	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, soya beans, fava beans and kesari dhalmethods to inactivate /remove toxins; storage. Nuts - types, composition, market forms, roasting, steaming of nuts, nuts butters; uses in sweets, baking, and confectionery; Storage. Oilseeds - types, methods of processing, uses and shelf life 	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

n		
	Flesh foods, 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.	15
	Poultry -types, nutritive value, selection and cooking	15
	Fish - classification, nutritive value, selection, storage, cooking	
	and preservation.	
UNIT IV	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 vogurt, ghee butter, cheese	
	Storage and preservation	
	Eats and ails, susaws, food adjuncts and havenages Eats and Oils:	
	Types sources animal fats and vegetable fats functions processing.	
	difference between cold pressed and regular cooking oils	
	hydrogenated fat, emulsification, rancidity, smoking point, Factors	
	affecting absorption of oils while frying foods, harmful effects of	
	reheated oils.	
	Sugars:	
	Types and market forms of sugars; stages of sugar cookery,	
	crystallization, factors affecting crystallization, uses in	
UNIT V	confectionery. Food adjuncts and food additives	
	Spices and condiments: classification, source, use in food	15
	preparation, Leavening agents, stabilizers, thickeners, anticaking	
	agents, enzymes, shortenings, stabilizers, flavouring agents, colouring	
	agents, sweeteners-use and abuse.	
	Food adulteration	
	Definition, common adulterants in food	
	Beverages	
	Classification-fruit based beverages; milk-based beverages nutritive.	
	value and uses, alcoholic beverages, coffee, tea and cocoa, malted.	
	beverages. Sources, manufacture, processing, and service; methods	
	01 preparation of coffee and tee	
	rkaulical Correl and Pulsa Experimental Cookery solutinization Destriction	
	1. Cerear and Fulse - Experimental Cookery, geraumzation, Dextrimisation	15
	2. vegetable and Fruit - Experimental Cookery, enzymatic browning.	13
	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 one dish each applying the different cooking methods	
	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:

CO1.Identify foods based on food groups and list their uses - K1.

CO2. Describe classification, nutritive value, storage and preservation of foods - K2.

CO3.Explain changes in food due to cooking, processing and factors that affect palatability, acceptability, and nutritive value – K3.

CO4. Compare different methods of cooking and select the methods best suited for cooking different Foods - K4.

CO5. Justify the selection, processing, storage, and cooking methods to preserve nutritive values of various foods and make them safe and acceptable - K5.

References:

- 1. Manay, S. and Shadaksharaswamy, M. (1987) Foods Facts and Principles. New Age International Publishers, New Delhi.
- 2. Peckham, G.C. and Freeland-Graves, J.H. (1979) Foundations of Food Preparation, 4th edition, Macmillan Publishing Co. Inc., New York.
- 3. Shewfelt R.L. (2015) Introducing Food Science. CRC Press, Taylor and Francis Group. Boca Raton
- 4. Srilakshmi B (2019) Food Science, (7th Ed.) New Age International Publishers
- 5. 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/textbookoffoodsc00 00khad.pdf
- https://egyankosh.ac.in/handle/123456789/32947 https://unacademy.com/content/kerala-psc/study-material/basic-food-science/

	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 Outcomes

Strong 3 Medium 2 Low 1

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
Weighted percentage (rounded of)					
of Course Contribution to Pos	3	3	2	3	3

Mapping with Programme Specific Outcomes

Title of t		BASIC COOKERY PRACTICAL									
Category	Year-I	L	Т	Р	0	Credits	Inst Hrs	Marks			
Core								CIA	Total		
	~										
	Sem-I										
Code	23UHSCCQ1			Y		3	4	40	60	100	

Learning Objectives
To enable the students to :
Learn the principles and scientific methods of cooking
Learn the best methods of cooking foods to preserve its nutrient content and minimize cooking time.
Apply the principles of cookery to prepare tasty and nutritious food

UNIT	CONTENT	HOURS
UNIT I	Introduction to Basic Cooking Skills Introduction to different cooking methods, cooking terminology; equipment and techniques used for pre-preparation and for different cooking methods. Methods of measuring and weighing liquids and dry ingredients. The use and care of simple kitchen equipment. Introduction to food safety, sanitation and hygiene in the kitchen, Safe practices in handling knives, sharp instruments and materials at high temperature.	10
UNIT II	 Cereals, Millets and pulses Cereals and Millets: Methods of combining fine and course cereal with Liquid (eg. Ragi porridge, rava upma) Method of cooking cereals and factors influencing texture and nutritive value- cooking rice by boiling and straining, absorption method, steaming, pressure cooking, microwave cooking; Gelatinization and dextrinization Preparation of recipes using rice-puttu, dosai, idli/ idiappam, lemon rice, curd rice, coconut rice, fried rice, tamarind rice, tomato rice, mint pulao- a few Wheat and Millet preparations - Kesari, Phulka, poori, paratha, naan, ragi adai, samai curd rice, thinai uppuma, -a few Pulses: Factors influencing texture, digestibility and nutritive value of whole gram/legumes andpulses -soaking, addition of soda bicarbonate, addition of salt, water quality- hard and softwater, pressure cooking, boiling and straining. Pulse preparations- Sundal, sambhar, sprouted green gram patchadi, Vadai, pongal, ompodi, green gram payasam, masala vadai ,medhu vadai-a few 	15

	Vegetables and Fruits						
UNIT III	 vegetables: basic cuts of vegetables-Since and minice (onlons) Shred (cabbage, spinach),dice (carrot), chop (tomato), grating (beetroot),and their uses in dishes. Changes in colour and texture of vegetables and nutritive value due to different methods of cooking, cooking medium and addition of acid/alkali. Vegetable preparations – Poriyal, Aloo methi curry, vegetable cutlet, thoran, vegetable kurma, avial, keerai masiyal, vegetable salad, vegetable soup, vegetable sandwich, kootu, mint chutney and carrothalwa. Fruits: 						
	preparations- stewed apple, banana fritters, fruit salad, fruit punch, fruit yoghurt andfruit smoothie, preserve/jam.						
UNIT IV	 Eggs,milk and milk products ,meat and fish: Egg Cookery: Boiling of eggs-hard and soft boiled eggs. Best method of boiling eggs. Prevention of Ferrous sulphide formation on the yolk. Poaching and frying. Coagulation of egg protein-stirred and baked custard Egg preparations - egg curry, omelet, French toast, caramel custard (steamed), scrambled eggs and fried eggs- a few Factors affecting whipping quality of egg white – effect of salt, sugar, vinegar, fatand milk, type of container used and beaters, Stages of foam formation in whipped egg whites and their uses in cookery. Milk and milk products Curdling of milk using lime juice, butter milk, tomato juice, Milk preparations Cream of tomato soup, paneer masala, payasam, patchadi, thayir vadai, morkulumbu, basundhi, lassi, spiced buttermilk and baked macaroni and cheese. Meat and Fish Methods of tenderizing meat-Pounding, mincing addition of acids like curd/limejuice in marinade, addition of proteolytic enzymes-raw papaya Effect of different methods of cooking on flavour, texture and appearance of meatand fish. Meat preparations - mutton ball curry, mutton vindaloo, mutton keema, liver fry,chicken spring roll, chicken sweet corn soup, chicken biriyani. Sea food preparations- fish fry, fish moilee, fish cutlet, sweet and sour prawns. 	15					

UNIT V	 Sugar cookery, Fats and oils food additives and raising agents Sugar Cookery - Stages of sugar cookery and uses. Preparations of sweets using different stages of sugar cookery Fats and oils - Effect of temperature of oil on texture and palatability of foods- Frying pooris at different temperatures Smoking point of oil - bread cube test. Emulsions- definition, Preparation of mayonnaise Food additives and Raising agents Role of MSG, sodium benzoate and KMS in food preparation and preservation, Natural versus synthetic preservatives, -Advantages and limitations Use of baking soda, baking powder, yeast in baking and food preparation- Prepare one dish with each of these Uses of herbs and spices to enhance flavour. 	15
	TOTAL	60

COURSE OUTCOMES

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

CO1. Identify appropriate methods for weighing dry and wet food ingredients and for cooking different foods -K1.

CO2. Select suitable methods for cooking cereals, pulses, vegetables, meat, fish and Poultry - K2.

CO3. Apply the principles of cookery, cooking techniques and suitableing redients in preparing dishes -K3.

CO4. Explain the reasons behind the changes that occur during food preparation -K4. **CO5.** Justify the best preparation and cooking methods for acceptability and retention of nutrients in different dishes -K5.

References:

- 1. Martland, R.E. and Welsby, D.A. (1980) Basic Cookery, Fundamental Recipes and Variations. William Heinemann Ltd., London.
- 2. Krishna Arora (2008) Theory of cookery, Frank Brothers & Co.,
- 3. Negi J (2013) Fundamentals of Culinary Art, S.Chand and Co.
- 4. Peckham,G .C .and Freeland- Graves,J.H. (1987) Foundation of food preparation.4thed. Macmillan Publishing co, New York
- 5. Penfield MP and Ada Marie C (2012), Experimental Food Science, Academic Press, SanDiego

e-Learning Resources:

- https://www.ihmnotes.in/assets/Docs/Books/Theory_of_Cookery.pdf
- http://staffnew.uny.ac.id/upload/132318572/pendidikan/buku-esp.pdf

Mapping with Programme Outcomes

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

Strong 3 Medium 2 Low 1

Mapping with Programme Specific Outcomes

CO/PSO	PO1	PO2	PO3	PO4	PO5
CO1	3	3	1	3	3
CO2	3	3	1	3	3
CO3	3	3	1	3	3
CO4	3	3	2	3	3
CO5	3	3	1	3	3
Weightage	15	15	6	15	15
Weighted percentage (rounded of)					
of Course Contribution to Pos	3	3	1	3	3

CHEMISTRY (FOR HOME SCIENCE)									
ective -l	[(GE)								
eneric	Year	I Cred		2	Course	24UHSCGEC1			
lective	Semester	Ι	its	3	Code				
ecture	Tutoria l	La	b Practio	ce		Total			
3	-		-		3				
gher sec	condary cher	nistry							
 ba ba ft cc in se 	e aims at pro asics of atom undamentals oncepts of nu aportance of oparation and	oviding nic orbit of orga uclear c special d purific	knowled tals, chen anic chen hemistry ty drugs cation tec	ge of nical nistry and and hniq	n bonds, hyb industrial cl artificial sw ues.	ridization and nemistry eeteners			
UNIT I Chemica Chemica Ind nor Nitroger Nuclear Ind Ison eactions lefect - - Stellar lating an UNIT II Fuels: F vater ga not requ Silicone Fertilizer UNIT II Fundan Hybridiz C ₂ H ₄ , consequent nesome	al Bonding al Bonding: a-bonding on chemistry: I mers-Differe s- group dis calculations energy. Ap ad medicinal ial Chemist: uel gases: n s, producer g ired). s: Synthesis, rs: Urea, a c, superphosp I mental Conc cation: Orbit C ₂ H ₂ and ences on ka ric, hyper co	and Nu Molecu orbitals. of bon Fundam ences b splacem . Nucle oplication l applic tal opplic atural g gas, CN , proper ammon ohate, the tal over C ₆ H ₆ . and kb onjugati	Iclear Charlar Orbi MO dia d order an ental par between ent law. ar fission ons of rac ations. dations. dations. dations. dations. dations and u ium sulp riple supe Organic chap hybr Polar of of organ on and st	r gas and c ises bhate ridiza effectic ac	stry Theory-bond ms for Hy agnetic pro s - Isotopes, nical reacti- clear bindin nuclear fus otopes – car , semi wate oil gas (man of silicones. e, potassiun osphate. emistry ation and gets: Inducti- cids and bas examples a	15 Hours ling, antibonding drogen, Helium, perties. Isobars, Isotones ons and nuclear g energy - mass sion - differences rbon dating, rock 15 Hours r gas, carbureted ufacturing details n nitrate, NPK 15 Hours eometry of CH4, ive effect and ses, electromeric, nd explanation.			
wat not Sili Fer ert JN Fun Hyl C ₂ H con Rea elec elec alk Het	er ga requ cone tilize ilizer IT II ndan bridiz H4, usequ some actior ctropl ylatic terocy idine	er gas, producer g required). cones: Synthesis, tilizers: Urea, a ilizer, superphosp IT III ndamental Conc bridization: Orbi H4, C ₂ H ₂ and usequences on ka someric, hyper co action mechanism ctrophilic substitu ylation and acylar terocyclic compo- idine.	ter gas, producer gas, CN required). cones: Synthesis, proper tilizers: Urea, ammon ilizer, superphosphate, tr IT III ndamental Concepts in bridization: Orbital over H_4 , C_2H_2 and C_6H_6 . isequences on ka and kb someric, hyper conjugati action mechanisms: Type ctrophilic substitution; ylation and acylation. terocyclic compounds: idine.	ter gas, producer gas, CNG, LPG a required). cones: Synthesis, properties and u tilizers: Urea, ammonium sulp ilizer, superphosphate, triple super IT III ndamental Concepts in Organic bridization: Orbital overlap hybr H_4 , C_2H_2 and C_6H_6 . Polar of usequences on ka and kb of organ someric, hyper conjugation and st action mechanisms: Types of ctrophilic substitution; nitration, ylation and acylation. terocyclic compounds: Preparati idine.	ter gas, producer gas, CNG, LPG and c required). cones: Synthesis, properties and uses tilizers: Urea, ammonium sulphate ilizer, superphosphate, triple superpho IT III ndamental Concepts in Organic Che bridization: Orbital overlap hybridiza H_4 , C_2H_2 and C_6H_6 . Polar effect isequences on ka and kb of organic action someric, hyper conjugation and steric- action mechanisms: Types of reac ctrophilic substitution; nitration, ha ylation and acylation. terocyclic compounds: Preparation, idine.	ter gas, producer gas, CNG, LPG and oil gas (manurequired). cones: Synthesis, properties and uses of silicones. tilizers: Urea, ammonium sulphate, potassium ilizer, superphosphate, triple superphosphate. IT III ndamental Concepts in Organic Chemistry bridization: Orbital overlap hybridization and get 4, C_2H_2 and C_6H_6 . Polar effects: Induction isequences on ka and kb of organic acids and bases someric, hyper conjugation and steric-examples and action mechanisms: Types of reactions- around thereocyclic compounds: Preparation, properties idine.			

	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	 Veeraiyan, V, <i>Textbook of Ancillary Chemistry</i>; High mount publishing house, Chennai, 1st Ed., 2009. Vaithyanathan, S, <i>Text book of Ancillary Chemistry</i>; Priya Publications, Karur, 2006. Arun Bahl, Bahl, B. S, <i>Advanced Organic Chemistry</i>; S. Chand and Company, New Delhi, 23rd Ed., 2012. Soni, P. L, Chawla, H. M, <i>Text Book of Inorganic Chemistry</i>; Sultan Chand & sons, New Delhi, 29th Ed., 2007.
Reference Books	 Soni, P.L,& Mohan Katyal, <i>Text book of Inorganic chemistry</i>; Sultan Chand and Company, New Delhi, 29th Ed., 2007. Sharma, B. K, <i>Industrial Chemistry</i>; GOEL publishing house, Meerut, 16th Ed., 2014. Jayashree Gosh, <i>Fundamental Concepts of Applied Chemistry</i>, 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

Board of Studies Date : 02.05.2023

Title of the	CHEMISTRY PRACTICAL- I										
Course			(Hom	e Science))						
Course No.	Elective -I (GE)										
Category	Generic	Year	Ι	Credit	1	Co	ourse	23UHSCGECQ			
	Elective	Semester	I	Crean	L	C	Code	1			
Instructional	Lecture	Tuto	rial	Lab P	'racti	ice		Total			
hours per week	-	-			2			2			
Prerequisites	Higher Secondary Chemistry										
Objectives of	This course ai	This course aims to provide knowledge on the									
the course	basicprinc	s of preparat iples and pra	tion of actical	solutions.	e of v	voluı	metric a	analysis.			
Course Outline	Volumetric analysis										
	 Estimation Estimation Estimation Estimation Estimation Estimation Estimation Hydroxid 	 Estimation of sodium hydroxide using standard sodium carbonate. Estimation of hydrochloric acid using standard oxalic acid. Estimation of ferrous sulphate using standard Mohr's salt. Estimation of oxalic acid using standard ferrous sulphate. Estimation of potassium permanganate using standard sodium hydroxide. 									
	6. Estimati 7. Estimati	on of magne on of ferrou	esium u s ion u	using EDT sing diphe	A. enyl a	amin	e as inc	licator.			
Reference Book	Venkateswara Practical Che	n, V, Veera mistry; Sulta	.samy, an Cha	R, Kulano and & sons	daive 5, 2 nd	elu, A Ed.,	A.R, <i>Ba</i> 199.	sic Principles of			
Course Outcome	2S										
On completion o	f the course th	e students s	hould	be able to	0						

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 o Cou	of the rse	FOOD PRODUCT DEVELOPMENT									
Category	Year I					Marks					
Non- major Elective	Som_I	L	Т	Р	0	Credits	Inst Hrs	CIA	External	Total	
Lieuwe	Sem-1										
Code	23UHSSEC1	Y				2	2	30	70	100	

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.

Understand concepts about subjective and objective evaluation of new product.

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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; testmarketing, 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: Maximizingsuccess, 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

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

Title of the Course			PERSPECTIVES OF HOME SCIENCE								
Category	Year I					Marks					
Foundation Course	Sem-I	L	Т	P	0	Credits	Inst Hrs	CIA	External	Total	
Code	23UHSSE FC	Y	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
	Meaning and components of Home Science	
LINITT I	Meaning of home science education-Philosophy of home and	6
UNITI	family, Components of Home Science, career perspectives -its a relation	
	to other disciplines –science and humanities.	
	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	6
UNIT II	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.	
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	6
	nutrients of food.	
	Introduction to dietetics principles of diet therapy objectives.	
	Classification of commercial and non- commercial food service	
	operation.	
UNIT IV	Human development	
	Human development definition goals, Prenatal development and its	
	stages infancy, childhood and adolescence- characteristic developmental	6
	task. Adulthood and old age- characteristics and problems.	
UNIT V	Home Science and Extension education	
	Extension education – meaning, definition, objective principles of	6
	extension education Home Science extension service at village, block	
	and district level.	
	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:

- 1. Manay, S. and Shadaksharaswamy, M. (1987) Foods Facts and Principles. New Age International Publishers, New Delhi
- 2. Guthrie, H.A. (1989) Introductory Nutrition. 7th ed. Times Mirror / Mosby College Publishing, St. Louis
- 3. Hurlock E.B., (1972). Child Development, New York: McGraw Hill Book company.
- 4. Srilakshmi B. (2011) Dietetics, sixth edition, New age Publishing Press, New Delhi.
- 5. Sekhri, S. (2011) Textbook of Fabric Science: Fundamentals to Finishing. India: PHI Learning Pvt. Ltd.
- 6. Nickell & Dorsey (2002), "Management in Family Living", CBS; 4th edition, ISBN-13: 978-8123908519
- 7. 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

PSO1	PSO 2	PSO 3	PSO 4	PSO 5
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
15	15	15	15	15
3	3	3	3	3
	PSO1 3 3 3 3 15 3	PSO1 PSO 2 3 3 3 3 3 3 3 3 3 3 3 3 15 15 3 3	PSO1 PSO 2 PSO 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 15 15 15 3 3 3	PSO1 PSO 2 PSO 3 PSO 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 15 15 15 15 3 3 3 3

Strong 3 Medium 2 Low 1

Title of		HUMAN PHYSIOLOGY									
Category	Year-I	L	Т	Р	0	Credi	Inst	Marks			
						ts	Hrs	CIA	External	Total	
	Sem -I										
Core	23UHSCC2	Y		Y		4	5	30	70	100	

Learning Objectives

To enable the students to:

Gain basic understanding of human anatomy and physiology

Learn the integrated functioning of cells, tissues, organs and systems.

Apply the principles of nutrition and dietetics on the basis of thorough understanding of human physiology.

UNIT	CONTENT	HOURS
	Cell and tissues - Structure of Cell and functions of different of	
	different organelles.	
	Classification, structure and functions of tissues.	
	Blood- Constituents of blood- RBC, WBC and Platelets and its	
	functions. Erythropoiesis, Blood clotting, Blood groups and	
	histocompatibility	
TINITT I	Immune system- Antigen, Antibody, Cellular and Humoral Immunity	
UNITI	(in brief)	15
	Practical	
	Microscopic study of different tissues: epithelial, connective, muscular	
	and nervous tissue	
	Blood Experiments- Blood Smear, Blood Count and Blood Grouping	
	Nervous system	
	General anatomy of nervous system, functions of the different parts	
UNIT II	Sense organs	
	Structure and functions of Eye, Ear, Skin. Physiology of Taste	15
	andSmell-in Brief,	15
	Practical	
	Study of the Structure of Brain using model/ specimen and structure of	
	Eye and Ear using models/charts	

	Heart and circulation	
	Anatomy of the heart and blood vessels, properties of cardiac muscle,	
	pressure - definition and factors affecting blood pressure and	
UNIT III	description of ECG	
	Respiratory system	
	Anatomy and physiology of respiratory organs. Gaseous exchange in	
	the lungs and tissues. Machanism of respiration	15
	the lungs and fissues, Mechanism of respiration.	15
	Practical	
	Recording of Blood Pressure	
	Study of the structure of Heart Lung using specimen, model/charts/	
	Videos	
	Digestive system	
	Anatomy of Gastro-intestinal tract, Structure and functions of Liver and	
UNIT IV	Pancreas. Digestion and absorption of carbohydrates, proteins and fats.	
	Excretory system	15
	Structure of kidney, functions of Nephron	15
	Practical Study of the Structure of Liver Deneroes, Stomach using model (charts	
	/specimen/ videos	
	Endocrine system	
	Functions of hormones secreted by Pancreas, Pituitary gland, thyroid,	
	parathyroid and adrenal glands. Effects of hypo and hypersecretion	
UNIT V	of these glands.	
	Reproductive system	15
	Anatomy of male and female reproductive organs, Ovarian and Uterine	
	cycle, influence of normones on pregnancy and lactation.	
	Fractical Microscopic study of tissues of the Pituitary Thyroid Overy and	
	TestisStudy of the structure of the male and female reproductive	
	organs using models/charts/videos	
	TOTAL	75

COURSE OUTCOMES

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

CO1. Describe the structure and functions of a cell, various tissues, primary organs and systems in the body - K1

CO2. Explain the interrelationship between systems for maintenance of equilibrium -K2.

CO3. Evaluate the role of the nervous and endocrine system in regulating the activities of other systems -K3.

CO4. Identify the microscopic structure of basic tissues, label the parts of primary physiological systems in the body such as nervous, respiratory, digestive, endocrine and reproductive systems -K4.

CO5. Perform haematological study of blood such as blood smear, blood count and blood

grouping, record pulse, blood pressure and interpret a normal ECG -K5

Reference:

- 1. Beck, W.S. (1971) Human Design. Harcourt Brace Jovanovich Inc., New York.
- 2. Best, C. H. and Taylor, N. B. (1980) Living Body. 4th ed. BIP, Bombay.
- 3. Creager, J. G. (1992) Human Anatomy and Physiology. 2nd ed. WMC Brown Publishers, England.
- 4. Guyton, A.C. (1979) Physiology of the Human Body. 5th ed. Saunders College of Publishing, Philadelphia.
- 5. Subramaniam, S. Madhavan Kutty, K. (1971) The Text Book of Physiology. Orient Longman Ltd., Madras.
- 6. Tortora G. J.Anagnostakos N.P. (1984)Principles of Anatomy and Physiology, 4th edition, Harper and Row Publishers, New York.
- 7. Waugh A and Grant A. (2012) Ross and Wilson Anatomy and Physiology in Health and Illness. 11th ed. Churchill and Livingston, Elsevier
- 8. Wilson, K. J. W. (1987) Anatomy and Physiology in Health and Illness.6th ed.ELBS, Churchill Livingstone, London.

e- learning resources

- https://youtu.be/uFf0zxQ3rBU
- http://epgp.inflibnet.ac.in/Home/Download

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	2	1	2	2	3
CO2	3	3	3	2	2	2	1	2	2	3
CO3	3	3	3	2	2	2	1	2	2	3
CO4	3	3	3	2	2	2	1	2	2	3
CO5	3	3	3	2	2	2	1	2	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	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
		7 11			

Title of the Course			PRINCIPLES OF RESOURCE MANAGEMENT									
Category	Year-I	L	Τ	Р	0	Credits	Inst	Marks				
Core							Hrs	CIA	External	Total		
	Sem-I											
Code	23UHSCC3	Y				4	4	30	70	100		

Learning Objectives

To enable students to:

Recognize and use appropriate resources to achieve one's goal.

Develop skills in utilizing the available resources in day-to-day life.

Gain knowledge about work simplification and effective management of Time, Energy and Money

UNIT	CONTENT	HOURS					
UNIT I	Introduction to Management - Management Concepts - Definition, Concept, Micro and Macro environment. Principles of Management						
	Process - Planning, Controlling, Evaluating. Qualities of a Good Manager. Motivational factors - Values, Goals and Standards.						
	Activity: Identification of personal and family values and goals – their interrelationship.						
	Resources - Meaning and classification, optimizing the use of family						
	resources, Factors affecting the use of resources.Decision making - Meaning and its importance, Types of decisions, Decision making process, Methods of resolving conflicts.	12					
	Activity: List out the resources optimizing the goal.						
UNIT III	 Time Management - Tools in time management - Time norms, Peak loads, Work Curves and rest periods, Time management process - Planning - Steps in making time plans - Controlling the planning action - Evaluation. Energy Management - The efforts required in home-making activities; Energy required for household activities. Activity: Preparation of a time schedule and Evaluate time schedule using Gantt chart. 	12					
UNIT IV	 Work Simplification - Definition, Importance, Techniques – Formal and Informal Techniques - Mundel's Classes of change - Planning efficient work areas in kitchen. Body Mechanics - Posture, Gravity, Rhythmic movement, Proper use of Muscle and to take advantage of Momentum. Fatigue - Concepts, Types - Physiological and Psychological fatigue and Managerial process applied to energy. 	12					

	Activity: Study on work heights based on anthropometric measurement on vertical and horizontal planes.	
	Money Management - Family Income - Types, sources and methods of	
	augmenting family income.	
	Family Expenditure - Budget - Meaning - Types of budgets, Planning a	10
UNII V	budget for a family of a fixed income, Hotel / Restaurant, advantages	12
	ofbudgeting, Factors affecting family budget, Engel's law of	
	consumption, methods of handling money - Family financial records,	
	Savings- importance and types.	
	Activity: Preparation of family budget. Study of a saving institution	
	andits scheme.	
	Total	60

COURSE OUTCOMES

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

CO1: Apply the principles of management process in day-to-day life

-K1

- **CO2**: Identify and analyze the need for resources-K2
- CO3: Utilize tools of time management effectively in day-to-day life -K3
- CO4: Apply work simplification techniques while managing work -K4
- **CO5**: Develop good decision-making skills and plan a budget within the available income and to maintain accounts-K5

References:

- 1. Bela Bhargava (2005), "Family resource Management & Interior Decoration", university book house pvt ltd, ISBN-13: 978-8187339229
- 2. Marion Giordan (2016), "Consumer Education: A handbook for Teachers", Routledge;1st edition, ISBN-13: 978-1138839151
- 3. Nickell & Dorsey (2002), "Management in Family Living", CBS; 4th edition, ISBN-13: 978-8123908519
- 4. Pushpa Chakravorty(2007), Home Management, New Delhi:Pointer Publishers.
- 5. Rao (2020), "Taxmann's Human Resource Management", Taxmann Publications Pvt. Ltd.; 2nd edition, ISBN-13: 978-9390128396
- 6. Ready GB (2021), "EBC consumer Protection Act", LAW BOOKS, ASIN:B097TQ64QV
- 7. Steven, D.S, (2016). Consumer Economics: A Practical Overview", NewYork: Routledge Taylor and Francis group.
- Sudhir Dixit (2018), "Time Management", Manjul Publishing House, ISBN-13: 978-9388241106

e- Learning Resources:

- http://www.yourarticlelibrary.com/decision-making/decision-making-in-management-
- definition-and-features-explained/25657/
- http://www.familyresourcemanagement.org/services/goals/
- http://www.familyresourcemanagement.org/services/standards/
- http://www.nios.ac.in/media/documents/sechmscicour/english/home%20science%20(eng)% 20ch-15.pdf
- https://books.google.co.in/books?id=NJkrzK3CgisC&pg=PA149&lpg=PA149&dq=ti
- > me,+energy,+money+as+resource+in+management&source=bl&ots=xmSp-
- LDkia&sig=57qLKHx2UX3sznBIJhm

Mapping with Programme Outcomes

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

CHEMISTRY-II									
		(F	or Home	Scier	nce)				
]	Elective-	II (G	E)				
Generic	Year	Ι	Credit	2	Course	23UHSCGECQ			
Elective	Semester	II	S	3	Code	2			
Lecture	Tutorial	La	b Practic	e		Total			
3	-		-			3			
Chemi	stry for Bio	logical S	Sciences 1	[
This cou	rse aims to	provide	knowled	ge on					
• N	omenclature	of coor	dination of	comp	ounds and c	arbohydrates.			
• A	mino Acids	and Ess	ential eler	ments	s of biosyste	m			
• U	nderstand th	e conce	pts of kin	etics	and catalysi	s			
• B	asics and typ	pes of po	olymers						
• Pi	rovide funda	mentals	of photo	chem	istry	15 11			
	ination Ch	mistry	and Wat	on To	ahnalaav	15 Hours			
Co-ord	ination Cher	nistry• T	and wat	of te	rms - ΠΙΡΔ	C Nomenclature			
- Werr	nation Cher her's theory	– EAN	J rule -	Pauli	ng's theory	v = Postulates -			
Applica	ations to [Ni(CO)	1 [Ni($(N)_{1}$	$^{2-}$.[Co(CN) ₆	³⁻ Chelation -			
Biologi	cal role of	Hemogl	obin and	Chlo	prophyll (ele	ementary idea) -			
Applica	ations in qua	litative	and quant	itativ	e analysis.	, ,			
Water '	Technology:	Hardne	ess of wa	ter, d	letermination	n of hardness of			
water u	sing EDTA	method	l, zeolite	meth	od-Purificat	ion techniques –			
BOD at	nd COD.								
UNIT II						15 Hours			
Carbohy	drates								
Classifi	cation, prep	paration	and pro	pertie	es of gluco	se and fructose.			
Discuss	sion of oper	n chain	ring str	ucture	es of gluco	se and fructose.			
Glucos	e-Iructose in	terconvo	ersion. Pr	epara	tion and pro	operties			
	I		1030.			15 Hours			
Amino	Acids and 1	Essentia	al elemen	ts of	biosvstem	15 110015			
Classifi	cation - pre	paratior	and pro	pertie	es of alanin	e, preparation of			
dipeptio	des using Be	rgmann	method -	Prote	ins- classifi	cation – structure			
- Colou	r reactions -	- Biolog	gical func	tions	 nucleosid 	es -nucleotides –			
RNA a	nd DNA –	structur	e. Essent	ials c	of trace met	als in biological			
system	-Na, Cu, K, Z	Zn, Fe, l	Mg.						
						15 Hours			
Polymer	chemistry	1 .0		· 1	,	c 1 : /:			
Polymers addition or	- monomers	, classif	1cation 01	i poly Natu	mers, types	of polymerization-			
(eq star	ch and cell	ulose)	Polyhyd	rocarl	hon (eg n	atural rubber) and			
polvamide	e (eg., prote	in). Svn	thetic pol	vmers	: preparation	and applications of			
polyethyle	ne, pol	ypropyl	ene,	poly	yester,	polyvinylchloride.			
polyvinyl	carbonate, p	olyamic	le, polyte	traflu	oroethylene	e, synthetic rubber,			
vulcaniza	tion of rubbe	er.	-		-				
UNIT V						15 Hours			
Photoch	emistry		1 ~ 1						
Grothus	- Drapper's	law ar	nd Stark-	Einste	ein's law o	t photochemical			
equivaler	ice, Quan	tum	yield -	Hy	drogen-chl	oride reaction.			
	escence.	nuore	escence.	(menniumine	-scence and			
	Generic Elective Lecture 3 Chemis This cou • N • A • U • B • Pr UNIT I Co-ord Co-ord • Verr Applica Biologi Applica Biologi Applica Water U BOD at UNIT II Carbohy Classifi Discuss Glucos of sucre UNIT II Amino Classifi dipeptia - Colou RNA a system- UNIT IV Polymer Polymers addition ar (eg., stard polyamide polyethyle polyvinyle vulcanizati	Generic Year Elective Semester Lecture Tutorial 3 - Chemistry for Bio This course aims to • Nomenclature • Amino Acids • Understand th • Basics and typ • Provide fundation UNIT I Co-ordination Cher - Werner's theory Applications to [Biological role of Applications in qua Water Technology: water using EDTA BOD and COD. UNIT II Carbohydrates Classification, prep Discussion of oper Glucose-fructose in of sucrose, starch and Classification - pre dipeptides using Be - Colour reactions - RNA and DNA - system-Na, Cu, K, Z UNIT IV Polymer chemistry Polymers - monomers addition and condensatio (eg., starch and cellu polyethylene, pol polyethylene, pol polyethylen	Generic Year I Elective Semester II Lecture Tutorial La 3 - I Chemistry for Biological S This course aims to provide Nomenclature of coor • Nomenclature of coor • • Mino Acids and Ess • • Understand the conce • • Basics and types of pr • • Provide fundamentals III UNIT I Co-ordination Chemistry I • Werner's theory - EAN Applications to [Ni(CO) Biological role of Hemogl Applications in qualitative of Water Technology: Hardne water using EDTA method BOD and COD. UNIT II Carbohydrates Classification, preparation Discussion of open chain Glucose-fructose interconversed sucrose, starch and cellu UNIT III Amino Acids and Essentia Classification - preparation Discussion of open chain Glucose-fructose interconversed sucrose interconversed sucrose, starch and cellu UNIT III Amino Acids and Essentia Classification - preparation Discussion of open chain Gl	CHEMIS (For HomeElective-GenericYearICreditElectiveSemesterIIsLectureTutorialLab Praction3Chemistry for Biological SciencesIThis course aims to provide knowledgeNomenclature of coordination of•Amino Acids and Essential eler•Understand the concepts of kin•Basics and types of polymers•Provide fundamentals of photoUNIT ICo-ordination Chemistry and WateCo-ordination Chemistry: Definition-Werner's theory - EAN rule -Applications to [Ni(CO)4], [Ni(C)Biological role of Hemoglobin and Applications in qualitative and quantWater Technology: Hardness of wa water using EDTA method, zeolite BOD and COD.UNIT IICarbohydratesClassification, preparation and pro Discussion of open chain ring str Glucose-fructose interconversion. Pr of sucrose, starch and cellulose.UNIT IIIAmino Acids and Essential element Classification - preparation and pro dipeptides using Bergmann method - - Colour reactions – Biological func RNA and DNA – structure. Essent system-Na, Cu, K, Zn, Fe, Mg.UNIT IVPolymer chemistry Polymers - monomers, classification of addition and condensation polymerization. (eg., starch and cellulose). Polyhyd polyamide (eg., protein). Synthetic pol polyethylene, polypropylene, polyvinylcarbonate, polyamide, polyte vulcanization of rubber.UNIT V PhotochemistryPropore in Suand Stark- equivalence, Quantum yield - Phosp	CHEMISTRY (For Home Scient Elective- II (G Generic Year I Credit 3 Lecture Tutorial Lab Practice 3 - Chemistry for Biological Sciences I This course aims to provide knowledge on Nomenclature of coordination comp Amino Acids and Essential elements Understand the concepts of kinetics Basics and types of polymers Provide fundamentals of photochem UNIT I Co-ordination Chemistry: Definition of te - Werner's theory - EAN rule - Pauli Applications to [Ni(CO)4], [Ni(CN)4] Biological role of Hemoglobin and Chlk Applications in qualitative and quantitativ Water Technology: Hardness of water, d water using EDTA method, zeolite meth BOD and COD. UNIT II Carsohydrates Classification, preparation and propertie <t< th=""><th>CHEMISTRY-II (For Home Science) Elective II (GE) Generic Year I Code Elective Semester II S Code Lecture Tutorial Lab Practice 3 Code Generic Year II s Code Chemistry for Biological Sciences I This course aims to provide knowledge on Nomenclature of coordination compounds and c Amino Acids and Essential elements of biosystee Understand the concepts of kinetics and catalysi Basics and types of polymers Provide fundamentals of photochemistry UNIT I Co-ordination Chemistry and Water Technology Co-ordination Chemistry and Quantitative analysis. Water Technology: Co-ordination Chemistry and Quantitative analysis. Water Technology: Co-ordination Chemistry and Quantitative analysis. Water Technology: Hardness of water, determinatio water using EDTA method, zeolite method-Purificat BOD and COD. UNIT I Cassification, preparation and properties o</th></t<>	CHEMISTRY-II (For Home Science) Elective II (GE) Generic Year I Code Elective Semester II S Code Lecture Tutorial Lab Practice 3 Code Generic Year II s Code Chemistry for Biological Sciences I This course aims to provide knowledge on Nomenclature of coordination compounds and c Amino Acids and Essential elements of biosystee Understand the concepts of kinetics and catalysi Basics and types of polymers Provide fundamentals of photochemistry UNIT I Co-ordination Chemistry and Water Technology Co-ordination Chemistry and Quantitative analysis. Water Technology: Co-ordination Chemistry and Quantitative analysis. Water Technology: Co-ordination Chemistry and Quantitative analysis. Water Technology: Hardness of water, determinatio water using EDTA method, zeolite method-Purificat BOD and COD. UNIT I Cassification, preparation and properties o			

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	Knowledge, Problem solving, Analytical ability, Professional
from this	Competency, Professional Communication and Transferable skills
course	competency, i forestional communication and fransferacie similar
Recommended	1 Veeraivan V Textbook of Ancillary Chemistry: High mount
Text	publishing house. Chennai. 1 st Ed., 2009.
	2. Vaithvanathan S. <i>Text book of Ancillary Chemistry</i> : Priva
	Publications, Karur, 2006.
	3. Arun Bahl, Bahl B.S, Advanced Organic Chemistry; S.Chand and
	Company, New Delhi, 23 rd Ed., 2012.
	4. Soni P.L, Chawla H M, Text Book of Organic Chemistry; Sultan
	Chand & sons, New Delhi, 29 th Ed., 2007.
	5. Gowariker V R, Viswanathan N V, Jayadev Sreedhar, Polymer
	Science, Wiley Eastern Ltd, 1986.
Reference	1. Arun Bahl, Bahl B.S, Advanced Organic Chemistry; S.Chand and
Books	Company, New Delhi, 23 rd Ed., 2012.
	 Soni P L, Chawla H M, Text Book of Organic Chemistry; Sultan Chand & sons, New Delhi, 29th Ed., 2007.
	3. Soni P L. Mohan Katval. <i>Text book of Inorganic chemistry</i> :
	Sultan Chand and Company, New Delhi, 20 th Ed., 2007.
	4. Puri B R, Sharma L R, Pathania M S, Text book Physical
	<i>Chemistry</i> ; Vishal Publishing Co., New Delhi, 47 th Ed., 2018.
	5. Sharma B K, Industrial Chemistry; GOEL publishing house,
	Meerut, sixteenth edition, 2014.
Course Learning	Outcomes (for Mapping with POs and PSOs)
On completion of	f the course the students should be able to
CO 1: write th	e IUPAC name for complex, different theories to explain the bonding in
coordina	tion compounds and water technology.
CO 2: explain the	he preparation and property of carbohydrate.
CO 3: enlighten	the biological role of transition metals, amino acids and nucleic acids.
CO 4 : acquire l	knowledge about the polymer and its types.
CO 5: outline th	ne various type of photochemical process.

Title of the Course	CHEMISTRY PRACTICAL-II (Home Science)										
Course No.		Elective-II (GE)									
Category	Year I										
	Generic Elective	Seme ster	II	Credits	2	Course Code	23UHSCGEQC 2				
Instructional hours per week	Lecture	Tuto rial	La	ab Practice	è		Total				
	-	-		2			2				
Prerequisites											
Objectives of the	This c	ourse aim	is to pr	ovide know	vled	ge on					
course	• ider	ntification	of org	anic functi	onal	l groups					
	• diff	erent type	es of or	ganic com	pour	nds with resp	pect to				
	thei	r properti	es.			•	1.				
	• dete	erminatior	n of ele	ements in o	rgar	nc compound	JS.				
	SYSTEMA	TIC ANA	ALYS	IS OF OR	GAI	NIC COMP	OUNDS				
	The analysis	s must be	carrie	d out as fol	low	s:					
	(a) Functi	onal g	roup tests [phe	nol, acids (m	ono & di)				
		aroma	atic pri	mary amin	e, ai	mides (mono	& di),				
		aldeh	yde an	d glucose].		、					
	(b) Detec	tion of	f elements ((N,)	S, Halogens)					
	(c) To dia	stingui	sh between	i alij	phatic and					
		aroma	atic coi	mpounds.			- 4 - 1				
	(0	l) 10 di	ounde	isn – Satur	ated	and unsatur	ated				
		comp	ounus.								
Reference Books	oks Venkateswaran V, Veerasamy R, Kulandaivelu A R, <i>Basic Principles of Practical Chemistry</i> ; Sultan Chand & sons, 2 nd Ed., 1997.										
Course Learning O	utcomes (for	· Mappin	g with	POs and	PSC)s)					
On completion of the course the students should be able to CO1: observe the physical state, odour, colour and solubility of the given organic compound.											
CO2: identify the porganic comp	presence of spound perform	pecial ele	ments temati	and function c analysis.	onal	group in an	unknown				
CO3: analyze the given organic compound and explain the reactions behind it.											
Title of the				Ι	NDIAN H	EALTH	SCIENCE	Ś			
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Category	Year-I	L	Τ	Р	0	Credits	Inst	Marks			
SEC-							Hrs	CIA	External	Total	
NME II											
	Sem-II										
Code	23UHSSEC2	Y				2	2	30	70	100	

Learning Objectives

To enable students to:

Understanding the fundamental principles of Indian health systems such as Ayurveda and yoga which are useful in maintaining the health of a healthy person.

Practical implementation of health principles to correct the intake of our food, air, water and sunlight to achieve perfect health.

Understanding traditional way of cleansing the body regularly, strengthening body with Yogic exercises, maintaining the internal balance to prevent diseases.

UNIT	CONTENT	HOU RS
UNIT I	Introduction to Ayurveda, the Knowledge of Life, Health and treatment aspects in Ayurveda, Influence of Pancha maha bhuta on Internal environment of Human being.	6
UNIT II	Understanding composition of Human body through the concept of Dosha Dhatu Mala,Understanding Prakruthi , the Mind – Body Constitution.	6
UNIT III	Establishing communication between body and mind by understandingthe language of body. Understanding the concept of Agni, Koshta, Sara and Ojas and their relevance in enhanching our immunityto protect from various infections.	6
UNIT IV	Understanding Swastha vritta, the healthy regimen to maintain stateof wellbeing Dinacharya, the Daily regimen including Daily detoxification, exercise, Intake of Food,Water, Air and Sunlight, work and ergonomics, Rest and sleep hygiene.	6
UNIT V	Definition, Meaning and objectives of Yoga, Yoga & Naturopathy; relation of Yoga and Naturopathy-various methods of treatment Naturopathy: fasting, nutrition and dietetics, hydro therapy, mud therapy, chromo therapy, magneto therapy, and massage therapy.	6
<u> </u>	Total	30

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

CO1- Understanding the fundamental principles of Indian health systems -K1.

CO2- Develop their understanding on health and the strategies that can be employed for improvement of physiology-K2

CO3-Gain knowledge on traditional way of cleansing the body regularly and strengthening the body-K2 **CO4-**Assess the health principles to correct the intake of our food to achieve perfect health -K3

CO5- Identify the internal balance to maintain and prevent diseases through yoga and naturopathy -K5.

Reference:

1. Dr Deepak Chopra, Perfect Health--Revised and Updated: The Complete Mind Body Guide, Harmony publication, 2001

2. Vasant lad, Ayurveda, the Science of Self-healing: A Practical Guide: Science of Self-healing, lotus press, 1984

3. BKS Iyengar, Light on Yoga: The Classic Guide to Yoga by the World's Foremost Authority, thronson publication, 2006

4. Swamy Satyananda Saraswati, Asana, Pranayama, Mudra and Bandha, Bihar School of Yoga,

5.Dr. H.K. Bakhru, (3006) :Diet cure for common Ailments, Mumbai, Jaico Pub. Home. Dr. S.R. Jindal- (1994): ,Nature Cure: A Way of Life, Bangalore, Institute of Naturopathy & Yogic Sciences.

Hours/Week: 2 Credits: 2

Course Objectives: The course aims to

- To learn the role of various ingredients, additives and adjuncts in the preparation of bakery products
- Acquire practical knowledge and skill in the preparation of different types of biscuits, cookies, cakes and pastries.

SYLLABUS

- 1. Baking Principles.
- 2. Introduction to Bakery and Planning a Bakery Layout
- 3. Ingredients Used in Baking
 - a. Flour b. Sugar c. Fat d. Salt e. Egg f. Leavening Agents
- 4. Preparation and Evaluation of Bread ,bun and Sandwich
- 5. Preparation and Evaluation of Cakes
 - a. Sponge Cake b. Golden Cake c. Millet cake d. Brownie
- 6. Preparation and Evaluation of Icings
 - a. Fondant Icing b. Royal Icing c. Butter Cream Icings
- 7. Preparation and Evaluation of Biscuits
 - a. Chilly Biscuit b. Cashew Biscuit c. Pea-nut Biscuit d. Millet biscuit e. Nan-khatti
- 8. Preparation and Evaluation of Cookies
 - a. Melting Moments b. Coconut Cookies c. Chocolate cookies
- 9. Preparation and Evaluation of Puff Pastry.

10. Preparation and Evaluation of Doughnut.

Reference:-

- Gali. A., 1994, New Ideas for a Great Taste, Ist edition, P.T. Bell, Publishers, Madras.
- YogambalAshokkumar, 2005, Theory of Bakery & Confectionary Ist edition, VisigaPublications, Sivagangai.

Web Resources: https://www.thekitchn.com/welcome-to-baking-school

CO Number	CO Statement	Knowledge Level
CO1	Understand the basic terminology, concepts and principles of baking.	K1
CO2	Explain the role of various ingredients, additives and adjuncts in the preparation of bakery products.	K2
CO3	Identify the novel ingredients used in bakery.	К3
CO4	Acquire practical knowledge and skill in the preparation of different types of biscuits, cookies, cakes and pastries.	K4
CO5	Evaluate the quality of bakery products and create new products.	K6

Course outcomes (CO): On completion of the course, students should be able to

Mapping with of COs with POs

PO		Programme Outcome (POs)											
CO	PO1	PO2	PO3	PO 4	PO5								
CO1	3	2	2	1	3								
CO2	3	2	1	1	3								
CO3	3	2	1	1	3								
CO4	3	2	1	2	3								
CO5	3	2	2	2	3								

Strong-3; Medium-2; Low-1

Title of					H	IUMAN I	NUTRITI	ON		
Category	Year- II	L	Τ	P	0	Credits	Inst	Marks		
Core							Hrs	CIA	External	Total
	Sem-III									
Code	23UHSCC4	Y	Y			5	5	30	70	100

Learning Objectives To enable the students to :

Understand the importance of various macronutrients in relation to health.

Highlight dietary guidelines for various nutrients and contribute towards a better lifestyle for prevention of non-communicable diseases.

UNIT	CONTENT	HOURS
UNIT I	Introduction to Food, Nutrition and Health Definition of Health, nutrients, Balanced diets and dietary guidelines. Signs and symptoms of adequate, optimum and good nutrition, malnutrition (Under nutrition, and over nutrition), Assessment of Nutritional status- Anthropometric, Biochemical, Clinical and Dietary aspects.	12
	Activity- Plan meals based on My- Plate concepts, Record Height, Body weight, and calculate Body Mass Index (BMI) in a small sample, and categorize according to BMI.	3
UNIT II	 Carbohydrates Classification, Food Sources, Requirements and Functions of carbohydrates in the body. Review of digestion, absorption and metabolism. Glycemic Index, Glycemic load of Foods, and factors affecting it, Hormonal control of Blood sugar. Role of fibre in prevention of non-communicable diseases. Proteins Amino acids - Indispensable and dispensable amino acids. Classification, Sources, Requirements and functions of protein. Protein deficiency- Protein Energy Malnutrition - Kwashiorkor and Marasmus - etiology, clinical features, treatment and prevention Evaluation of protein quality- PER, BV, NPU and NPR, chemical score. 	12
	Activity-List foods based on their GI, and Protein supplements available in the market.	3
UNIT III	Lipids Classification, Sources, Requirements and functions, Essential fatty acids- deficiency, food sources and functions, Healthy and Unhealthy Fats in the diets, Dietary lipids and its relation to cardiovascular diseases.	12

	Energy					
	Determination of energy value of foods using Bomb calorimeter,					
	Physiological value of foods.					
	Direct and Indirect calorimetry direct calorimetry, Respiratory quotient					
	Components of Energy expenditure- Basal metabolism, factors affecting					
	BMR, Food related thermogenesis, Physical activity.					
	Activity-List healthy and unhealthy sources of fats in one's diet.	7				
	Learn to estimate BMR.	3				
	Fat Soluble Vitamins					
	Food sources, Requirements, Functions, Effects of deficiency or					
	Toxicity (wherever applicable).					
UNIT IV	Water Soluble Vitamins					
	Food sources, Requirements, Functions, Effects of deficiency.	15				
	Antioxidantrole of certain Vitamins in Health promotion					
	Macro minerals					
	Calcium, Phosphorous, Potassium, Sodium and Chloride- Distribution					
	in the body, functions, food sources, requirements, effects of					
	deficiency and toxicity.					
	Micro/Trace minerals					
	Iron, Zinc, Iodine, Selenium, Fluoride and Copper Distribution in the					
UNIT V	body; functions, effects of deficiency, foodsources and requirements,	15				
	Role of Antioxidant minerals					
	Water					
	As a nutrient, functions, sources, requirements, Distribution of water in					
	the body, dehydration, water intoxication.					
	· · · · · · · · · · · · · · · · · · ·					
	TOTAL	70				

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

- CO1. Define nutrients and terms related to nutrition -K1
- **CO2**. Describe the sources, recommended allowances of macronutrients, micronutrients, and water -K2.
- **CO3**. Interpret the significance of macro and micronutrients, and water for maintenance of optimum health -K3.
- CO4. Explain the functions, deficiency or toxicity of macro and micronutrients, and water -K4.
- CO5. Evaluate the role of macronutrients, micronutrients, and water in health and disease -K5.

Reference:

- 1. Anderson J. J. B., Root M. M., Garner S. C. (2015) Human Nutrition: Healthy Options for Life. Jones & Bartlett Learning, Massachusetts, USA.
- 2. Guthrie, H.A. (1989) Introductory Nutrition. 7th ed. Times Mirror / Mosby College Publishing, St. Louis
- 3. Insel P., Ross D., McMahon K., Bernstein M. (2016) Discovering Nutrition. 5th Ed., Jones & Bartlett Learning, Massachusetts, USA.
- 4. Mahan K and Sylvia E. Stump (2000) Krause's Food Nutrition and Diet Therapy,

Saunders, USA

- 5. Medeiros D. M., and Wildman R. E. C. (2019) Advanced Human Nutrition. 4th Ed., Jones & Bartlett Learning, Massachusetts, USA.
- Ross A. C., Caballero B., Cousins R. J., Tucker K. L., Ziegler T. R. (2014) Modern Nutrition in Health and Disease. 11th Ed., Wolters Kluwer | Lippincott Williams & Wilkins, Philadelphia, USA.
- 7. Sizer F. S. and Whitney E. (2014) Nutrition: Concepts & Controversies. 13th Ed., Wadsworth, Cengage Learning, USA.
- 8. Whitney, E.R.andRolfes S.R. (1996)Understanding nutrition. 7th Ed., West Publishing Company, USA

e-Learning Resources:

- http://www.merck.com/mmhe/seciz/ch155/ch155a.html
- http://www.whereincity/medical/vitamins

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

Mapping with Programme Outcomes

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

Title of t		NUTRITION PRACTICAL								
Category	Year-II	L	Т	Р	0	Credits	Inst	Marks		
Core							Hrs	CIA	External	Total
	Sem-III									
Code	23UHSCCQ2			Y		3	4	40	60	100

Learning Objectives
To enable the students to :
Understand the various analytical techniques.
Develop analytical skills required for nutrition research.

UNIT	CONTENT	HOURS						
	Assessment of Nutritional Status							
UNIT I	-Body Composition parameters							
	-Circumference measurements							
	-Clinical signs							
	-Dietary assessment							
	Ashing of food and preparation of ash solution							
	Estimation of Iron in food							
UNITI	Estimation of calcium in food	10						
	Estimation of Vitamin C by Titrimetric method							
	Estimation of calorific value of food using the Bomb Calorimeter-							
	Demonstration							
UNIT III	Estimation of protein content in food by the kjeldahl method-							
	Demonstration	20						
	Estimation of moisture content of food using Infrared moisture balance-							
	Demonstration							
	Estimation of glucose in blood (colorimetric estimation and use of							
UNIT IV	glucometer)	10						
	Estimation of haemoglobin in blood							
	Determination of plasma cholesterol, Triglycerides, HDL and LDL							
	cholesterol (with the use of the semi auto analyser)							
UNITV	Estimation of acid value in oil/fat							
	Visit to a food analytical lab							
	TOTAL	60						

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

- **CO1.** Describe the principle and procedures for the various experiments -K1.
- **CO2**. Identify appropriate laboratory procedures suited for estimation of select nutrients in food and body fluids -K2.
- CO3. Estimate select nutrients in food and metabolites in serum -K3.
- CO4. Compare the results with standard values and interpret the findings -K4.
- CO5. Develop skills to assess nutritional status of individuals and the community -K5.

References:

- 1. Oser, D.1. (1979) Hawk's Physiological Chemistry. Tata- McGraw Hill PublishingCo., NewDelhi
- 2. Plummer, D.T. (1987) Introduction to Practical Biochemistry. Tata- McGraw HillPublishing Co.,New Delhi
- 3. Raghuramulu, N., Nair, K.M. and Kalyanasundaram, S.(1983) A Manual of Laboratory
- 4. Sharma, B.K. (1999). 8thEd. Instrumental Methods of Chemical Analysis.GelPublishing House.
- 5. Srivastava, A.K and Jain, P.C. (1986). 2nd, Ed.Chemical Analysis: An InstrumentalApproach. S Chand and Company Ltd.
- 6. Techniques. NIN, Hyderabad
- 7. Varley, H.; Gowenlock, A.H. and Bell, M. (1980). 5thed. Practical ClinicalBiochemistry. Heinemann Medical Books Ltd.
- 8. Winton, A.L. and Winton, K.B. (1999). Techniques of Food Analysis. AlliedScientific

e-Learning Resources:

- http://www.merck.com/mmhe/seciz/ch155/ch155a.html
- <u>http://www.whereincity/medical/vitamins</u>

Mapping with Programme Outcomes

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

Strong 3 Medium 2 Low 1

Mapping with Programme Specific Outcomes

CO/PSO	PSO	PSO	PSO	PSO	PSO
	1	2	3	4	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	3	3	3	3	3
POS					

Strong 3 Medium 2 Low 1

Title of	the Course	INTRODUCTION TO FASHION DESIGNING								
Category	Year-II	L	Τ	P	0	Credits	Inst		Marks	
Discipline							Hrs	CIA	External	Total
Specific Elective	Sem-III									
Code	23UHSDSEC1	Y Y 5 5 30 70 100								

Learning Objectives

To enable the students to :

Understand the basic concepts of fashion design clothing psychology and wardrobe planning. Acquire knowledge on design elements and colour psychology.

UNIT	CONTENT	HOURS
UNIT I	Introduction to fashion designing Terms related to the fashion industry – fashion, style, fad, classic, and collection, chic, Custom made, mannequin, fashion show, trend, forecasting, high fashion, fashion cycle, haute couture, fashion director, fashion editor, line, knock-off, avant-garde, bridge, buying house, apparel, fashion merchandising, pret – a – porter.	15
UNIT II	 Design a) Design- definition and types – structural and decorative design, requirements of a good structural and decorative design. Application of structural and decorative design in a dress, selection and application of trimmings and decorations. b) Elements of design – line, shape or form, colour, size and texture. c) Principles of design- balance – formal and informal, rhythm- through repetition, radiation and gradation, emphasis, harmony and proportion. Application of principles of design in a dress 	10
	 Practical 1. Application of structural and decorative design in a dress. 2. Application of elements of design in apparel. 3. Application of Principles of design in apparel. 	5
UNIT III	 Colour a) Colour- definition, colour theories- prang colour chart and Munsell colour system, b) Dimensions of colour- hue, value, and intensity. c) Colour harmonies- types and its application in dress design. 	12
	Practical1. Colour theories- prang colour chart and Munsell colour system.2. Application of colour harmonies in apparel designing.	3

	Figure drawing and analysis						
	a) Basic human proportions, Anatomy and model drawing 8 and 10 head						
	theory.						
UNIT IV	b) Figure analysis and designing dresses for stout figure, thin figure,						
	slender figure, narrow shoulders, broad shoulders, round shoulders,						
	large bust, flat chest, large hip, large abdomen, round face, large face,						
	small face, prominent chin and jaw, prominent forehead.						
	Practical - Model drawing 8 and 10 head figure	3					
	Wardrobe planning						
	c) Wardrobe planning for different age groups, factors influencing						
	wardrobe selection, Fashion and season,						
UNIT V	d) Designing dresses based on different occasions – business meetings,	15					
	parties/ dinners, evenings/leisure hours, wedding, functions, sports,						
	uniforms for civil service, airhostess, hoteliers, schools - girls and						
	boys.						
	Total	75					

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

CO1. Identify the right choice of colour, design used in apparel designing-K1

CO2. Explain the concepts related to the design and colour in apparel designing-K2

CO3. Demonstrate the methodology to be followed in effectively using the principles of design, elements of design and colour harmonies while designing a garment-K3

CO4. Identify suitable designs according to the figure of the wearer and the occasion intended-K2.

CO5. Develop skills to draw designs suitable according to the body type and plan wardrobe-K4.

Reference:

- 1. Sumathi, G.J. (2002) <u>Elements of Fashion and Apparel Design</u>. New Age International Publishers, New Delhi.
- 2. Gini Stephens Frings (1999) <u>Fashion From Concept to Consumer</u>. 6th edition, Prentice Hall.
- 3. Gerry Cooklin (2003) <u>Pattern grading for women's clothes, the technology of sizing</u>, Black well science Ltd, USA
- 4. Kaur N (2010) <u>Comdex Fashion Design: Fashion Concepts Vol. 1</u>, Dream tech Press, Delhi

e-learning Resources:

- 1. https://purushu.com/2010/08/elements-of-design-in-fashion.html
- 2. https://vanseodesign.com/web-design/color-meaning/
- 3. <u>http://bieap.gov.in/Pdf/FGMPaperI.pdf</u>
- 4. http://textilelearner.blogspot.com/2015/07/drafting-procedures-of-line-frock.html
- 5. http://textilelearner.blogspot.com/2015/06/drafting-procedures-of-ladies-kurti.html

Mapping with Programme Outcomes

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

Title of the	CONSUMER EDUCATION										
Category	Year-II	L	Τ	Р	0	Credits	Inst		Marks		
SEC-IV							Hrs	CIA	External	Total	
	Sem-III										
Code	23UHSSEC4	Y	Y			1	1	30	70	100	

Learning Objectives

To enable the students to:

Be familiar with the problems in buying and consumer legislations.

Become aware of marketing conditions and the means for problem redressal.

Create awareness on various consumer buying problems.

UNIT	CONTENT	HOURS
UNIT I	Consumerism and consumer buying problem - Definition and the concept of consumerism – consumer, producer and market. Characteristics of consumers, role of consumers in the Indian economy. Malpractices – Incorrect weights and measures. Misleading Advertisement and Misbranding.	3
	Activity: Preparation of poster and creating awareness on Various consumer buying problems.	2
UNIT II	 Human wants, Demand and Supply - Definition, classification of human wants –necessities, comfort and luxuries. Meaning of demand and supply. Relation between utility, demand and supply. Factors influencing demand and supply. Types of income - Real, money, psychic, relationship of GNP, national income, personal income, disposable income. 	3
	Activity: Preparing guidelines for purchasing commonly used consumer goods and services.	2
UNIT III	 Markets and marketing - Basic Concept, Classification and functions of Markets, Types of Market. Channels of Distribution: Meaning,types and their advantages and disadvantages. Consumer in the market - Consumer buying habits, buying motives and buying problems. Consumer Aids a. Brand – Different types and its importance. b. Labels – Importance, Merits and demerits. Importance of Packaging and Advertising. 	3
	Activity: Illustrate different types of consumer aids.	2

UNIT IV	Quality Assessment of Products - Definition – Standards and standardization and its Importance. Quality Seal – BIS, ISI, AGMARK, ISO, HALL MARK, BEELABEL and FPO	3
	Activity: Identify government agencies in protecting the consumer.	2
UNIT V	 Consumer decision making process - Types of consumer decisions, process of decision making, factors determining and influencing consumer behavior, guidelines for wise buying practices. Consumer Protective Services - Consumer Protection Act, Food Adulteration Act – FSSAI. Quality control and inspection Act. Consumer Rights and consumer responsibilities. 	3
	Activity: Identify a consumer problem and solve it using decision making steps.	2
	Total	15

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

- CO1. Identify the major influences on consumer behavior-K1.
- **CO2.** Analyze the implications of demand and supply-K2.

CO3. Implement wise buying practices-K3.

CO4. Explain consumer protection legislations and standards -K4.

CO5. Assess the quality of a product based on the knowledge gained-K5.

References:

- 1. Gupta, C.B. and Nair, R.N (2004). Marketing Management: Sultan Chand and Sons,
- 2. Juliana, M (2011). Green consumerism, United States: SAGE Publishers.
- 3. Kathiresan, S. Radha, V (2004), Marketing: Chennai, Prasanna Publisher.
- 4. Kumar, N., (1999), Consumer Protection in India, Delhi, Himalaya Publishing House.
- 5. Pattanchetti, C.C. and Reddy, 2002). Principles of Marketing, Coimbatore:Rainbow Publishers, India.
- 6. Seetharaman, P. and Sethi, M. (2001). Consumerism: Strategies and Tactics, CBS Publishers and Distributors, New Delhi.
- 7. Steven, D.S, (2016). Consumer Economics: A Practical Overview", NewYork: Routledge Taylor and Francis group.
- 8. Suja Nair (2002). Consumer Behaviour: New Delhi. Sultan Chand and Sons.

Learning Resources:

- http://www.jagograhakjago.com/consumer-rights/
- https://consumeraffairs.nic.in/organisation-and-units/division/bureau-indianstandards
- https://www.consumer-voice.org/food/know-your-quality-marks/
- http://ecoursesonline.iasri.res.in/mod/page/view.php?id=120087

- http://ecoursesonline.iasri.res.in/mod/page/view.php?id=120086
- https://www.nios.ac.in/media/documents/srsec321newE/321-E-Lesson-17.pdf
- https://www.flexiprep.com/NIOS-Notes/Senior-Secondary/Home-Science/NIOS-Home-Family-and-Home-Science-Ch-16-Consumer-Education.html

Mapping with Programme Outcomes

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

Title of	f the Course	Urse FUNDAMENTALS OF RESEARCH IN NUTRITIONA SCIENCES							NAL	
Category	y Year-III								Marks	
SEC-V		L	Т	Р	0	Credits	Inst Hra	CIA	External	Total
	Sem-II						пт	CIA	External	10181
Code	23UHSSEC5	Y	Y			2	2	30	70	100
Learning	Objectives		1						1	
To enabl	e the students t	0:								
Understar	nd basic concept	s of	res	earc	h me	ethodology				
Use simpl	le statistical met	hod	s fo	r an	alysi	is of data.				
Develop s	skills to carry ou	t a p	oroj	ect a	nd p	present a re	port			
UNIT		CONTENT								HOURS
	Introduction	to r	ese	arcł	1					
	Research- Meaning, objectives, significance.									
	Research problem- Definition and selection of research problem.									2
UNITI	Research design – Types of research design									3
	Method of sampling - probability and non-probability sampling – Merits and									1
	Demerits Deter	mir	ing	sam	ple	size				
	Data Collectio	n								
UNIT II	Primary and s	seco	nda	ary (data	, selection	n of appr	opriate n	nethod for data	2
	collection.									5
	Tools used for	dat	a co	ollec	tion	- Question	naire and	d Interviev	v schedule.	
	Coding and	tab	ula	tio	n of	data				
UNIT III	Data entry and	con	nput	tatio	n, Ta	bulation of	data – pa	rts of the ta	ble	3
	Presentation of data- use of bar graph and pie chart									
	Basic statisti	ical	to	ols f	for	analysis	and inte	erpretati	on	
	Measures of	ce	ntra	al te	nde	ency – Me	ean, Meo	lian, Mo	de.	
UNIT IV	Variations-th	e ra	nge	and	l stai	ndard devi	ation			3
	Correlation –K	larl	Pea	rsor	n's c	coefficient	of correl	ation Test	of significance	-
	Student's t test									
	Report writing	3		-		2				
UNIT V	Steps in report	wr	ting	g, La	iyou	t of a repoi	t.			3
	Bibliography-c	iting	g re	terei	nces	-any one st	yle.			
	EXPERIEN'I	1AI	רד י	ĽAK		NG and tol 1	La al-4:	dament (do4o	
	Carry out a sma	all S	urve	ey, c	ode	and tabula	te data an	a present (uata using table	
	and graphs. In	terp	ret	data		ng simple	statistica	i tools and	u present repor	
	Tonowing rules	TOP	rep		wiiti	ng.			ΤΛΤΑΙ	20
									IUIA	J 30

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

- CO1. Define terms associated with conduct of research -K1.
- **CO2**. Explain research design, methods of research, collection, tabulation and presentation of data -K2.
- CO3. Choose a sampling method and identify the appropriate statistical methods -K3
- CO4. Analyze the data and draw conclusions -K4
- CO5. Evaluate data, draw inferences and prepare a report -K5

References:

- 1. Goode, WJ and Hatt, PK (1981) Methods in Social Research, McGrawHill International Editions, Sociology Series.
- 2. Gupta, S.P. (2019) Statistical methods. 46th ed. Sultan Chand and Co, New Delhi.
- 3. Kerlinger F. N. and Lee, H.B. (2000) Foundations of Behavioural Research 4thEd. Harcourt College Publishers.
- 4. Kothari, C.R. (2019). Research methodology methods and techniques, New Age International publishers, New Delhi.
- 5. Kumar, R. (2005) Research Methodology: A Step-by-Step Guide for Beginners.Sage Publications, New Delhi.

e-Learning Resources:

- http://www.socialresearchmethods.net/tutorial/mugo/tutorial.htm
- https://ebooks.lpude.in/library_and_info_sciences/MLIS/year_1/DLIS401_METHO DO LOGY_OF_RESEARCH_AND_STATISTICAL_TECHNIQUES.pdf
- https://mfs.mkcl.org/images/ebook/Fundamental%20of%20Research%20Methodology %20and%20Statistics%20by%20Yogesh%20Kumar%20Singh.pdf

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

Mapping with Programme Outcomes

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

Course Title : ENVIRONMENTAL STUDIES

Course Code: (23UEVSC)Semester: III & IV

Hours/Week:2 Course Credit:2

Course Objectives

- To educate the students regarding the environmental issues and problems.
- To give an exposure towards the scientific and socio economic dimensions of the environment.
- To impart and enhance the basic knowledge about environment and develop concern towards it.
- To develop the ability to evaluate the measures for the improvement and protection of environment.
- To sensitize the students on the various environmental issues.
- To integrate different disciplines and fields that intersect with environmental concerns
- To make the younger generations aware of the values of natural resources.

UNIT I - FUNDAMENTALS

Environment-Definition: Scope, Structure and Function of Ecosystems -Producers. Consumers and Decomposers - Energy flow in the Ecosystem - Ecological Succession - Food Chain, Food Webs and Ecological Pyramids - Concept of Sustainable Development.

UNIT II - NATURAL RESOURCES

Renewable Resources - Air, Water, Soil, Land and Wildlife resources; Non-Renewable Resources - Minerals, Coal, Oil and Natural Gas; Environmental problems related to the Extraction and use of Natural Resources.

UNIT III – BIODIVERSITY

Biodiversity – Definition – values - consumption use, Productive social, Ethical, Aesthetic and option Values Threats to Biodiversity - Hotspots of Biodiversity conservation of Biodiversity: In-situ, Ex-situ, Bio-Wealth National and Global Level.

UNIT IV- ENVIRONMENTAL POLLUTION

Definition - Causes, Effects and Mitigation Measures - Air, Water and Soil Pollution. Noise Pollution, Thermal pollution, Nuclear Hazards, Solid Wastes, Acid Rain, Climate Change and Global Warming, Environmental Laws and Regulations in India - Earth Summit.

UNIT V- POLLUTION AND ENVIRONMENT

Population Explosion - Environment and Human Health - HIV/AIDS - Women and Child Welfare - Resettlement and rehabilitation of people, Role of Information Technology in Environmental Health. Environmental Awareness. Environmental Disaster Management - Fire Safety and Prevention.

Field work

- Visit to area to document environmental assets: river/forest/flora/fauna,etc.,
- Visit to a local polluted site Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystem pond, river, Delhi ridge, etc.,

(Equal to 5 lectures)

References:

- 1. Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.
- Gadgil, M., & Guha, R. 1993. This Fissured land: An Ecological History of India. Univ. of California Press.
- Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
- Gleick, P. H. 1993. Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. Principles of Conservation Biology Sunderland: Sinauer Associates, 2006.
- 6. Grumbine, R. Edward and Pandit, M.K. 2013. Threats from India's Himalaya dams. Science, 339:36-37.
- McCully, P. 1996. Rivers no more: the environmental effects of dams (pp. -64). Zed Books.
- 8. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.
- Odum, E.P., Odum, H.T. & Andrews, J. 1971. Fundamentals of Ecology. Philadelphia: Saunders.

- Pepper, I.L., Gerba, C.P. & Brusseau, M.L.2011. Environmental and Pollution Science. Academic Press.
- Rao, M.N. & Datta, A.K. 1987. Waste Water Treatment. Oxford and IBH Publishing Co. Pvt. Ltd.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. Environment. 8th edition. John Wiley & Sons.
- 13. Rosencranz, A., Divan, S., & Noble, M. L. 2001. Environmental Law and policy in India. Tripathi 1992.
- 14. Sengupta, R. 2003. Ecoloy and economics: An approach to sutainable development. OUP.
- 15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. Ecology, Environmental Science and Conservation. S. Chand publishing, New Delhi.
- Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics John Wiley & Sons.
- Thapar. V. 1998. Land of the Tiger: A Natural History of the Indian Subcontinent.
- 18. Warren, C. E. 1971, Biology and Water pollution Control. WB Saunders.
- 19. Wilson, E. O. 2006. The Creation: An appeal to save life on earth. New York: Norton.
- 20. World Commission on Environment and Development 1987. Our common Future. Oxford University Press.,

Course Outcomes (CO):

On completion of the course, students should be able to

CO Number	CO Statement	Knowledge Level
CO1	Demonstrate critical thinking skills In relation to environmental issues.	K2
CO2	Develop an integrative approach to environmental issues with a focus on sustainability.	К3
CO3	Bring an awareness, knowledge and appreciation of intrinsic values of ecological processes and communities.	K1
CO4	Reflect critically about their roles and identities ascitizens, consumers and an environmentalist in the complex, interconnected world.	K4
CO5	Apply systems, concepts and methodologies to analyseand understand interactions between social and environmental processes.	K1

K-1Recall, K-2 Understand, K-3 Apply,K-4 Analyse

Mapping of COs with POs:

\backslash					
PO					
СО	RO1	PO2	PO3	PO4	PO5
CO1	S	S	L	М	S
CO2	S	М	S	L	М
CO3	S	L	М	S	М
CO4	S	М	М	М	S
CO5	S	S	М	М	S

S - Strong M - Medium L - Low

Title of	the Course	NUTRITION THROUGH LIFECYCLE									
Category	Year-II	L	Τ	P	0	Credits	Inst	Marks			
Core							Hrs	CIA	External	Total	
	Sem- IV										
Code	23UHSCC5	Y	-	Y	-	4	4	30 70 100			

Learning Objectives To enable the students to : Understand the role of nutrition in the growth and development through the lifecycle. Gain insight into the principles of effective meal planning. Understand the nutritional needs of various age groups Acquire skills to plan diets for various age groups across the lifecycle.

UNIT	CONTENT	HOURS
	Introduction to meal planning - Balanced diet, food groups, Food	
	Guide Pyramid (ICMR), Food plate, RDA, factors affecting RDA.	
	Principles of meal planning – steps involved in planning a diet.	10
UNIT I	Nutrition for Adult – Reference man and Reference women, nutritional	10
	requirements, planning balanced diets for adult men and women,	
	promoting healthy lifestyle through holistic approach.	
	Nutrition during pregnancy- Physiological demands of	
	pregnancy, nutritional needs, effect of nutrition on pregnancy	
UNIT II	outcome, optimal weight gain, nutrition related problems in	10
	pregnancy, complications of pregnancy.	10
	Nutrition during lactation- Physiology of lactation,	
	nutritional requirements, concerns of breast-feeding mother.	
	Nutrition during infancy- Growth and development, growth	
	standards, food and nutritional requirements, breast feeding,	
	artificial feeding, low birth weight babies, complementary	
UNIT III	feeds.	10
	Nutrition for preschool children- Growth and development,	10
	food and nutritional requirements, eating habits and food	
	behaviors, nutrition related problems- PEM, VAD and their	
	dietary interventions.	
	Nutrition for school children- Growth pattern, nutritional	
	requirement, importance of healthy snacks, factors affecting	
LINIT IV	eating habits, school lunch.	10
	Nutrition during adolescence- Growth and development,	10
	nutritional requirements, food habits, nutritional problems -	
	obesity, underweight, anemia and eating disorders.	

	Nutrition for old age- Physiological changes in elderly,	
UNIT V	food and nutritional requirements, nutritional and health	10
	concerns in old age, healthy lifestyle.	
	PRACTICAL	
	1. Preparation of Complementary feed.	
	2. Planning and preparation of diets for different activity	
	levels and income group.	
	a. Pre-school child	
	b. School going children	
	c. Adolescents	
	d. Adult	
	e. Expectant mother	
	f. Nursing mother	
	g. Old age	
	3. Planning and preparation of diets (low and medium	
	cost) for deficiency diseases-	
	a. PEM	10
	b. Vitamin A deficiency	
	c. Nutritional anemia	
	4. Packed lunch for school	
	TOTAL	60

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

CO1. Explain the physiological basis for nutritional needs through the human life cycle-K2.

CO2. Identify nutrition related concerns and deficiency disorders at every stage of life cycle-K3.

CO3. Discuss appropriate dietary guidelines for various age groups-K1.

CO4. Develop indigenous, value added and low-cost complementary feeds-K4.

CO5. Demonstrate skills to plan and prepare appropriate and sustainable diets for deficiency diseases-K5.

REFERENCE BOOKS

- 1. Srilakshmi B. (2011) Dietetics, sixth edition, New age Publishing Press, New Delhi.
- 2. Gopalan, C., Ramanathan, P.V. Balasubramanian, S.C. (2001) Nutritive value of Indian foods, NIN, Hyderabad.
- 3. Longvah T, Ananthan R, Bhaskar K, Venkaiah K. (2017) Indian Food Composition Tables, National Institute of Nutrition.
- 4. Abraham S, Nutrition through Lifecycle. (2016) 1st edition, New age international publishers, New Delhi.
- 5. Stacy N, William's Basic Nutrition and Diet Therapy. (2005) 12th edition, Elseivier publications, United Kingdom.
- 6. Whitney EN and Rolfes SR, Understanding Nutrition. (2002) 9th edition

West/Wordsworth, London.

- 7. Groff JL, Gropper SS, Advanced Nutrition and Human Metabolism.(2000) 3rd edition, West / Wadsworth, United Kingdom.
- 8. Cataldo, DeBruyne and Whitney, Nutrition and Diet therapy– Principles and Practice.(1999) 5th edition, West/ Wadsworth, London.

e-LEARNING RESOURCES

- http://vikaspedia.in/health/nutrition/dietary-guidelines-1/dietary-guideline-1
- https://www.nhp.gov.in/healthlyliving/healthy-diet
- https://motherchildnutrition.org/india/complementary-feeding-guidelines.html
- http://vikaspedia.in/health/nutrition/dietary-guidelines-1/diet-for-children-andadolescents
- https://motherchildnutrition.org/india/complementary-feeding-guidelines.html
- https://sol.du.ac.in/mod/book/view.php?id=1422&chapterid=1288

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	Μ	S	М	S	S
CO2	S	S	S	S	S	S	S	М	S	S
CO3	S	S	S	S	S	S	S	М	S	S
CO4	S	S	S	S	S	S	S	М	S	S
CO5	S	S	S	S	S	S	S	М	S	S

Mapping with Programme Outcomes

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
C01	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
C05	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

Title of	the Course	HUMAN DEVELOPMENT								
Category	Year-II	L	Τ	Р	0	Credits	Inst	Marks		
Core							Hrs	CIA	External	Total
	Sem- IV									
Code	23UHSCC6	Y	-	Y	-	4	4	30	70	100

Learning Objectives

To enable the students to :

Familiarize with the growth process from conception to confinement.

Know the development of an individual from infancy to old age.

Understand the physical, psychological, and social development of the individual from infancy to old age.

Develop an awareness of the problems of children, adolescent, and exceptional children.

UNIT	CONTENT	HOURS
UNIT I	Growth and development Meaning - growth and development, principles of governing growth and development, developmental task of different stages. Methods of study of human development.	10
	Practical - preparation of case study - observing various development- physical, motor, cognitive, creative, social, emotional, and intellectual of a particular child.	2
UNIT II	Infancy and Childhood Characteristics, physical, social, and emotional development during infancy, early childhood, and late childhood. Children's play – meaning, types, importance stages.	10
	Practical - Socio-metric study of early adolescents. Analysis of various play techniques.	2
UNIT III	Adolescence Adolescence –physical and psychological changes, emotional and social development, Problems of adolescence. Delinquency – causes, prevention, and rehabilitation.	10
	Practical - A survey on Juvenile Delinquency prevalence.	2

UNIT IV	Adulthood and Old Age Adulthood - Characteristics and developmental tasks, all aspects of development.	10
	Old age - Characteristics of old age, physical changes, psychological changes.	
	Practical - Survey on problems of old age.	2
	Exceptional Children	
UNIT V	Introduction to Children with Special Needs and identification & Educational Rehabilitation	10
	Gifted children, Mentally retarded, Hearing impaired, Visually handicapped, Orthopedically challenged	10
	Practical - Visit to an institution for exceptional children.	2
	TOTAL	60

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

CO1. Describe the meaning and principles of Growth & Development – K1.

CO2. Explain developmental aspects during infancy, early and late childhood -K2.

CO3. Evaluate developmental aspects during adolescence -K4.

CO4. Identify the developmental tasks during adulthood and old age -K3.

CO5. Introduction to Children with Special Needs and identification & Educational Rehabilitation -K3.

References

- 1. Hurlock E.B., (1972). Child Development, New York: McGraw Hill Book company.
- 2. Hurlock, E.B., (1995): Developmental Psychology A Life Span Approach, 5th (Ed.) New York: McGraw Hill Book Co.
- 3. Nanda V.K., (1998): Principles of Child Development, New Delhi: Anmol Publications Pvt. Ltd.
- 4. Rajammal P. Devadas and Jaya N. Muthu (2002). A Textbook of Child Development, New Delhi: Macmillan Publishers.
- 5. Singh, A. (2015). Foundations of Human Development: A Life Span Approach. New Delhi: Orient Black Swan.
- 6. Suriakanthi A., (1997). Child Development An Introduction, Tamil Nadu: Kavitha Publishers.

Title of	the Course	CONCEPTS IN APPAREL DESIGNING								
Category	Year-II	L	Т	P	0	Credits	Inst	Marks		
							Hrs	CIA External		Total
Elective	Sem- IV									
Code	23UHSDSEC2	Y	-	Y	-	3	3	30	70	100

Learning Objectives

To enable the students to :

Understand the essential tools used for apparel designing Acquire knowledge on the basic construction techniques

UNIT	CONTENT	HOURS
UNIT I	 Introduction and basic hand stitches a) Parts, functions, attachments and use and care of a Sewing machine. Minor troubles and solutions encountered while sewing. b) Tools used for clothing construction- cutting tools, measuring tools, marking tools, general tools, pressing tools. c) Basic hand stitches- temporary and permanent stitches. d) Hems – types, different stitches used. 	5
UNIT II	 Basic construction techniques- seams and fullness a) Seams and seam finishes – types, working of seams and seam finishes. b) Fullness- definition, types- darts, tucks, pleats, flares and godets, gathers and shirrs, frills or ruffles, flounces 	10
UNIT III	Basic construction techniques- Plackets and Fastenersa) Plackets – definition, characteristics of a good placket, types – inconspicuous placket and conspicuous plackets. Method of constructing the same.	10

b) Facings – bias facing, shaped facing and decorative facing and Binding single bias binding double bias binding	
 Basic construction techniques-Pockets, Facing and Binding a) Pockets – definition, types of pockets – patch pocket, bound pocket, pocket in a seam, front hip pocket. 	10
 Basic construction techniques-sleeves and neckline a) Sleeves – definition, types, set-in-sleeves – plain sleeve, puff sleeve, bishop sleeve, bell, circular, cap sleeve and magyar sleeve. b) Sleeve and bodice combined – raglan, kimono and dolman. c) Modified armhole – squared armhole. d) Collars – definitions, types of collars- peter pan, scalloped, puritan, sailor, square, rippled, full shirt collar, open collar, chinese, turtleneck, shawl collar e) Yokes – types, simple yoke, yoke with fullness within the yoke, yoke supporting/ releasing fullness 	10
 b) Fasteners – conspicuous (Button and button-holes, button loops, button with holes, shank buttons, eyelets and cords). Inconspicuous (press buttons, hooks and eyes, zips). 	
	 b) Fasteners – conspicuous (Button and button-holes, button loops, button with holes, shank buttons, eyelets and cords). Inconspicuous (press buttons, hooks and eyes, zips). Basic construction techniques-sleeves and neckline a) Sleeves – definition, types, set-in-sleeves – plain sleeve, puff sleeve, bishop sleeve, bell, circular, cap sleeve and magyar sleeve. b) Sleeve and bodice combined – raglan, kimono and dolman. c) Modified armhole – squared armhole. d) Collars – definitions, types of collars- peter pan, scalloped, puritan, sailor, square, rippled, full shirt collar, open collar, chinese, turtleneck, shawl collar e) Yokes – types, simple yoke, yoke with fullness within the yoke, yoke supporting/ releasing fullness Basic construction techniques-Pockets, Facing and Binding a) Pockets – definition, types of pockets – patch pocket, bound pocket, pocket in a seam, front hip pocket.

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

CO1. Identify the right choice of sewing tools, sewing machine, hand stitches, sleeves, pockets, collars, plackets and fullness -K1

CO2. Describe the concepts related to the basic construction techniques for garment construction-K2

CO3. Demonstrate the steps to be followed in designing an apparel considering the overall appearance of the garment-K3

CO4. Explain the functions and the role of sewing machine, basic hand stitches, fullness, plackets, pockets, sleeves, yoke and collars used in apparel construction -K2

CO5. Construct garments in various styles from the knowledge gained -K4

Reference:

- 1. Dorothy Wood (2007) The Practical Encyclopedia Of Sewing.
- 2. Claire B. Shaeffer (2011) Couture Sewing Techniques. Taunton Press Inc, USA
- 3. Matthews J (2018) <u>Pattern Design: Fundamentals: Construction and Pattern Making for</u> <u>Fashion Design</u>. Fairbanks Publishing, USA
- 4. <u>Adele M</u> (2019) The Dressmaking Book: A Simplified Guide for Beginners. Echo Point Books and Media, USA

e-learning Resources:

- 1. http://www.sewingsupport.com/seam-finishes.html
- 2. http://vintagesewing.info/1930s/33-pt/pt-02.html
- 3. http://www.stitchplaystudio.com/AnnouncementRetrieve.aspx?ID=521146
- 4. <u>http://aces.nmsu.edu/pubs/c/C-233.html</u>

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	М	М	L	L	Μ	Μ	S
CO2	S	S	S	М	М	L	L	Μ	Μ	S
CO3	S	S	S	М	М	L	L	Μ	Μ	S
CO4	S	S	S	М	М	L	L	Μ	М	S
CO5	S	S	S	М	М	L	L	М	Μ	S

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

Title of the Course			BASICS OF GARMENT CONSTRUCTION - PRACTICAL								
Category	Year-II	L	Т	P	0	Credits	Inst	Marks			
Elective							Hrs	CIA External Total		Total	
	Sem- IV										
Code	23UHSDSECQ	Y	-	Y	-	2	2	40	60	100	

Learning Objectives	
To enable the students to :	
Understand the essential tools used for apparel designing	
Acquire knowledge on the basic construction techniques	

- 1. Preparation of samples for Basic hand stitches (any 3)
- 2. Preparation of samples for Hems (any 3).
- 3. Preparation of samples for seam (any 3)
- 4. Preparation of samples for seam finishes (any 3)
- 5. Preparation of samples for fullness Darts, Tucks (any 3), Pleats (any 3), Gathering by machine, elastic.
- 6. Preparation of samples for Plackets and continuous, two piece and zipper plackets.
- 7. Preparation of samples for Fasteners button and buttonhole, pressbutton, hook and eye.
- 8. Preparation of samples for Sleeves (any 2)
- 9. Preparation of samples with Yoke (any 2)
- 10. Preparation of samples for Collar (any 2)
- 11. Preparation of samples for Pocket (any 2)
- 12. Preparation of samples for Facing and Binding (any 2)

After successful completion of the course the student will be able to: CO1. Identify the right choice of sewing tools, sewing machine, hand stitches, sleeves, pockets, collars, plackets and fullness -K1 CO2. Describe the concepts related to the basic construction techniques for garment construction - K2.

CO3. Demonstrate the steps to be followed in designing an apparel considering the overall appearance of the garment-K3.

CO4. Explain the functions and the role of sewing machine, basic hand stitches, fullness, plackets, pockets, sleeves, yoke and collars used in apparel construction-K2.

CO5. Construct garments in various styles from the knowledge gained-K4.

Reference:

1. Dorothy Wood (2007) The Practical Encyclopedia Of Sewing.

2. Claire B. Shaeffer (2011) Couture Sewing Techniques. Taunton Press Inc, USA

3.Matthews J (2018) <u>Pattern Design: Fundamentals: Construction and Pattern Making for</u> <u>Fashion Design</u>. Fairbanks Publishing,USA

4.<u>Adele M</u> (2019) The Dressmaking Book: A Simplified Guide for Beginners. Echo Point Books and Media, USA

e-learning Resources:

- 5. http://www.sewingsupport.com/seam-finishes.html
- 6. http://vintagesewing.info/1930s/33-pt/pt-02.html
- 7. http://www.stitchplaystudio.com/AnnouncementRetrieve.aspx?ID=521146
- 8. <u>http://aces.nmsu.edu/pubs/c/C-233.html</u>

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	М	М	L	L	М	Μ	S
CO2	S	S	S	М	М	L	L	М	Μ	S
CO3	S	S	S	М	М	L	L	М	Μ	S
CO4	S	S	S	М	М	L	L	М	Μ	S
CO5	S	S	S	М	Μ	L	L	М	Μ	S

Mapping with Programme Specific Outcomes

CO/PSO	PSO1	PSO 2	PSO 3	PSO 4	PSO 5
C01	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

Title of		WOMENS HEALTH AND WELLNESS									
Category	Year-II	L	Τ	P	0	Credits	Inst	Marks			
SEC							Hrs	CIA	External	Total	
	Sem-IV										
Code	23UHSSEC6	Y	-	-	-	2	2	30	70	100	

Learning Objectives

To enable the students to:

Understand the diverse factors that has a bearing on women's health.

Highlight different aspects of health that contributes to a good lifestyle for women across the globe.

UNIT	CONTENT	HOURS
UNIT I	Nutrition for Women - Dietary Guidelines for a healthy lifestyle, Current concepts pertaining to Balanced Diets, Nutrient requirements for young and older women with special focus on Protein, Iron, Vitamin D and Calcium, Factors affecting nutrient intake in women- Socioeconomic, Environmental conditions, Health conditions; Consequences of Fating disorders in young women	6
UNIT II	Physical Health - Significance of Body weight and Body composition parameters, Benefits of Aerobic, Flexibility and Strength training exercises- on General health, Bone health, and risks associated with NCD's.	6
UNIT III	Reproductive Health - Menstrual Health, Pregnancy and Lactation, Pre- and Post-Menopausal concerns-preventive measures, sexually transmitted diseases- an overview.	6
UNIT IV	Mental Health - Common mental health problems - Trends and issues relating to women, Depression, Anxiety and coping with Stress, Strategies to improve mental health- learning new skills and hobbies, Relaxation techniques such as yoga and meditation.	6
UNIT V	Social Health - Balancing home and career, strengthening relationships, enhancing communication skills and Personality Development, technological advancements and its impact, Dealing with domestic violence, and harassment issues.	6
	TOTAL	30

Activity:

- Preparation of simple healthy recipes, Planning Meals based on Balanced diets,
- Workshop on Fitness, Yoga and Meditation,
- Seminars pertaining to Reproductive Health, Communication Skills, Personality Development

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

CO1. Define terms related to nutrition, physical, reproductive, mental and social health-K1.

CO2. Discuss the need for right nutrition, exercises and skills needed for the overall wellbeing of women-K2.

CO3. Explain the significance of maintaining physical, reproductive, mental and social health for the overall well-being of women-K3.

CO4. Devise strategies to improve women's health in a holistic manner -K3.

CO5. Recommend simple measures for a healthy lifestyle -K4.

References:

- 1. Lanza di Scalea T, Matthews KA, Avis NE, et al. (2012) Role stress, role reward, and mental health in a multiethnic sample of midlife women: results from the Study of Women's Health Across the Nation (SWAN). J Women's Health; 21(5):481-489.
- 2. Mahan K and Sylvia E. Stump (2000) Krause's Food Nutrition and Diet Therapy, Saunders, USA.
- 3. Minkin M. J. and Wright C. V. (2003) The Yale Guide to Women's Reproductive Health from menarche to menopause. Yale University Press, London
- 4. Sizer F. S. and Whitney E. (2014) Nutrition: Concepts & Controversies. 13th Ed., Wadsworth, Cengage Learning, USA.
- 5. Sperry L. (2016) Mental Health and Mental Disorders. ABC-Clio, Californi
- 6. Williams M.H., Anderson D.E., Rawson E.S. (2013) Nutrition for Health, Fitness and Sport. McGraw Hill, New York.
- 7. Wrzus C, Hänel M, Wagner J, Neyer FJ. (2013) Social network changes and lifeevents across the life span: a meta-analysis. Psychol Bull;139(1):53-80.

e-Learning Resources:

- <u>https://www.nhp.gov.in/social-health_pg</u>
- https://ncert.nic.in/textbook/pdf/jehp112.pdf
- https://ncert.nic.in/textbook/pdf/iehp113.pdf
- <u>https://ncert.nic.in/textbook/pdf/lebo104.pdf</u>
- https://www.nih.gov/health-information/social-wellness-toolkit
- https://www.cdc.gov/reproductivehealth/womensrh/index.htm
- https://www.nimh.nih.gov/health/topics/caring-for-your-mental-health
- https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-ourresponse
- <u>https://www.cdc.gov/mentalhealth/learn/index.htm</u>

Mapping with Programme Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	Μ	Μ	Μ	L	S	L	L	S
CO2	S	S	S	Μ	Μ	М	S	L	М	S
CO3	S	S	Μ	S	Μ	М	S	S	М	S
CO4	S	S	Μ	S	S	S	S	S	S	S
CO5	S	S	Μ	Μ	S	S	S	S	S	S

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						
Title of the Course			COMPUTER APPLICATION IN HOME SCIENCE								
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Category	Year-II	L	Τ	P	0	Credits	Inst	Marks			
SEC							Hrs	CIA	External	Total	
	Sem-IV										
Code	23UHSSEC7	Y	-	-	-	2	2	30	70	100	

Learning Objectives
To enable the students to:
Understand the application of computer in various disciplines of Home Science.
Know the features of Auto CAD software used in Textiles & Interior Design.
Explore the benefits of computer applications in the field of research.

UNIT	CONTENT	HOURS						
	General commands - Creating and opening a file, Steps in creating a							
	folder and saving a file in the destinedfolder.							
UNIT I	MS Office Package - Software in MS Office package, creating a							
	document using MS Word, preparing slide presentation using MS							
	Power Point. Making Graphs and Charts using MS office.							
	Computer Application in Space planning – Auto CAD in Interior							
UNIT II	Design - Need, Purpose and merits. Application - Preparing Plan,							
	Elevation and section drawings for interiors and exteriors. Need for	6						
	rendered views in design. Creating 3D models and 3D views using							
	Google Sketchup. Advantages of software in design field.							
	Computer Application in Nutrition - Software package in nutrition							
	education and diet counselling - Patient's health record, Nutritive value							
UNIT III	of food items, Nutritional analysis, Meal planning and recipes, Types							
	of nutrition Softwares – Nutrium, Nutrition maker, Nutritionist pro,							
	Nutritics, Core plus. Benefits of Nutrition Software's to Nutritionists							
	and Clients.							
	Computer Application in Textiles – Auto CAD in Textile Designing							
	– Definition, Concept, Application of CAD – Sketching, pattern							
	making, grading patterns, Making markers, Apparel production. Types							
	of Textile CAD software - Woven Textiles, Knitted Fabrics, Printed							
	fabrics, Sketch Pad system, Texture mapping, Embroidery							
	system, Apparel industry and computer. Advantages of Textile CAD.							
UNIT V	Computer Application in Research - Data collection – creating online							
	form using Google forms, Data entry in MS Excel and data analysis							
	using SPSS – Frequency analysis, Cross Tabulation, Chi-Sqaure, T –							
	test, ANOVA and Correlation Co-efficient. Export and saving results							
	in Word document. Creating Tables.							
	Total	30						

COURSE OUTCOMES

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

CO1: Recall the features of MS Office package -K1.

CO2: Understand the application of Auto CAD for design -K2.

CO3: Explain computer applications in the field of Nutrition - K3

CO4: Create textile design patterns using Textile CAD -K4.

CO5: Analyze research data using appropriate software and interpret results -K5

References:

- 1. AutoCAD 2018 for Novices (Learn By Doing), CAD Soft Technologies.
- 2. CAD Practical Skills in Textile Technology and Design (TTD), Patience Chitura, 2020.
- 3. Microsoft Office 365 for Beginners 2022: [8 in 1] The Most Updated All-in-One Guide from Beginner to Advanced | Including Excel, Word, PowerPoint, OneNote, OneDrive, Outlook, Teams and Access, James Holler.
- 4. SPSS Statistics for Data Analysis and Visualization, Jesus Salcedo, Wiley Publishers, 2017.

e-Learning Resources:

- https://www.tutorialspoint.com/word/index.htm
- https://www.vmaker.com/tutorial-video-hub/microsoft-tutorialvideos/microsoft- office-tutorial/
- https://www.thesourcecad.com/autocad-tutorials/
- https://nutrium.com/blog/why-should-you-choose-a-nutritionsoftware- over-an-excel-word/

Mapping with Programme Outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	Μ	S	Μ	L	S	S	S	М	М	S
CO2	S	S	S	S	Μ	S	L	М	Μ	S
CO3	S	М	S	S	Μ	S	М	S	Μ	S
CO4	S	М	S	S	Μ	S	S	S	S	S
CO5	S	S	S	S	S	S	Μ	S	S	S

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	2	3	3	2
CO4	3	3	3	3	2
CO5	3	3	3	3	2
Weightage	15	14	15	15	12
Weighted percentage (rounded of)					
of Course Contribution to Pos	3	3	3	3	2