

**SARDAR PATEL UNIVERSITY, VALLABH VIDYANAGAR**  
**B.Sc. Home Science**  
**(Under Choice Based Credit Scheme) (Effect from June, 2022-23)**  
**Semester - Third - FOODS AND NUTRITION**

Course Type	Course Code (10 Digit)	Name of Course	Theory (T) Practical (P)	Credit	Contact hrs/ week	Exam Duration in hrs	Marks		
							Internal	External	Total
<b>Ability Enhancement Courses</b>	UH03AHSC51	Communication and Extension	T	2	2	2	15	35	50
	UH03AHSC52	Communication and Extension	P	2	4	3	15	35	50
<b>Core Courses</b>	UH03CFDN51	Public Nutrition	T	4	4	3	30	70	100
	UH03CFDN52	Human Physiology-I	T	2	2	2	15	35	50
	UH03CFDN53	Human Physiology-I	P	2	4	3	15	35	50
	UH03CFDN54	Institutional Food Service Management	T	2	2	2	15	35	50
	UH03CFDN55	Institutional Food Service Management	P	2	4	3	15	35	50
<b>Skill Enhancement Courses</b>	UH03SFDN51	Food Preservation	T	4	4	3	30	70	100
	UH03SFDN52	Food Preservation	P	2	4	3	15	35	50
<b>Elective Courses (Any One)</b>	UH03EHSC51	Effective Speaking and Writing	P	2	4	3	15	35	50
	UH03EHSC52	Health & Herbs	P	2	4	3	15	35	50
	UH03EHSC53	Landscaping and Gardening	P	2	4	3	15	35	50
	UH03EHSC54	Yoga and Meditation	P	2	4	3	15	35	50
		<b>Total</b>		<b>24</b>	<b>34</b>		<b>180</b>	<b>420</b>	<b>600</b>



Bachelor of Science -Home Science  
(B.Sc. - H. Sc.) (Home Science) Semester (III)

Course Code	UH03AHSC51	Title of the Course	Communication and Extension
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Enable to understand the importance of communication in their day to day life</li><li>2. Acquaint the students with the types of communication and process of communication.</li><li>3. Shape the students future as a better citizen in the social networking.</li><li>4. Perceive the importance of extension education</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	<p>Communication Concept</p> <p>(a) Meaning and importance of communication</p> <p>(b) Elements of Communication – three elements – source, message, receiver, four elements – encoding, decoding, sender and receiver, five elements – communicator, communicate, message, channel and feedback</p> <p>(c) Means of Communication – Oral, Written, Sign / signal, action, object</p> <p>(d) Types of Communication – Formal and Informal Communication</p> <p>(e) Pattern - one way, two way, circular</p> <p>(f) Barriers to Communication – semantic, psychological, organizational and personal</p>	30
2.	<p>Communication media –</p> <p>(a) Print and electronic media</p> <p>(b) Advantages and Limitations of communication media</p>	15
3.	<p>Effective Communication</p> <p>(a) Characteristics – Clear, correct, complete and precise message, reliability, consideration of the recipient</p> <p>(b) skills – Observance, clarity and Brevity, Listening and Understanding, self-efficacy and self confidence</p> <p>(c) Significance – Team work, Team building, problem solving and decision making skills, facilitate creativity and reduces</p>	25





	misunderstanding (d) Concepts relating to communication – perception, fidelity, communication gap, Empathy, Homophily, heterophily	
4.	Unit-IV. Communication and Extension (a) Concept, need, functions, principles and scope of extension (b) Steps in extension teaching (c) Communication methods in extension :group method, mass method and individual method (d) Advantages and limitations of communication and extension (e) Approaches: General Extension, Commodity specialized, Training and visit, Agricultural, Extension participatory, project, farming systems development, cost sharing and Educational Institution approach	30

Teaching-Learning Methodology	Lecture Method, Questions-Answer method, Discussion method, Brainstorming method, Observational method, Use of ICT
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Improved personal relations with immediate and extended communication.
2.	Function more effectively & assertively in public and work environment.
3.	Identify their strengths & weaknesses and improve on weakness.
4.	Better equipped to use media in their professional endeavours

Suggested References:
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Sr. No.	References
1.	Sharma, S. R. (1998). <i>Extension Education</i> . Omsons Publications.
2.	Kumar, K. J. (2000). <i>Mass communication in India</i> (Vol. 741). Jaico publishing house.
3.	Rayudu, C. S. (2011). <i>Media and communication management</i> . Himalaya Publishing House.
4.	Mody, B., & Rolston, M. (1991). <i>Designing messages for development communication: An audience participation-based approach</i> . New Delhi: Sage Publications.
5.	Kotler, P. (2006). <i>Marketing Management</i> . India: Pearson Education

On-line resources to be used if available as reference material

On-line Resources

[Epgp.inflibnet.ac.in/Home](http://Epgp.inflibnet.ac.in/Home)

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Bachelor of Science -Home Science  
(B.Sc. - H. Sc.) (Home Science) Semester (III)

Course Code	UH03AHSC52	Title of the Course	Practical - Communication And Extension
Total Credits of the Course	02	Hours per Week	04
Course Objectives:	<ol style="list-style-type: none"><li>1. Develop skill for effective communication and Extension.</li><li>2. Develop an ability to communicate in various situations.</li><li>3. Prepare suitable communication aids for educating community.</li><li>4. Learn the importance media in development communication</li><li>5. Acquire skills on Information Education and Communication (IEC) technologies and media</li></ol>		

Course Content		
Unit	Description	Weightage* (%)
1.	Communication modes for rural and urban communities: Making charts / posters / cartoons	10
2.	Preparing leaflets / folders / handouts	10
3.	Demonstration/ techniques or any innovative method for Communication (Games).	10
4..	Preparing scripts for role play/ street play/ puppet shows /Radio and T.V talk show	10
5.	Preparing puppets for puppet show.	10
6.	Creative writing: Column and article Writing	10
7.	Skills in Letter writing	10
8.	Presentation Skills : Making PPT.	10
9.	Prepare a questionnaire for the community to understand their felt and unfelt need	10
10.	Organizing an exhibition of various products related to their respective field.	10

Teaching-	Questions-Answer method, Discussion method, Brainstorming method,
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Learning Methodology	Observational method, Role-playing method, Brainstorming method Survey method
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the concept related to communication and extension for development
2.	Focus on different types of media and its uses in the implementation of programme
3.	Analyze the ICT in development communication

On-line resources to be used if available as reference material
On-line Resources
<a href="http://Epgp.inflibnet.ac.in/Home">Epgp.inflibnet.ac.in/Home</a>

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Bachelor of Science-Home Science  
 (B.Sc. -H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03CFDN51	Title of the Course	Public Nutrition
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"> <li>1. Give an overview of the nutritional problems affecting the community.</li> <li>2. Familiarize students with the methods of nutritional assessment.</li> <li>3. Make the students conversant with various aspects of nutrition education and promotion.</li> <li>4. Create awareness regarding policy and intervention programmes operating in India to overcome malnutrition.</li> <li>5. To sensitise and orient students towards the Millennium Development Goals</li> </ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Concept of community nutrition Relevance of community nutrition for a developing country like India. (a) Nutritional Problems of the community. Etiology, Symptoms, Consequences, Treatment and Preventive Measures for: (i) Protein Calorie Malnutrition-SAM and MAM (ii) Iron and Folic acid deficiency Anemia (iii) Vitamin A deficiency (iv) Iodine deficiency (v) Fluorosis (b) Life style and nutritional disorders –obesity, diabetes mellitus, hypertension, cancer, AIDS, alcoholism, Lack of exercise.	25
2.	(a) Current National policies in India focused on improving nutritional and health status (National Nutrition Policy & Gujarat state Nutrition Policy and national/state plan of action) (b) National Nutrition Programs – Objectives Target Groups, Monitoring System, Mode of Implementation, Administrative Setup, Coverage, Compliance, Impact Operational Hurdles, Successes, Constraints Recommendations, Newer Initiatives (i) Integrated Child Development Services Scheme Universalization of ICDS (ii) Mid-Day/ Nutritious meal Program (iii) National Nutritional Anemia Control Program, National Iron Plus initiative (iv) Nutritional Program for Control of Anemia among Adolescent Girls.	30





	(v) National Program to control Iodine deficiency disorders (vi) Vitamin A prophylaxis programmes (vii) Diarrheal control program (viii) Janani Suraksha yojana/ IGMSY/ Chiranjeevi yojana	
3.	(a) Identification of at-risk group-Infants & Mothers. (b) National plan of action for nutrition & IYCF (c) Use of premixes, ARF for supplementary feeding (d) Universal Immunization Programme and its importance	20
4.	MDG/ SDG Goals & WHO Nutrition Targets Related to Public Health/Nutrition (MDG 1, 4, 5 & 6) (a) Four Core Themes of the United Nations Millennium Development Goals (b) Introduction to the specific MDGs/SDGs (c) MDG global targets and indicators for MDG 1,4,5 & 6 & SDG's (d) WHO Nutrition targets to be achieved by 2025	15
5.	Nutrition and Health Education Objectives, principles and scope of nutrition and health education and promotion	10

Teaching-Learning Methodology	Class Discussions/ Demonstrations, Power point presentations, Class activities/ assignments, group discussions, Field visits, chalk and board
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the multi-faceted nature of problems in public nutrition.
2.	Gain knowledge about techniques of assessment of nutritional status especially at the community level.
3.	Be aware of the various aspects of nutrition education and promotion.







4.	Be familiar with the policy and intervention programmes operating in India to overcome malnutrition.
5.	Relate the Millennium Development Goals and identify the targets achieved by Indian government

**Suggested References:**

Sr. No.	References
1.	Park, K. (2011). <i>Text Book of Preventive and Social Medicine</i> , (21 <sup>st</sup> ed). Banarsidas Bhanot Publishers. Jabalpur.
2.	Lal S. (2009). <i>Textbook of Community Medicine</i> , CBS Publication.
3.	UNICEF (2009). <i>Tracking progress on child and maternal Nutrition</i> .
4.	Vir S. (2011). <i>Public Health Nutrition in Developing Countries</i> published by Woodhead Publishing India. ISBN-13: 9780857090041, ISBN-10: 0857090046
5.	India Health Beat. (June 2011). <i>Role of health systems in improving child nutrition in India</i> , Vol 5 (7).
6.	The World Bank Report. (2006). <i>Repositioning Nutrition as central to development- A study for large scale development</i> .

On-line resources to be used if available as reference material

**On-line Resources**

United Nations Millennium Developmental Goals, [www.un.org](http://www.un.org) millennium goals 10. Millennium Development Report, India country report, 2014.  
<http://www.in.undp.org>

Census India, [www.censusindia.gov.in](http://www.censusindia.gov.in)

Socioeconomic & cast census, [www.sec.gov.in](http://www.sec.gov.in)

WHO Global Targets 2025, [www.who.int/nutrition](http://www.who.int/nutrition)

[Epgp.inflibnet.ac.in/Home](http://Epgp.inflibnet.ac.in/Home)





Bachelor of Science-Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03CFDN52	Title of the Course	Human Physiology- I
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Identify anatomical features of the body, including cells, tissues, organs and organs systems</li><li>2. Describe the gross anatomy of the organs composing organ systems.</li><li>3. Relate biological structure and function of various organ systems.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to the human body (a) The cellular level of organisation (b) The tissue level of organisation	20
2.	Support and Movement (a) The Integumentary system (b) Bone tissue and Skeletal system (c) Joints (d) Muscle tissue	20
3.	The Nervous System (a) Central Nervous System (b) Peripheral Nervous System	20
4.	The Gastrointestinal System: Structure and function of various organ of the GI tract, digestion and absorption of food and the role of enzymes and hormones.	20
5.	The Urinary System Structure and function of kidney, bladder, formation of temperature of the body.	20

Teaching-Learning Methodology	Chalk and Board, Power Point Presentations, Models, Video Clips, Group Work, Posters and Charts, Lecture
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Identify various terminologies used in Anatomy and Physiology
2.	Describe the anatomical structure of the various body organs
3.	Describe the normal physiology of the various body organs

Suggested References:	
Sr. No.	References
1.	Guyton, A.C., & Hall, J. E. (1966): <i>Text book of Medical Physiology</i> . (9 <sup>th</sup> ed.). Prism Books (Pvt.) Ltd: Bangalore.
2.	Waugh, A., & Grant, A. (2018): <i>Ross &amp; Wilson Anatomy and Physiology in Health and Illness</i> , (13 <sup>th</sup> ed.). Churchill Livingstone Elsevier.

On-line resources to be used if available as reference material
On-line Resources
<a href="http://allmedicalpdfs.com">Ross &amp; Wilson Anatomy And Physiology PDF 12th &amp;13th Edition Download (allmedicalpdfs.com)</a>
<a href="http://Epgp.inflibnet.ac.in/Home">Epgp.inflibnet.ac.in/Home</a>





Bachelor of Science-Home Science-  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03CFDN53	Title of the Course	Practical-Human Physiology- I
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. learn the blood group types</li><li>2. learn the Use of Sphygmomanometer</li><li>3. learn to check pulse rate</li><li>4. Sensitise to the various types of cells and tissues</li><li>5. learn the use of Glucometer</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Estimation of Blood group, clinical significance of RBC & WBC counting	10
2.	Recording of BP by using a Sphygmomanometer in Standing, sitting and recumbent positions	10
3.	Pulse rate measurement by at least two methods – a) at rest b) after physical activity and c) of a child and an elderly person. Comparative analysis.	10
4.	Determination of haemoglobin	10
5.	Preparation of Haematin Crystals.	10
6.	Determination of bleeding time and clotting time of blood.	10
7.	Clinical significance of variations in blood glucose and Diabetes mellitus.	10
8.	Use of Glucometer, HbA1c values	10
9.	Clinical significance of liver function tests and Jaundice	10
10.	Identification of prepared slides: Ten histological slides- description, diagrams and correlation with	10





	respective theoretical understanding	
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Teaching-Learning Methodology	Demonstration, experiential learning, video clips, lecture method, discussion
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Demonstrate different types of blood group
2.	Explain the use of Sphygmomanometer and importance of normal blood pressure
3.	Exhibit the method of checking pulse rate
4.	Differentiate various types of cells and tissues
5.	Demonstrate the use of Glucometer

On-line resources to be used if available as reference material
On-line Resources: <a href="http://Epgp.inflibnet.ac.in/Home">Epgp.inflibnet.ac.in/Home</a>





Bachelor of Science- Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03CFDN54	Title of the Course	Institutional Food Service Management
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. The students will learn to manage human resources within food service organization or department.</li><li>2. They will develop key managerial skills ranging from leadership to the ability to take complex decision, team work and multicultural dimension.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Food Service Management: (a) History and development. (b) Factors affecting development. (c) Recent trends in food service system – Cloud Kitchen, Railway and Air Catering.	15
2.	Food Service Organization Management: (a) Processes involved. (b) Principles of management. (c) Functions of management.	20
3.	Planning and setting a food service unit: (a) Types of planning. (b) Steps in planning. (c) Prospectus/planning guide of food service unit. (d) Registration of the unit. (e) System approach in food service.	20
4.	Food Management- (a) Principles of food production. (b) Definitions and functions of menu. (c) Purchase and storage of food. (d) Records and controls. (e) Food waste management.	25
5.	Personnel management (a) Staff recruitment and selection (b) Induction and staff training (c) Employee laws and trade unions	20





Teaching-Learning Methodology	Classroom teaching for theory periods Lectures and Power-point presentations will be the main method of transaction Special lectures/ visits/ interactions with professionals will be undertaken Classroom quiz sessions for revision Any other method may be added, as per university norms and discretion of the teaching faculty
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Open entrepreneurial venture in field of catering.
2.	Apply strategic solutions to respond to the challenges of commercial and group catering.

Suggested References:	
Sr. No.	References
1.	Payne, J., &Palacio,M.(2019). <i>Food service management ,Principles and Practices</i> (13ed.) Published by Pearson Education,: ISBN-13-978-9353066987
2.	Arora, R. K. (2007). <i>Foodservice &amp; Catering Management</i> . APH Publishing Corporation.
3	Sethi, M. (2008). <i>Institutional food management</i> . New Age International.
4.	Foskett, D., Paskins, P., Rippington, N., & Thorpe, S. (2019). <i>Practical Cookery</i> . (14 <sup>th</sup> ed.). Hachette UK.





On-line resources to be used if available as reference material

On-line Resources

Epgp.inflibnet.ac.in/Home

<https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=827>

P-05 Management of Food Service M-01 Classification and Objectives of Food Service

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Bachelor of Science - Home Science  
(B.Sc -H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03CFDN55	Title of the Course	Practical-Institutional Food Service Management
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. The students will be able comprehend fundamentals of menu planning through management of resources in food service establishment.</li><li>2. To develop insight for recipe standardization and apply acquired skills in menu planning and quantity food production.</li><li>3. To use knowledge of preliminary steps for starting an entrepreneurial unit.</li></ol>
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Course Content		
Unit	Institutional planning of the Following	Weightage* (%)
1.	(a) Survey to find out the prevailing pricing of various food stuff. (b) Analysis of relationship between the purchase amount, edible portion and cooked weight of foodstuff)	10
2.	(a) Quantity cooking- concept, principals, and techniques (b) Planning a layout -various phases	10
3.	Prospectus /planning guide of a food service unit	10
4.	Planning and organizing a midday snack for preschool children.	10
5.	Planning and organizing meals for college canteen.	10
6.	Planning and organizing meals for college hostel mess	10
7.	Planning and organizing meals for working women hostel	10
8.	Planning and organizing meals for Industrial canteen	10
9.	Planning and organizing meals for different occasion ( birthday, cocktail party, conferences etc)	10
10.	Planning and organizing meal for Sports Academy	10





Teaching-Learning Methodology	For practical, laboratory work for planning, discussion will be undertaken. <ol style="list-style-type: none"><li>1. Extension activities will be encouraged for application oriented learning.</li><li>2. Any other method may be added, as per university norms and discretion of the teaching faculty.</li></ol>
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Put into practice the knowledge gained in management of resources for planning quantity cookery.
2.	Standardize recipes for quantity food production.
3.	Use this knowledge for start ups.

On-line resources to be used if available as reference material
On-line Resources: <a href="http://Epgp.inflibnet.ac.in/Home">Epgp.inflibnet.ac.in/Home</a>

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Bachelor of Science- Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03SFDN51	Title of the Course	Food Preservation
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Acquire knowledge regarding principles and methods of preserving foods.</li><li>2. Acquire knowledge concerning nutritive value of preserved foods, Food adulteration, food standards and packaging.</li><li>3. Develop ability in preparing and preserving various foods by household methods.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	<p>(a) Introduction to food Preservation, Principles, Techniques used and its importance.</p> <p>(b) Principals involved in preserving foods by different methods, preservation by salting, sugar, chemicals, fermentation antibiotics &amp; irradiation &amp; heat.</p> <p>(c) Cereal, Pulses &amp; Products (one cereal, one millet &amp; one pulse): Preservation of cereals, Pulses and its products , Advance technology used in various methods like Baking, Extrusion, and Roasting etc., Steps involved in preparation and preservation of various products</p>	25
2.	<p>Preparation of different products for preservation:</p> <p>(a) Fruit juice, Squashes: Types of fruit beverages, Steps involved in preparation and preservation, Preservatives used</p> <p>(b) Jams, Jellies and Marmalades: a. composition, Pectic substances present in fruits, Fruits rich in pectin and acid, Methods of determining pectin content in fruit extract, Extraction of pectin from fruit, Theory of jelly formation, Difficulties in jelly making</p>	25
3.	<p>Preserves &amp; candies: Steps involved in preparation &amp; preservation</p> <p>(a) Tomato products: Different tomato products, Effect of heat on tomato pigments.</p> <p>(b) Chutneys &amp; Sauces: Types of sauces, Methods of preservation</p>	25





	of chutneys & sauces. (c) Pickling: Principles involved, Action of Preservatives, Types of Pickles, Spoilage of pickle	
4.	Processing methods for food preservation:  (a) Canning & bottling steps involved, Principle of processing acid & non acid foods(one each) (b) Preservation by use of low temperature, Principles involved, Types of low temperature, Storage, Types of freezing changes during freezing & thawing Types of containers used. (c) Drying & dehydration, Principle involved methods of drying & dehydration, Different types of driers freeze drying packing & storage.	20
5.	By- Products Utilization: Different types of by-products from fruits and vegetables, Different types of by-products from cereals and pulses.(also include recent researches)	5

Teaching-Learning Methodology	Chalk and duster, Lecture Method, Questions-Answer method, Discussion method, Brainstorming method, Observational method, Use of ICT
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Develop skill of food preservation by different methods
2.	Preserve food on small scale industry and household purpose and can learn about by products.





Suggested References:

Sr. No.	References
1.	Kalia, M., Kalia, M., & Sood, S. (2004). <i>Food preservation and processing</i> . Kalyani Publishers.
2.	Srivastava, R. P., & Kumar, S. (2007). <i>Fruits and vegetables preservation-principles and practices</i> , (Edn 3), International Book Distribution Company.
3.	Lal, G., Siddappa, G. S., & Tandon, G. L. (2011). <i>Preservation of fruits and vegetables</i> . Publications and Information Division, Indian Council of Agricultural Research.

On-line resources to be used if available as reference material

On-line Resources: [Epgp.inflibnet.ac.in/Home](http://Epgp.inflibnet.ac.in/Home)

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Bachelor of Science-Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (III)

Course Code	UH03SFDN52	Title of the Course	Practical-Food Preservation
Total Credits of the Course	02	Hours per Week	04
Course Objectives:	1. Acquire knowledge regarding Principles of methods of preserving foods. 2. Acquire knowledge concerning nutritive value of preserved foods. 3. Learn about the food adulteration and food standards 4. Develop ability in preparing & preserving various foods by household and commercial methods.		

Course Content		
Unit	Description	Weightage* (%)
1.	Sterilization of equipment.	10
2.	Labelling and Costing of Preserved Products.	10
3.	Preparation of fruit products: Fruit juice, squash and fruit juice cordial.	10
4.	Preparations of mix fruit jam, jelly - compare and find the difference.	10
5.	Preparation of pickles: mixed vegetables and lemon pickle	10
6.	Preparation of tomato products: ketchup, sauce and chutney.	10
7.	Preparation of instant mixes: upma/dhokla/wadas	10
8.	Preparation of dehydrated products: Cereals, pulses, vegetables, fruits, roots and tubers (one product each)	10
9.	Freezing of fruits and vegetables.	10
10.	Reconstitution of dried vegetables.	10

Teaching-Learning Methodology	Demonstration Method, Questions-Answer method, Discussion method and Vedio Clips.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage





**SARDAR PATEL UNIVERSITY**  
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1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to

1.	Learn skills of food preservation by different methods on household and commercial basis.
2.	Acquainted with basic principles involved in food preservation.

On-line resources to be used if available as reference material

On-line Resources: [Epgp.inflibnet.ac.in/Home](http://Epgp.inflibnet.ac.in/Home)

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Bachelor of Science-Home Science  
(B.Sc.-H. Sc.) (Home Science) Semester (III)

Course Code	UH03EHSC51	Title of the Course	Practical-Effective Speaking and Writing
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Give an overview of the different skills of communication</li><li>2. Generate awareness regarding the importance of writing skills</li><li>3. Familiarise students with the importance of listening skills</li><li>4. Sensitize students with the presentation skills</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Basics of Effective Speaking Class introduction (Individual)	05
2.	VERBAL COMMUNICATION (WRITTEN) Elements of Effective Writing -The Sentence, Phrases and Clauses, Types of Sentences, Importance of Bullets, Highlighters, Subheading and Punctuations.	15
3.	(a) Writing skills-Picture description and completion of a story (b) Writing skills-paragraph writing (c) Report writing, Notice writing, note making,	15
4.	VERBAL COMMUNICATION (ORAL-AURAL) Listening Skills-Purpose of Listening, listening to conversation (Formal and Informal), Benefits of Effective Listening, Barriers to Listening, Traits of a good listener Listening skills Listening to Announcements- (a) (railway/ bus stations/ airport /sports announcement/ commentaries) (b) Academic Listening (Listening to Lectures) (c) Listening to Talks (d) Note Taking Tips	15
5.	(a) Non-Verbal Communication Personal Appearance, Gestures, Postures, Facial Expression, Eye Contact, Body Language (Kinesics), Time language, Silence, Tips for Improving Non-Verbal Communication,  (b) Ways and Approaches of Addressing Public Overcoming Stage Fear, Up-beat Body Language, Audience Analysis,	15







	Analysing Impact and Influence of Speech on Audience, Taking Appropriate Pauses, Verbal and Visual Support  i. Story telling ii. Impromptu	
6.	Practising Reading skills	10
7.	Telephonic conversation	10
8	(a) Awareness about Latest Multimedia Tools and its Applications, Etiquettes and Mannerism  i. Presentation skills ii. Email writing	15

Teaching-Learning Methodology	Writing Assignments, Impromptu Exercises, Listening to Audio Tapes, Video Clips, Use of ICT Materials, Experiential Learning, Demonstration, Worksheets
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Write different types of letters
2.	Demonstrate the speaking skills by story telling, impromptu speeches
3.	Understand the nuances of presentation skills
4.	Understand the importance of listening skills





On-line resources to be used if available as reference material

On-line Resources

[Bookboon Premium](#)

<https://www.tcd.ie/>

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Bachelor of Science-Home Science  
(B.Sc.-H. Sc.) (Home Science) Semester (III)

Course Code	UH03EHSC52	Title of the Course	Practical - Health and Herbs
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Help students learn about our Herbal Wealth in nature.</li><li>2. Familiarize the students about Herbs and their prophylactic uses.</li><li>3. Teach the students about the alternative Herbal remedies and treatment of common diseases.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	History of Herbs and indigenous system of medicines  Use of Herbs for Optimal Health.	10
2	Factors influencing cultivation of medicinal plants  Cultivating medicinal plants in the garden	10
3	Factors influencing cultivation of kitchen herbs  Cultivating kitchen herbs in the garden	10
4	Identification and Morphological characters of selected medicinal plants.  (a) Creepers - Asparagus (Satavari), Tinospora Cordifolia(Gado) (b) Trees - arjun, amla, neem, saragva, jambu, bel (c) Herbs - tulsi, mint, arduci, asvagandha, lemon grass, kuvaar pathu	10
5	Collection of local medicinal herbs and making herbarium.  Discussing the benefits of each herb and medicinal plant in detail	10
6	Curative and prophylactic preparation for digestive disorders.  Preparation of household natural health drinks	10





7	Curative and prophylactic preparation for skin diseases.	10
8.	Herbal remedies for common diseases- (Prophylactic and curatives)  (a) Respiratory infections (b) Urinary disorders (c) Diabetes (d) Cardiac care	10
9.	Herbal mouth fresheners.	10
10.	Herbal first aid	10

Teaching-Learning Methodology	Class Discussions/ Demonstrations, Power point presentations, Class activities/ assignments, group discussions, video clips, chalk and board, on field practicals
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of practical performance, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Identify the herbs
2.	Identify the medicinal plants
3.	Know the benefits of herbs and medicinal plants

Suggested References:
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Sr. No.	References
1.	Goraya GS and B.S. Somashakher , <i>Medicinal Plants for Primary Health Care</i>
2.	<i>Glussary of Indian Medicinal Plants</i> , (1956),CSIR.
3.	Balkrishna A., <i>Ayurved Jadi/Buti Rahasya</i> , Divya Prakashan





Bachelor of Science - Home Science  
(B.Sc.- H.Sc.) (Home Science) Semester (III)

Course Code	UH03EHSC53	Title of the Course	Practical-Landscaping and Gardening
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Develop skills of landscape planning.</li><li>2. Give them opportunity to utilize available land efficiently.</li><li>3. Gain insight into various decorative features of garden.</li><li>4. Understand effect of light and colour in the garden.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Overview of the factors affecting landscape planning.	10
2.	Draw and learn blueprint symbols used in landscaping. .	10
3.	Learn the basic principles of garden planning.	10
4.	Evaluation of principles in the given garden.	10
5.	Collection of pictures of round plants, hedges, shrubs with their names and characteristics.	10
6.	Prepare a catalogue of indoor plants: Air Purifying and Decorative	10
7.	Prepare and maintain a pot / terrarium /small landscape	10
8.	Evaluation of different garden features in any institutional / community / private garden: Rock, water, light, colour, sound.	10
9.	Making plan for division of exterior space	10
10.	Visit to a nearby Nursery.	10

Teaching-Learning Methodology	Brainstorming, Class Projects, Classroom Discussion, Field Visit, Group Projects, Hands-on activities.
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Evaluation Pattern		
Sr.	Details of the Evaluation	Weightage





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No.		
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to

1.	Evolve the competency in efficient use of exterior space.
2.	Appraise the light and colour in the landscaping and gardening.
3.	Develop the skill in application of various features in the garden.
4.	Seize the opportunity to work as a landscape planner.

Suggested References:

Sr. No.	References
1.	Michael Wright, <i>The Complete Book of Gardening</i> , London: Published by Ebury Press.
2.	S. Percy. Lancaster (1977), <i>Gardening in India</i> , London: Published by Oxford and IBH Publishing Co. Pvt. Ltd.
3.	Trivedi P.P (1983), <i>Home Gardening</i> , New Delhi: Published by ICAR.

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Bachelor of Science -Home Science  
(B.Sc. - H. Sc.) (Home Science) Semester (III)

Course Code	UH03EHSC54	Title of the Course	Practical - Yoga and Meditation
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Understand and Practice Yoga and Meditation in their Day-to-Day Life.</li><li>2. Inculcate required skills and Training in Yoga for its effectiveness in promotion of Health.</li><li>3. Give them a basic understanding of Yoga, its types, nature, scope and its relevance with today's lifestyle.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to yoga (a) History & Meaning (b) Importance & Relevance (c) Things to keep in mind before doing asanas	15%
2.	Yoga Asanas (a) Standing Asanas Tadasana, Vrikshasana, Suryanamaskar, Padhastasana, Natrajasana (b) Sitting Asanas Sukhasana, Vajrasana, Shashakasana, Vakrasana, Ushtrasana (c) Lying (front) Asanas Pavanmuktasana, Uttanpadasana, Halasana, Pad Chakrasana, Shavasana (d) Lying (Back) Asanas Makarasana, Sarpasana, Bhujangasana, Salbhasana, Dhanurasana	40%
3.	Breathing & Meditation (a) Anulom - Vilom Pranayama (b) Sheetal Pranayama (c) Bhramari Pranayama (d) Omkar & Meditation (e) Kapalbhati	30%







4.	Exercises for Relaxation and Flexibility  (a) Flexibility Exercises (b) Breathing Exercises Before or After Sleep (c) Stress Buster Exercises for Relaxation	15%
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Teaching- Learning Methodology	Assignment Method, Classroom Discussion, Demonstration
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Promote Physical and Emotional wellbeing through regular Asanas.
2.	Promote economic and cultural development through yogic Exercise.
3.	Socially and morally empower by Meditation.

Suggested References:	
Sr. No.	References
1.	Shivendra C.S. & Krishan, P. <i>Health Education &amp; Physical Education</i> . New Delhi: Subject Publications Ltd.
2.	Kuvalyanand, S. (1993). <i>Asanas</i> . Lonavala: Kaivlyadhm.
3.	Kuvalyanand, S. (1983). <i>Pranayam</i> . Lonavala: Kaivlyadham.





4.	Sarin, N. (1995). <i>YogaShiksha Avem Dvara Rog Nivaran</i> . Delhi: Khel Sahitya Kendra.
5.	Aayenger, B. K. <i>Yoga Deepika</i> . Mumbai : Orient Longman Pvt. Ltd.

On-line resources to be used if available as reference material
On-line Resources
Physical Education – Wikipedia
Physical fitness- Wikipedia

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**SARDAR PATEL UNIVERSITY, VALLABH VIDYANAGAR**

**B.Sc. Home Science**

**(Under Choice Based Credit Scheme) (Effect from June, 2022-23)**

**Semester - FOURTH (FOODS AND NUTRITION)**

Course Type	Course Code (10 Digit)	Name of Course	Theory (T) Practical (P)	Credit	Contact hrs/ week	Exam Duration in hrs	Marks		
							Internal	External	Total
<b>Ability Enhancement Courses</b>	UH04AHSC51	Entrepreneurship Management	T	2	2	2	15	35	50
<b>Core Courses</b>	UH04CFDN51	Human Physiology II	T	2	2	2	15	35	50
	UH04CFDN52	Human Nutrition	T	4	4	3	30	70	100
	UH04CFDN53	Nutritional Assessment and Surveillance	T	2	2	3	15	35	50
	UH04CFDN54	Nutritional Assessment and Surveillance	P	2	4	3	15	35	50
	UH04CFDN55	Biochemistry	T	4	4	3	30	70	100
	UH04CFDN56	Biochemistry	P	2	4	3	15	35	50
	UH04CFDN57	Food Safety and Quality control	T	2	2	2	15	35	50
<b>Skill Enhancement Courses</b>	UH04SFDN51	Computer Application in Foods and Nutrition	P	2	4	3	15	35	50
<b>Elective Courses (Any One)</b>	UH04EHSC51	Event Management	T	2	2	2	15	35	50
	UH04EHSC52	Counseling Techniques	T	2	2	2	15	35	50
	UH04EHSC53	Fashion Basics	T	2	2	2	15	35	50
	UH04EHSC54	Geriatric Nutrition	T	2	2	2	15	35	50
		<b>Total</b>		<b>24</b>	<b>30</b>		<b>180</b>	<b>420</b>	<b>600</b>



Bachelor of Science - Home Science  
(B.Sc.- H. Sc.) (Home Science) Semester (IV)

Course Code	UH04AHSC51	Title of the Course	Entrepreneurship Management
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Initiate entrepreneurial motive and impart skills and capabilities for entrepreneurship.</li><li>2. Ignite aspirations to become entrepreneurs and successful managers.</li><li>3. Analyse the environment related to small-scale industry and business.</li><li>4. Understand the process and procedures of setting up small enterprises.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Entrepreneurship (a) Conceptual: Meaning and definition of entrepreneurship (b) Entrepreneur: Meaning, qualities, functions and types of Entrepreneur. (c) Characteristics and barriers in entrepreneurship. (d) Enterprise: Definition, nature and classification (e) Forms of Organization – Sole proprietorship, partnership, Joint Stock Company (f) Role of entrepreneur in economic development.	30
2.	Finance and Sources for small scale industries (a) Accounting for enterprise: Meaning, need and objectives of accounting, Process of Accounting, Bookkeeping, Journal, Ledger: Balance Sheet, Final Accounts; Fixed capital & working capital; Auditing- Nature and types (b) Institutional support/ Sources: Commercial banks- Central level; State level.	30
3.	Problems of small sector: Management problems, marketing problems, sick units; Causes and remedies.	10
4.	Project formulation	30





	<ul style="list-style-type: none"><li>(a) Small scale enterprise: Definitions, types, characteristics.</li><li>(b) Steps for starting a small industry.</li><li>(c) Guidelines for preparing a project report.</li><li>(d) Steps in Project formulation</li><li>(e) Procedures and formalities (plant location, land, building, water and power.</li><li>(f) Project appraisal: Market feasibility, technical feasibility, financial and economic feasibility</li></ul>	
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Teaching-Learning Methodology	PowerPoint presentation. Lectures, discussion, industrial visit, ICT enabled teaching, project work.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the concept of entrepreneurship, entrepreneur and enterprise
1.	The procedure to start a Small-Scale Industry.
2.	Foresee the type of risk factors of Small-Scale Industry.
3.	Identify ways to approach supportive Institutions and Banks for starting an enterprise.
4.	Focus on the formation of project proposal and practice effective accounting processes
3.	To develop business skills.

Suggested References:
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Sr. No.	References
1.	Dr. Rao, M., Biswas, M. (2019). <i>Entrepreneurship Development and Management</i> . Delhi: Anvi Books and Publishers.
2.	Desai, V. (2011). <i>Dynamics of Entrepreneurial development</i> . Mumbai: Himalaya Publishing House.
3.	Gupta, C.B. & Srinivasan, N.P. (2000). <i>Entrepreneurship Development in India</i> . New Delhi: Sultan Chand & Sons.
4.	Khanna, S.S. (2003). <i>Entrepreneurship Development</i> . New Delhi: S. Chand and Co Ltd.

On-line resources to be used if available as reference material

On-line Resources

<https://socialinnovationacademy.org/>

<https://news.gcase.org/2011/10/24/what-is-entrepreneurial-management>

<https://en.wikipedia.org/wiki/Entrepreneurship>

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Bachelor of Science-Home Science  
(B.Sc.-H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN51	Title of the Course	Human Physiology - II
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Identify anatomical features of the body, including cells, tissues, organs and organs systems</li><li>2. Describe the gross anatomy of the organs composing organ systems.</li><li>3. Relate biological structure and function of various organ systems.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	The Cardiovascular System Blood and its composition, blood groups, coagulation of blood.	20
2.	Structure and function of heart, heart rate, cardiac cycle, cardiac output, blood pressure and their regulation, circulation of blood (general course of circulation)	20
3.	The lymphatic and Immune system	20
4.	The Respiratory System: Structure of Respiratory System. Mechanism of respiration.	20
5.	The Reproductive System: Structure and function of Sex glands and organs including hormones, Menstrual cycle, parturition	20

Teaching-Learning Methodology	Chalk and Board, Power Point Presentations, Models, Video Clips, Group Work, Posters and Charts, Lecture
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%





2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to

1.	Identify various terminologies used in Anatomy and Physiology
2.	Describe the anatomical structure of the various body organs
3.	Describe the normal physiology of the various body organs

Suggested References:

Sr. No.	References
1.	Guyton, A.C., & Hall, J. E. (1966): <i>Text book of Medical Physiology</i> . Bangalore: (9 <sup>th</sup> ed). Prism Books (Pvt.) Ltd.
2.	Waugh, A., & Grant, A. (2018): <i>Ross &amp; Wilson Anatomy and Physiology in Health and Illness</i> , (13 <sup>th</sup> ed). Churchill Livingstone Elsevier.

On-line resources to be used if available as reference material

On-line Resources

[Ross & Wilson Anatomy and Physiology PDF 12<sup>th</sup> & 13<sup>th</sup> Edition Download \(allmedicalpdfs.com\)](#)

[e-PGPathshala \(inflibnet.ac.in\)](#)







Bachelor of Science - Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN52	Title of the Course	Human Nutrition
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Understand the functions and sources of nutrients.</li><li>2. Apply the knowledge in maintenance of good health for the individual and the community.</li><li>3. Students will familiar with the factors affecting availability and requirements.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	<ol style="list-style-type: none"><li>(a) Brief history of Nutritional Science.</li><li>(b) Minimal nutrition requirements and RDA- formulation of RDA and dietary guidelines- Reference man and reference woman.</li><li>(c) Water- functions and requirements.</li></ol>	20
2.	Energy in Human Nutrition- Energy Balance, Energy System, Assessment of energy requirements.	10
3.	Proteins- Classification of Protein, Assessment of protein quality (BV, PER, NPU), digestion and absorption, Factors affecting bioavailability.	10
4.	Lipids- Classification of Lipids, digestion and absorption, intestinal resynthesis of triglycerides. types of fatty acids.	15
5.	Carbohydrates- Classification of Carbohydrates, digestion and absorption, blood glucose and effect of different Carbohydrates on blood glucose, Glycemic index. Dietary Fibre- Types and Importance.	15
6.	<ol style="list-style-type: none"><li>(a) Minerals – Classification of Minerals, digestion, absorption and bioavailability Calcium, Phosphorus, Iron, Fluoride, Zinc, Selenium, Iodine.</li><li>(b) Vitamins- Classification of Vitamins, Fat soluble (Vitamin - A, D, E and K) and Water soluble (Vitamin B1, B2, B3, B-12 and Vitamin -C) digestion, absorption and bioavailability</li></ol>	30

Teaching-Learning Methodology	Lecture Method, Questions-Answer method, Discussion method, Brain storming method, Observational method, Use of ICT
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Get the knowledge of sources and functions of various nutrients.
2.	Get familiar with digestion, metabolism and bioavailability of nutrients in our body.

Suggested References:	
Sr. No.	References
1.	Guthrie, A.H. (1986). <i>Introductory Nutrition</i> U.S.: 6th Ed. The C.V. Mosby Company.
2.	Robinson, C. H., & Lawler, M. R. (1982). <i>Normal and therapeutic nutrition</i> Germany: (Ed. 16). Collier Macmillan Publishers.
3.	Indian council of medical research (1988) <i>Nutrient requirements and recommended dietary allowances for Indians</i> , New Delhi.
4.	Livesey, G. (1987). Energy and protein requirements the 1985 report of the 1981 Joint FAO/WHO/UNU Expert Consultation. <i>Nutrition Bulletin</i> , 12(3), 138-149.
5.	WHO Technical reports series for different nutrients. .
6.	Bamji, M. S., Krishnaswamy, K., & Brahmam, G. N. V. (Eds.). (2016). <i>Textbook of human nutrition</i> . Oxford & IBH.

On-line resources to be used if available as reference material
On-line Resources





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[e-PGPathshala \(inflibnet.ac.in\)](http://inflibnet.ac.in)

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Bachelor of Science-Home Science  
(B.Sc.- H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN53	Title of the Course	Nutritional Assessment & Surveillance
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Understand the concept of nutritional status and its relationship to health.</li><li>2. Know aims, objectives, methods used for assessment of nutritional status.</li><li>3. Students can identify the factors responsible for the malnutrition.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	<p>Nutritional surveillance and surveillance system</p> <ol style="list-style-type: none"><li>(a) Definition and term used in nutritional surveillance</li><li>(b) Nutritional monitoring</li><li>(c) Evaluation of programme impact, timely warning and intervention system</li><li>(d) Types of nutrition surveillance, nutrition surveillance for action (Triple A cycle)</li><li>(e) NCD's like Cardiovascular Diseases, diabetes, Pulmonary and SDG's and its role in surveillance</li></ol>	25
2.	<p>Nutritional status assessment - meaning, need, and importance.</p> <ol style="list-style-type: none"><li>(a) Nutritional assessment based on Anthropometry- Anthropometry techniques like weight for age, weight for height, BMI for age, MUAC, Skinfold thickness, waist to hip ratio, comparison with references, Criteria used to determine at risk level for various target population.</li><li>(b) The new WHO growth standards for children and adolescents its use and implication, and classification to define malnutrition in all forms, implication of introducing new standards in school health programmes.</li></ol>	25
3.	<p>Nutritional assessment based on Dietary intake</p> <ol style="list-style-type: none"><li>(a) Methods of dietary intake, diet surveys comparison between methods, Rapid assessment method of dietary intake.</li><li>(b) Dietary diversity score, household, individual, its significance.</li><li>(c) Understanding new RDA and ADI's and its concept and use of</li></ol>	25





	consumption unit in dietary survey	
4.	Nutritional assessment through Biochemical Parameters and comparison with reference values. (a) Lipids, Carbohydrates, Protein, Iron, Vitamin D, B-complex, Vitamin C, Iodine, Fluoride, TB, HIV, CD4 count. (b) Clinical signs and symptoms for nutritional related disorders.	25

Teaching-Learning Methodology	Lecture Method, Questions-Answer method, Discussion method, Brain storming method, Observational method, Use of ICT
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Students can apply the knowledge and art of assessment methods for Nutritional assessment and surveillance of human groups.
2.	Develop specific skills to apply the most widely used methods.

Suggested References:	
Sr. No.	References
1.	Jelliffe, D. B., & World Health Organization. (1966). <i>The assessment of the nutritional status of the community (with special reference to field surveys in developing regions of the world)</i> . Geneva: World Health Organization.
2.	Saln, D. R., Lockwood, R., & Scrimshaw, N. S. (1981) <i>Methods for the evaluation of the Impact and Nutrition Programme</i> U N University.





3.	Rutchie, J. A. S. (1967): <i>learning better nutrition</i> , FAO Rome.
4.	Gopalan, S., Ganesh, K., & Patnaik, R. (1998). <i>Nutrition Foundation of India</i> . Special Publication Series.
5.	Beghan, I. M. & Dajardan, B. (1988) <i>A guide to Nutritional Status Assessment</i> Geneva: World Health Organization.
6.	Gopaldas, T., & Seshadri, S. (1987). <i>Nutrition, monitoring, and assessment</i> . Ahmedabad: Oxford University Press.
7.	Mason, J. B., Habicht, J. P., Tabatabai, H., & Valverde, V. (1984). <i>Nutritional surveillance</i> . Geneva: World Health Organization.

On-line resources to be used if available as reference material

On-line Resources

[e-PGPathshala \(inflibnet.ac.in\)](http://e-PGPathshala (inflibnet.ac.in))

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Bachelor of Science-Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN54	Title of the Course	Practical-Nutritional Assessment and Surveillance
Total Credits of the Course	02	Hours per Week	04
Course Objectives:	1. Identify appropriate sampling methods, measurement 2. Understand the relationship between nutritional status and anthropometric measurements/ Health.		

Course Content		
Unit	Description	Weightage* (%)
1.	To assess the nutritional status by use of anthropometric measurements: Measurement of child's height and weight.	10
2.	Interpretation of data in weight for age, height for age, weight for height.	10
3.	Circumference measurements-head, chest, mid upper arm, waist-hip ratio. Measurements of fat using skin fold thickness.	10
4.	Clinical assessment of PEM, Vitamin A, Anemia, B complex vitamins	10
5.	Formulating tool, collection of Data, estimation of Intake by different dietary methods.	20
6.	Nutrition Health Education activities-preparation of charts, posters, street plays, skits, puppets, lecture demonstration (any one activity by one group).	10
7.	Assessment of BMI for Adolescents	10
8.	Field visits for surveillance system used in nutrition and health programmes.	20

Teaching-Learning Methodology	Questions-Answer method, Discussion method, Brainstorming method, Observational method
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written & Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Identify appropriate sampling methods, measurement scales and tools of data collection and appropriate uses of each.
2.	Impart knowledge about importance of the nutrition and health.

On-line resources to be used if available as reference material
On-line Resources
<a href="http://e-PGPathshala.inflibnet.ac.in">e-PGPathshala (inflibnet.ac.in)</a>

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Bachelor of Science-Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN55	Title of the Course	Biochemistry
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Enable students to develop the principles of biochemistry as applicable to human nutrition.</li><li>2. Obtain an insight into chemistry of major nutrients and physiologically important compounds.</li><li>3. Comprehend the biological process and system as applicable to human nutrition</li></ol>
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Course Content

Unit	DESCRIPTION	Weightage* (%)
1.	Carbohydrates – (a) Classification, General structure, Properties. (b) Metabolism – Glycolysis, Citric acid cycle, Gluconeogenesis, glycogen synthesis and degradation, HMP shunt, Electron Transport chain, Oxidative phosphorylation	25
2.	Proteins- (a) Classification, General structure, Properties (b) Biosynthesis of protein, degradation (transamination, deamination, urea cycle)	25
3.	Fat – (a) Classification, General structure, Properties (a) Oxidation of fatty acids ( $\alpha$ , $\beta$ ) biosynthesis of lipids (ketone bodies formation, Cholesterol, Synthesis, etc)	25
4.	Hormones- Classification, structure, functions	25

Teaching-Learning Methodology	Lectures, Power point, Group work
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Evaluation Pattern

Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%





**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar, Gujarat**  
**(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))**  
**Syllabus with effect from the Academic Year 2022-2023**

2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to

- |    |  |
|----|--|
| 1. | Learn develop the principles of biochemistry as applicable to human nutrition and dietetics. |
|----|--|

Suggested References:

Sr. No.	References
1.	West, E. S., Todd, W. R., Mason, H. S., & Van Bruggen, J. T. (1974). <i>Textbook of Biochemistry</i> , New Delhi: Amerind Publ. Co. Pvt. Ltd.
2.	Vasudevan, D. M., Sreekumari, S., & Vaidyanathan, K. (2016). <i>Textbook of biochemistry for medical students</i> . New Delhi: Jaypee Medical Ltd.
3.	Nelson, D. L., Lehninger, A. L., & Cox, M. M. (2008). <i>Lehninger principles of biochemistry</i> . Ahmedabad: Macmillan India Ltd.

On-line resources to be used if available as reference material

On-line Resources

[e-PGPathshala \(inlibnet.ac.in\)](http://e-PGPathshala (inlibnet.ac.in))

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Bachelor of Science-Home Science  
(B.Sc.- H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN56	Title of the Course	Practical-Biochemistry
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	<ol style="list-style-type: none"><li>1. Enable students to develop the principles of biochemistry as applicable to human nutrition.</li><li>2. Obtain an insight into chemistry of major nutrients and physiologically important compounds.</li><li>3. Understand the biological process and system as applicable to human nutrition</li></ol>
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Course Content		
Unit	DESCRIPTION	Weightage* (%)
1.	Qualitative tests for carbohydrates, find out unknown sugar.	10
2.	Qualitative tests for Protein	10
3.	Qualitative tests for oils and fat	10
4.	To detect the presence of carbohydrate, fat and proteins in food stuff	10
5.	To determine acid value of given sample of oil or fat	05
6.	To determine saponification value of given sample of oil or fat	10
7.	To determine iodine value of a given sample of fat and oil	10
8.	To measure pH of different solution with help of pH meter.	05
9.	To study principle and working of colorimeter	10
10.	To determine protein content of given sample by biuret method.	10
11.	To determine Glucose by Fehling's method	10

Teaching-Learning Methodology	<ol style="list-style-type: none"><li>1. Demonstrations</li><li>2. Practical's to be conducted under faculties guidance.</li></ol>
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Learn develop the principles of biochemistry as applicable to human nutrition and dietetics.

On-line resources to be used if available as reference material
On-line Resources
<a href="http://e-PGPathshala.inflibnet.ac.in">e-PGPathshala (inflibnet.ac.in)</a>

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Bachelor of Science-Home Science  
(B.Sc.- H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04CFDN57	Title of the Course	Food Safety and Quality Control
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Provide a basic understanding of quality concepts and practice in food companies.</li><li>2. Understand the role of Food Safety in expanding food industrial activities.</li><li>3. Acquainted with different types of food hazards, their detection and control through various quality control measures.</li><li>4. Acquainted with the implementation of the total quality control concepts, through techniques such as HACCP.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to Food Safety: Definition, Types of hazards affecting Food Safety, Quality Control Concepts as applied to the food industry, General Concepts of quality control and quality control major quality control functions.	30
2.	Industrial food sector in India and the role of quality control in ensuring Food safety.	20
3.	(a) Control of quality parameters to ensure nutritional and health safety of food concepts of quality (b) Quality assurance through HACCP. (c) Legal administration and quality control- Laws relating to food hygiene.	25
4.	(a) Categories of food quality sensory, compositional nutritional and health quality of foods. (b) Quality standards for food- International and national standards.	25

Teaching-Learning Methodology	Chalk and board, Power point presentations, Class Discussions, Class activities / assignments, video clips
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Learn about the importance of HACCP for Quality Assurance in Food industry
2.	Learn about the various agencies and laws working for the betterment of the Food Quality in Industry
3.	Get acquainted with the various food hazards, their detection and control through various quality control measures.

Suggested References:	
Sr. No.	References
1.	FSSAI. (2017). <i>Food Safety and Standards Act 2006</i> , Rules 2011, Regulations 2011.
2.	Mortimore, S., & Wallace, C. (2013). <i>HACCP: A practical approach</i> . Berlin: Springer Science & Business Media.
3.	Nijhawan R. (2017). <i>Food Safety &amp; Standard Act &amp; Food Safety &amp; Standards Rules</i> (1 <sup>st</sup> Edi).
4.	Roday S. (2011). <i>Food Hygiene and Sanitation with case studies</i> .
5.	Hobbs, B. C., & Gilbert, R. J. (1978). <i>Food poisoning and food hygiene</i> . London: Edward Arnold (Publishers) Ltd, 41 Bedford Square.
6.	Bhat, R. V., & Rao, R. N. (1997). <i>Food regulation. Food Safety</i> , Bangalore: The Bangalore Printing and Publishing Co. Ltd.





On-line resources to be used if available as reference material

On-line Resources

[e-PGPathshala \(inflibnet.ac.in\)](http://e-PGPathshala.inflibnet.ac.in)

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Bachelor of Science-Home Science  
(B.Sc. - H. Sc.) (Foods and Nutrition) Semester (IV)

Course Code	UH04SFDN51	Title of the Course	Practical-Computer Application in Foods and Nutrition
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	1. Acquire knowledge of a computer and use of software. 2. Develop ability in use of various software in the field of nutrition.
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Course Content		
Unit	Description	Weightage* (%)
1.	Overview on basic functions in Computer and Application of M.S. word.	10
2.	Implementation of Excel tool for Statistical Analysis – t test, regression, co-relation etc.	20
3.	Formatting Data : Changing column: Width and row height,. Aligning work sheet data , Formatting fonts , Changing number formats , Formatting dates , Adding borders and colours	20
4.	Charting data : What are charts?, Creating charts , Selecting the chart type , Modifying a chart , Creating a chart sheet , Simple data analysis- coding and graphs	10
5.	Application of Diet Software in Foods and Nutrition	20
6.	Preparation of slides in power point : Adding clip art to slides , Insert pictures in slides , Setting time for slides show	10
7.	Use of internet Web search for updated information: Net surfing specific topics related to the subject including the latest advances.	10







Teaching-Learning Methodology	Demonstration Method, Observational method, Brainstorming method
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Learn to use skill of Computer.
2.	Develop ability for the use of various software related to nutrition and health.

Suggested References:	
Sr. No.	References
1.	<a href="http://www.bmi-calculator.net/waist-to-hip-ratio">www.bmi-calculator.net/waist-to-hip-ratio</a>

On-line resources to be used if available as reference material
On-line Resources
<a href="http://e-PGPathshala.inflibnet.ac.in">e-PGPathshala (inflibnet.ac.in)</a>

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Bachelor of Science - Home Science  
(B.Sc.- H. Sc) (Home Science) Semester (IV)

Course Code	UH04EHSC51	Title of the Course	Event Management
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Make them understand the event planning process.</li><li>2. Inculcate the management skills required for managing an event effectively.</li><li>3. Find out the resources required in the staging of events.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to Event Planning (a) Concept (b) Role of an event planner: Tasks and Skills (c) Types of Events: Corporate Events, Leisure Events, Sport Events, Private Events	25
2.	Event Planning Process (a) Establishing a theme (b) Settling objectives (c) Determining the venue feasibility (d) Preparing an event management plan (e) Key steps in event marketing	25
3.	Event Budget (a) Preparing a budget (b) Monitoring the budget (c) Budget review	25
4.	Detail planning of a specific event: corporate/ leisure/private	25

Teaching-Learning Methodology	Power point presentations, Videos, Field visits, Assignments, Participatory lectures, Discussions and display of various themes, lectures, tutorials, library use and e-learning through videos coupled with market survey, field-based learning
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Appraise the role of a successful event planner.
2.	Execute a successful event in-line with the needs and requirements of the client.

Suggested References:	
Sr. No.	References
1.	Conway, D.G. (2009). <i>The Event Manager's Bible: The Complete Guide to Planning and Organising a Voluntary or Public Event</i> . New Delhi: Viva Books.
2.	Kilkenny, S. (2006). <i>The complete guide to successful event planning</i> . New Delhi: Atlantic Publishing Company.
3.	Alex, G. (2015). <i>Event Planning: Management and Marketing for Successful Events</i> . New Delhi: Create space Independent Publication.
4.	Sharma, S. (2011). <i>Event Planning and Management</i> . Jaipur: Aadi Publications.
5.	Patel, S.& Saini, A.(2019). <i>Event Management by Homemakers</i> . New Delhi. Authorpress Publication

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Bachelor of Science - Home Science  
(B.Sc.- H.Sc.) (Home Science) Semester (IV)

Course Code	UH04EHSC52	Title of the Course	Counselling Techniques
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Sensitize the students towards the need and value of counselling.</li><li>2. Understand the counselling process and its needs.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Concept of counselling : (a) Meaning (b) Definition (c) Characteristic of Counsellor (d) Elements of counselling (e) Principles of counselling (f) Need of counselling	25
2.	Goals of counseling : (a) Characteristics of an effective counsellor (b) Values in counselling	25
3.	The counselling process : (a) Techniques of counselling (b) Personal problems & Counselling (c) Counselling for school children	25
4.	Approaches to counselling : (a) Development counselling (b) Reality therapy (c) Rational emotive counselling	25

Teaching-Learning Methodology	Lecture method, Group discussions Method, Power Point Presentation , Audio Visual methods, Assignment, Quiz
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand importance of counselling in reducing the problems of an individual.
2.	Know about counselling techniques.

Suggested References:	
Sr. No.	References
1.	Sharma R.A. (2010). <i>Fundamentals of Guidance and Counseling</i> , Meerut (U.E) : R. Lall Book Depot, Near Govt, Inter College.
2.	Singh K. (2010). <i>Counseling Skills for Managers</i> , New Delhi: PHI Learning Pvt. Ltd.
3.	Chatarvedi R. (2007). <i>Guidance and Counseling Skills</i> , New Delhi: Crescent, Publishing Corporation.
4.	Mary S. & Vishala SND. (2008). <i>Guidance &amp; Counseling</i> , S. New Delhi: Chand & Company Ltd. Ram Nagar.

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Bachelor of Science – Home Science  
(B.Sc.-H.Sc.) (Home Science) Semester (IV)

Course Code	UH04EHSC53	Title of the Course	Fashion Basics
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<ol style="list-style-type: none"><li>1. Enable students with concepts of fashion and fashion world.</li><li>2. Develop an understanding of the factors affecting fashion and fashion cycle.</li></ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to fashion (a) Meaning (b) Terminologies (c) Areas of fashion design	20
2.	History and life cycle of fashion: (a) History of fashion design (b) Fashion life cycle	20
3.	Factors affecting fashion (a) Accelerating fashion (b) Receding fashion (c) Fashion tourism	30
4.	Theories of fashion change (a) Trickle down theories (b) Trickle up theories (c) Trickle across theories	30

Teaching-Learning Methodology	Lecture, Power Point Presentations, Short Films, Field Visits, Projects, Group Discussion.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Acquaint with the terms and areas of fashion.
2.	Understand the cycle of fashion.
3.	Appraise the influences of fashion world.

Suggested References:	
Sr. No.	References
1.	Patrick, J. (1976). <i>Introduction to Fashion Design</i> , Ireland: B.T. Bradford.
2.	Patrick, J. (1975). <i>Basic Fashion Design</i> , Ireland: B.T. Bradford.
3.	Sumathi, G.J. (2002). <i>Elements of Fashion Design and Apparel Design</i> , New Delhi: New Age International Publishers.
4.	Alexander, R.R. (1977). <i>Textile Products, Selection, Use &amp; Care</i> , Boston: Houghton Mifflin Co.
5.	Pandit, S. & Elizabeth, T. (1972). <i>Grooming Selection &amp; Care</i> , Baroda: Unity Printers.

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Bachelor of Science-Home Science  
(B.Sc.-H. Sc.) (Home Science) Semester (IV)

Course Code	UH04EHSC54	Title of the Course	Geriatric Nutrition
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	1. Know the concepts of gerontology and problems related to old age. 2. Know principles of geriatric nutrition.
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Course Content		
Unit	Description	Weightage* (%)
1.	(a) Definition of ageing, senescence, gerontology, geriatrics, and Geriatric nutrition (b) Classification of old population	25
2.	Physiological and Biochemical changes during old age and major nutritional and health problems during old age.	25
3.	Assessment of nutritional status of older adults – Height, Weight, BMI, Demispan formula Demiquet and Mindex formula, Skiding board blade caliper to measure knee ht	25
4.	Nutritional requirement and dietary guidelines for elderly	25

Teaching-Learning Methodology	Classroom teaching for theory periods, Lectures and Power-point presentations will be the main method of transaction, Special lectures/ visits/ interactions with professionals will be undertaken, Classroom quiz sessions for revision, Any other method may be added, as per university norms and discretion of the teaching faculty.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%







3.	University Examination	70%
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Course Outcomes: Having completed this course, the learner will be able to

1.	Comprehend the mental and physical health problems.
2.	Assess nutritional status and apply the knowledge to practical purpose as in planning diets and taking general care.

Suggested References:

Sr. No.	References
1.	Begum, R. M. (2008). <i>A Textbook of Foods, Nutrition &amp; Dietetics</i> . New Delhi: Sterling Publishers Pvt. Ltd.
2.	Antia, F. P. (1973). <i>Clinical Dietetics and Nutrition</i> . London WI: Oxford University Press, Ely House, 37 Dover Street.
3.	Srilakshmi, B. (2007). <i>Dietetics</i> . New Delhi: New Age International.
4.	Mudambi, S. R. (2007). <i>Fundamentals of foods, Nutrition and Diet Therapy</i> . New Delhi: New Age International

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