

Savitribai Phule Pune University
(Formerly University of Pune)



First Year B.Sc. Program in Home Science
(Faculty of Science and Technology)
F.Y.B.Sc. (Home Science)

To be implemented from
Academic Year 2024-2025

INTRODUCTION TO UNDERGRADUATE DEGREE COURSE IN HOME SCIENCE:

As per the recommendations of UGC-F-2022, the undergraduate (UG) degree course in Home Science is a 6- semester course spread over 3-academic years. The Teaching Learning Process (TLP) is students' centric. It involves both theory and practical components. It offers a flexibility of program structure while ensuring that the student gets a strong foundation in the subject and gains in depth knowledge. Besides the (Major Core), a student have options courses from the syllabus comprising of (Minor), GEs, SECs, IKSs and VSCs. Hence, this will be bring out the interdisciplinary as well as multidisciplinary approach and adherence to innovative ways within the curriculum framework. It also allow a students' maximum flexibility in pursuing her studies at the undergraduate (UG) level to the extent of having the liberty to eventually design the degree with multiple exit options. Students have these exits options depending upon the needs and aspirations of the student in terms of her goals of life, without compromising on the teaching learning, both in qualitative and quantitative terms. This will suit the present day needs of students in terms of securing their paths towards higher studies or employment.

SEMESTER I

Course code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
HSC 101 MJT	Subject 1	Fundamental of Food Science (Th)	02		15	35	50	02	--	02
HSC 102 MJP		Fundamental of Food Science (Pr)	--	04	15	35	50	00	02	02
HSC 103 MJT	Subject 2	Human Development I (Th)	02	--	15	35	50	02	--	02
HSC 104 MJP		Human Development I(Pr)	--	04	15	35	50	00	02	02
HSC 105 MJT	Subject 3	Foundation of Art and Design (Th)	02	--	15	35	50	02	--	02
HSC 106 MJP		Foundation of Art and Design(Pr)		02	15	35	50	00	02	02
OE 101 HSC	GE/OE	Nutrition For Health (Th)	02	--	15	35	50	02	--	02
SEC-101-HSC	SEC	Fabric Ornamentation (Pr)	---	04	15	35	50	00	02	02
IKS-100-T	IKS	Course from basket of courses prepared by the University	02	--	15	35	50	02	--	02
AEC-151-ENG	AEC	Course from University basket	02	--	15	35	50	02	--	02
	VEC	Course from University basket	02	--	15	35	50	00	02	02
					165	385	550	12	10	22

SEMESTER II

Course code	Course Type	Course Name	Teaching Scheme		Examination Scheme and Marks			Credits		
			Hrs/Week		CE	EE	Total	TH	PR	Total
HSC 151 MJT	Subject 1	Essentials of Nutrition (Th)	02	--	15	35	50	02	--	02
HSC 152 MJP		Essentials of Nutrition(pr)	--	04	15	35	50		02	02
HSC 153 MJT	Subject 2	Human Development II (Th)	02	--	15	35	50	02	--	02
HSC 154 MJP		Human Development I (Pr)	-	04	15	35	50		02	02
HSC 155 MJT	Subject 3	Introduction to Textile Science (Th)	02	--	15	35	50	02	-	02
HSC 156 MJP		Introduction to Textile Science (Pr)	-	04	15	35	50	--	02	02
OE 151 HSC	GE/OE	Media Skill Development (Pr)	--	04	15	35	50	--	02	02
SEC-151-HSC	SEC	Resource Management (Pr)	--	04	15	35	50	02	--	02
AEC-151-ENG	AEC	Course from University basket	02	--	15	35	50	02	--	02
	VEC	Course from University basket	02	--	15	35	50	02	--	02
	CC	Course from University basket	02	--	15	35	50	02	--	02
					165	385	550	14	08	22

SEMESTER-I

HSC-101-MJT FUNDAMENTALS OF FOOD SCIENCE (TH)

Course Outcomes

- 1) Study the different methods of cooking foods
- 2) Obtain knowledge of different food groups, their composition and nutrients present in the foods.
- 3) Understand the vital link between foods, nutrition and health

UNITS	CONTENT	HOURS
I	Introduction of Food Groups, Food Pyramid and Cooking Methods: Definition and Terms used in Food Science and Nutrition Food Groups Definition, Classification and Functions of Foods, Basic Food Groups and Need for Grouping Foods and Application of Food Groups In Planning Food Pyramid Adequate/Balanced Diets RDA	04
II	Methods of Cooking Moist heat methods like Boiling, Simmering, Poaching, Steaming, Pressure cooking Dry heat methods: Air as medium of cooking: Grilling, broiling, roasting, Baking , Fat as medium of cooking: Sautéing, Shallow fat frying, Deep fat frying Combined (Moist and dry) Methods: Braising, Stewing Other cooking methods:-Microwave cooking, and Solar cooking. Advantages and Disadvantages of Cooking methods	06
III	Nutritional Significance of different Food Groups: Basic Concepts, classification, Composition, nutritive value and Role in Cookery	10

	1) Cereals and Cereal Products- 2) Pulses and Legumes 3) Milk and Milk Products: 4) Eggs-Meat, poultry and fish	
IV	5) Fruits, and Vegetables 6) Salt, Sugar and Jaggery 7) Spices & Condiments 8) Beverages 9) Convenience Foods	10

Reference

- Maney S (2008). *Foods, Facts and Principles*, 3rd Edition Published by Wiley Eastern, NewDelhi.
- Usha Chandrasekhar (2002) *Food Science and Application in Indian Cookery*, PhoenixPublishing House P. Ltd., New Delhi.
- Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) *Basic FoodPreparation: A Complete Manual*, 4th Edition, Orient Black Swan Ltd, Mumbai.
- Srilakshmi, B. (2017) *Nutrition Science*, New Age International (P) Ltd., New Delhi,.
- Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
- Sunetra Roday (2017). *Food Science and Nutrition*, Oxford University Press, New Delhi.
- Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). *Indian Food Composition Tables (IFCT)*, Indian Council of Medical Research, National Institute of Nutrition, Hyderabad

HSC-102-MJP FUNDAMENTALS OF FOOD SCIENCE (PR)

UNITS	CONTENT	HOURS
I	Weights and Measures , Determination of Edible Portion of Foods, preparing market order and table setting Market survey of locally available food items like cereals, pulses, fruits and vegetables, milk and milk products, fats and oils, nuts and oilseeds, sugar and jaggery, meat, fish, and poultry and miscellaneous food items like biscuits, jams, jellies, ketchup etc. and their cost	04
II	Food Preparation , understanding the principals involved, nutritional quality and portion size of 5-7 commonly consumed recipes in each food group Cereals: rice, pulao, Roti, chapathi, paratha, poori, pastas etc	10
III	Pulses: Whole, dehusked- Dal, sambar, Chole, Rajmah, etc	10
IV	Vegetables: Dry preparations, Curries	10
V	Milk and milk products: Kheer , Custard	10
	Egg preparations- Boiled, poached, fried, scrambled, omelettes, egg pudding	10
VI	Beverages and Indian Sweets	06
	Total	60

HSC-103-MJT: HUMAN DEVELOPMENT I (TH)

Course Outcomes

1. Explain with the developmental stages from prenatal stage to childhood.
2. Describe important aspects of development during prenatal stage to childhood.
3. Discuss the problems and hazards faced by an individual throughout prenatal stage to childhood.

UNITS	CONTENT	HOURS
I	<p>Growth & Development What is Child Development. Meaning and principles of growth & development, Difference between growth and development, Stages of development in life span , concepts of development and developmental Tasks</p> <p>Prenatal Stage of Development Reproductive system and Conception, Embryo and fetus. Care during pregnancy and factors affecting prenatal growth and development. Delivery Process</p>	07
II	<p>Infancy: Neonatal Period – Appearance, adjustments and capacities of neonate</p> <p>Infancy Period: Characteristics, Developmental tasks, Physical and motor development, Cognitive and language development</p> <p>Socio-emotional development, Impact of home environment on overall development</p>	08
III	<p>Childhood Period-Preschool Period: Characteristics , Developmental tasks, Physical and motor development</p> <p>Cognitive and language development, Socio-emotional development</p> <p>-Impact of home environment on overall development</p>	07
IV	<p>Childhood Period- School Age Period</p> <p>Characteristics Developmental tasks</p> <p>- Physical and motor development</p>	08

	<ul style="list-style-type: none"> - Cognitive and language development - Socio-emotional development -Impact of home environment on overall development 	
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References:

1. Craig.G.J.(1974):ChildDevelopment,printinceHallInc.Englewoodclifts,NewJersey.
2. Hurlock, E B.(1970):Child Development, Tata Mcgraw Hill Publishes ,Delhi.
3. Vaikasik Manasashastra: Borude.R.R., Kumathekar M.,Desai B., Golvilakar S., Vidyarthi Gruhprakashan, Pune.
4. Manav Vikas: Kandalkarlina, Vidya Prakashan, Pune.
5. Balvikas, Dr. Varadpande N. Pimpalipure and k.Publishers, Nagpur.
6. Berk L. E. Development through the Lifespan Person Education, Low Price edition.
7. D.E. andolds, S. W. (1975). "A Childs World" Tata Mc Graw Hill Publication, New York.

HSC-104-MJP: HUMAN DEVELOPMENT I (PR)

UNITS	CONTENT	HOURS
I	View a Films/CD on delivery.	10
II	Prepare a case study report of a pregnant women from 3 rd month onwards.	10
III	Project on child rearing practices indifferent communities. (ex.Rural-Urban)(2- 3 students group can be assigned one project.)	10
IV	Visit to Nursing home and submission of Report.	10
V	Bulletin Display on current topics related to syllabus.(Group of 4-5 students) Topics: 1. Discipline 2. Parenting 3 .Family 4. Media and children	20
		60

HSC-105 MJT: FOUNDATION OF ART AND DESIGN (TH)

Course Outcomes:

1. To help students understand the basic terminology of art and design.
2. To develop skills, abilities, knowledge and attitudes that will enable artistic production and creative problem solving.
3. To enable students to apply concepts of art and design to create aesthetically pleasing Interiors.
4. To impart knowledge and skills for design appreciation and evaluation.

UNITS	CONTENT	HOURS
I	Introduction to Art and Design Art: Meaning and definition Elements & principles of Art and Design Elements of Design : Light, Line, Form, Colour, Texture, Space, Idea and Design Principles of Design: Balance, Rhythm, Emphasis, Proportion, Harmony. Applications in Interior Design	10
II	Colour: Meaning, definition and Importance Colour theory Dimensions of colour – Hue value & Intensity Classification of colours, Colour schemes and its application , Psychological effect of colour	08
III	Design: Meaning , definition & types Types of Design : Structural and Decorative Objectives of Design, Essentials of Design, Applications in Interior Design	06
IV	Interior Furnishing Furniture and Types, Wall and Wall Finishes, Doors and Door Types, Window and Window Treatments, Accessories for Home Décor, Floor and Floor Finishes	06
	Total	30

References:

1. Allen. P. S. (1985). Beginnings of Interior Environment (5th Ed), Macmillan Publishing Co. London.
2. Bhatt. P. & Goenka S. (2001); Foundation of Art & Design (2nd Ed). Lakhani Book Depot. Mumbai
3. Clifton C., Mogg & Paine. M. (1988). The Curtain Book. Reed International Books. New York.
4. Craig. H. T. (1987). Homes with Character. Glencoe Publishing Co. Inc. U.S.A.
5. Gilliat M. (1986). The Decorating Book. Library of Congress Cataloguing Publications, Great Britain.
6. Lewis E. L. (1980). Housing Decisions, the Good Heart, Wilcox Co. Inc. Great Britain.
7. Seetharaman. P. & Pannu. P. (2005). Interior Design & Decoration. First Edition, CBS Publishers & Distributors. New Delhi

HSC-106- MJP: FOUNDATION OF ART AND DESIGN (PR)

UNITS	CONTENT	HOURS
I	Make a practical book illustrating the elements and principles of Design	04
II	Collect the samples of natural light and artificial light	06
III	Types of lines and Draw optical illusion of lines	10
IV	Types of texture , Textural treatments in furniture collect the samples	
V	Classification of colour, Preparation of colour wheel and value and intensity of colour	10
VI	Colour schemes on different motifs and textural effects. optical illusion of Colour	10
VII	Structural and Decorative design- current trends and application of Design in interior , collect information and	10

	pictures	
VIII	Collect pictures of types of Furniture and Wall Finishes, Doors and Window Treatments,Accessories for Home Décor, Floor and Floor Finishes	10

OE-101-HSC NUTRITION FOR HEALTH (TH)

Course Outcomes

1. Explain the inter-relationship between food, nutrition and health
2. Know the methods and principles involved in cooking.
3. Understand the knowledge of food science and the changes occurring during foodpreparation
4. .Learn to relate foods with their nutrient content

UNITS	CONTENT	HOURS
I	Basic concepts in Food and Nutrition Food and nutrition Functions of Food Basic five food group	4
II	Nutrients (Sources Function and deficiency) Macronutrients(Carbohydrates, Protein& Fat) Micronutrients(Vitamins and Minerals)	12
III	Food groups (process of food selection and preparation) Cereals Pulses Fruits and Vegetables Milk and milk products Eggs Meat poultry and fish Fats and oils	6
IV	Basic Concepts of Meal Planning Recommended Dietary Intakes Balanced Diet Nutritional Status Assessment of nutritional status Food habits Food misinformation	8

References:

1. Mudambi, S.R., Rajgopal, M.V.(1990) Fundamentals of Foods and Nutrition, New AgeInternational Pvt. Ltd.
2. Kukude, S and others. Food Science, Sheth Publications.
3. Mudambi and Sheela Rao: Food science
4. Srilaxmi: Food Science, New Age International
5. Guthrie Helen (1986) Introductory Nutrition. Times Mirror/ Mosey College Publishing.
6. Nutrient Requirements and Recommended Dietary Allowances for Indians- I.C.M.R.Publication 1999.
7. Mudambi, S.R. and Rajgopal, M.V. (2012), Fundamentals of Foods and Nutrition NewAge International Pvt. Ltd.
9. Food Science 1st Edition (2012) Sheth Publications. Maharashtra State Board ofSecondary and Higher Secondary education Pune,
10. Roday S. (2012) Food Science and Nutrition (2nd Ed.) Oxford University Press.
11. Joshi S. (2009) Nutrition and Dietetics Mcgraw Hill Higher Education
12. Robinson, and Lawler (1990) Normal and Therapeutic Nutrition (17th Edn) MacmillanPub. Co.
13. Introductory Nutrition (1986). Mosby College Publishing. Guthrie Helen Times Mirror
14. Wardlaw G.M (1997) Contemporary Nutrition, Issues and Insights, 3rd Edition TataMcGraw Hill Inc. Boston.

SEC-101-HSC FABRIC ORNAMENTATION (PR)

Course outcomes-

1. To familiarize students with various techniques of surface ornamentation for value addition
2. To enable the students to use various surface enrichments for apparel and home furnishings

UNITS	CONTENT	HOURS
I	Surface Enrichment Essentials: Materials & tools, types of fabrics & threads, motif selection and repeat, design transfer, threading & stitching, storage & care of hand embroidered textiles and garments.	10
II	Basic Hand Embroidery- I: Line: running, back, stem - Chain: Twisted, rosette, double knot - Blanket: whipped, closed, buttonhole - herring bone: doubled, closed, fish bone.	10
III	Basic Hand Embroidery - II: Feather: closed, open certain, long armed, Satin: Padded, shaded, long & short - Detached: French & bullion knots, lazy daisy.	10
IV	Decorative Trimmings: Bead, Sequins, zardosi and mirror work.	10
V	Free style Embroidery: Patch work, appliqué, quilting and shadow work.	10
VI	Tie and dye	10
	Total	60

References:

1. Valerie Campbell-Harding, (2004). Machine Embroidery – Stich Patterns, Kyodo Printing Co. Pvt Ltd, Singapore.
2. Lucinda Ganderton, Dorothy Wood, (2005). The Ultimate Book of Quilting, Cross Stitch, Needle Craft, Anness Publishing Ltd, London. References: 1.

Hamlyn,(2001).Cushions & Pillow- Professional Skills Made Easy, Hamlyn Octopus, Octopus Publishing Group, New York 2.Maggi Mc Cormick Gorden, (2002). The Ultimate Sewing Book,Collins& Brown Ltd, London.

3. Betty Barnden, (2004).The Embroidery Stitch Bible , , Search Press Ltd, London .

SEMESTER-II

HSC-151-MJT -ESSENTIALS OF NUTRITION (TH)

Course Outcomes

1. Understand the inter-relationship between food, nutrition and health
2. Know the methods and principles involved in cooking.
3. Understand the knowledge of food science and the changes occurring during food preparation
4. Learn to relate foods with their nutrient content

UNITS	CONTENT	HOURS
I	<p>Energy –Definition, forms of energy, units of measurement, physiological fuel values of energy, determination of energy value of foods</p> <p>BMR – definition, Determination and factors affecting, Factors affecting energy requirements, diet induced thermogenesis (SDA)</p> <p>Water: Functions, requirements, sources</p>	6
II	<p>Macro Nutrients</p> <p>Protein –Classification, functions, Digestion&absorption (in brief), RDA, sources and deficiencies Biological value, NPU, PER</p> <p>Carbohydrate – Classification, functions, Digestion& absorption (in brief), RDA, sources and deficiencies</p>	12
	<p>Fiber- Definition Sources Functions Importance in disease prevention</p> <p>Fat-Classification, functions, Digestion & absorption (in brief), RDA, sources and deficiencies, MUFA, PUFA, SFA</p>	
III	<p>Micronutrient – Vitamins</p> <p>A. Fat-soluble Vitamins (A, D, E & K)- Function, RDA, sources and deficiency and excess.</p> <p>B. Water soluble vitamins: Thiamin, Riboflavin, Niacin, B12, Folic acid, Biotin and Vitamin C: functions, RDA, food sources, deficiencies and</p>	06

	excess.	
IV	<p>Micronutrient –Minerals</p> <p>A. Macro minerals- Calcium, Phosphorus and magnesium, Sodium, Potassium, Chlorine: Functions, absorption, RDA, sources and deficiencies.</p> <p>B. Micro Minerals- Iron, Zinc, Fluorine and Iodine: function, absorption, RDA, sources and deficiency</p>	04

References:

4. Mudambi, S.R., Rajgopal, M.V.(1990) Fundamentals of Foods and Nutrition, New AgeInternational Pvt. Ltd.
5. Kukude, S and others. Food Science, Sheth Publications.
6. Mudambi and Sheela Rao: Food science
7. Srilaxmi: Food Science, New Age International
8. Guthrie Helen (1986) Introductory Nutrition. Times Mirror/ Mosey College Publishing.
9. Nutrient Requirements and Recommended Dietary Allowances for Indians- I.C.M.R.Publication 1999.
10. Mudambi, S.R. and Rajgopal, M.V. (2012), Fundamentals of Foods and Nutrition NewAge International Pvt. Ltd.
15. Food Science 1st Edition (2012) Sheth Publications. Maharashtra State Board ofSecondary and Higher Secondary education Pune,
16. Roday S. (2012) Food Science and Nutrition (2nd Ed.) Oxford University Press.
17. Joshi S. (2009) Nutrition and Dietetics Mcgraw Hill Higher Education
18. Robinson, and Lawler (1990) Normal and Therapeutic Nutrition (17th Edn) MacmillanPub. Co.
19. Introductory Nutrition (1986). Mosby College Publishing. Guthrie Helen Times Mirror
20. Wardlaw G.M (1997) Contemporary Nutrition, Issues and Insights, 3rd Edition TataMcGraw Hill Inc. Boston.

HSC-152-MJP ESSENTIALS OF NUTRITION (PR)

UNITS	CONTENT	HOURS
I	<p>Introduction to Laboratory</p> <p>Concept of standardization</p> <p>Food guide its uses in meal planning</p> <p>Concept of food pyramid</p> <p>RDA</p>	08
II	<p>Plan and prepare recipe for Calories -high moderate and low</p> <p>Plan and prepare recipe for Carbohydrates-10g,15g, 25g recipes with and without sugar</p> <p>Plan and prepare recipe for Protein richdishes Using</p> <p>1. Plant and animal source</p>	20
III	<p>Plan and prepare recipe for Vitamins- plan and prepare dishes using vitamin A/B</p> <p>1 Carotene rich foods</p> <p>2.Retinol-150 mcg</p> <p>3.Beta-carotene-600 mcg</p> <p>Plan and prepare recipe for Thiamin, Riboflavin and niacin</p> <p>Vitamin C (15 to 20 mcg)</p>	20
IV	<p>Plan and prepare recipe for Calciumand Iron</p> <p>Dishes from Iron and Calcium rich food (2gm and 150gm mcg/serving)</p>	12
	Total	60

HSC-153-MJT HUMAN DEVELOPMENT II (TH)

Course Outcomes:

1. Explain the developmental stages from adolescence to old age.
2. Describe the important aspects of development during adolescence to old age.
3. Discuss the problems and hazards faced by an individual throughout adolescence to old age.

UNITS	CONTENT	HOURS
I	<p>Puberty and Adolescence:</p> <p>Definition, characteristics</p> <p>Development Tasks Physical Development, Puberty, Growth Spurt, Primary and Secondary sex characteristics</p> <p>Emotional Development during Adolescence, Heightened emotionality, Meaning, Causes, expression, characteristics of emotional maturity</p> <p>Hazards during Adolscence: Drug Addiction, Alcoholism, Accidents, Suicide, STDs, ATDs Teen age pregnancies</p>	10
II	<p>Adulthood: Issues and concerns</p> <p>Young Adulthood(Age21-40)Definition, Meaning, Characteristics and Developmental Tasks.</p> <p>Responsibilities and Adjustments: Parenthood, financial.</p> <p>Middle Adulthood(Age41-60)Definition, Meaning, Characteristics and Developmental Tasks.</p> <p>Physical changes- during middle adulthood, Menopause and health issues</p>	10
III	<p>Old Age</p> <p>Definition, Meaning, Characteristics and Developmental Tasks.</p> <p>Physiological changes, health problems, cognitive and memory changes.</p> <p>Retirement:</p> <p>Effect of retirement on self, family, society and financial problems faced.</p> <p>Preparing on self for Death</p>	10

HSC-154-MJP HUMAN DEVELOPMENT (PR)

UNITS	CONTENT	HOURS
I	Sketching of self-History on growing up stage.	12
II	Skit presentation in group on any topic from syllabus.	12
III	Case on anyone topic: Menopause, Interview/case study on Newly Married couple, parenting, etc.	18
IV	Visit on-1. Old age home or 2. Remand home 3. Junile home Conducting recreational activity for grandparents/aging people.	18

References:

- Craig.G.J.(1974):Child Development, Prentice Hall Inc. Englewood cliffs, New Jersey.
- Hurlock,E B.(1970):Child Development, Tata Megraw Hill Publishes, Delhi.
- Vaikasik Manasashastra :Borude. R.R.,Kumathekar M.,DesaiB.,Golvilakar S., Vidyarthi Gruhprakashan, Pune.
- Manav Vikas: Kandalkar Lina,Vidya Prakashan, Pune.
- Balvikas,Dr.Varadpande N.Pimpalipure and k. Publishers, Nagpur.
- BerkL.E.Development through the Lifespan Person Education, Low Price edition. Populia, D.E. and olds, S.W.(1975)
- “A Childs World” Tata Macqraw Hill Publication ,New York.

HSC-155-MJT- INTRODUCTION TO TEXTILE SCIENCE (TH)

Course Outcomes

1. To familiarize the students with the terminologies related to apparel and its construction.
2. To impart knowledge about textile fibres in terms of their origin and performance characteristics.
3. To create awareness regarding selection criteria relating to apparel and home textiles.

UNITS	CONTENT	HOURS
I	Introduction to textile fibers: Fiber- classifications based on their origin (natural and human-made) and length (staple and filament) Primary and Secondary properties of Fibers Fibers: cotton, linen, wool, silk, rayon, nylon, acrylic, polyester	08
II	Yarns Basic steps in mechanical and chemical spinning Yarn Properties: Yarn twist, Yarn numbering. Spun and filament yarns Simple, Complex, Textured Yarns	07
III	Fabric Construction Techniques Weaving : woven structure, General properties of woven fabrics Basic parts of a loom and their functions Basic weaves and variations – Plain ,twill, satin, sateen Fancy Weaves –Leno, Dobby, Jacquard, Pile, Surface figure Knitting : Wales, courses and identification, General properties of knitted fabrics, basic weft and warp knitted structures Blends: Reasons for Blending, properties, common blends available in Market Other methods of fabric construction: felting, non-woven, laces, braids, and nets-their properties	08

IV	Laundry, storage and care of textiles Introduction, Types, Uses Water, Soaps, Detergents Methods and care during laundering of different textiles Stain removal – Identification of stain removal, classification, Stain removal procedure – Tea, Coffee, Blood, Butter, Ghee and oil, Curry	07
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References

1. Booth, J.E. (1996). Principles of Textile Testing. New Delhi: CBS Publishers & Distributors Pvt. Ltd.
2. Corbman, P.B. (1983). Textiles: Fibre to Fabric. McGraw-Hill Publishers.
3. Collier, B.J., & Epps, H.H. (1998). Textile testing and analysis. Prentice Hall Publishers.
4. Dantiyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited.
5. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publisher Greaves, P. H., Saville, B. P. (1995). Microscopy of textile fibres. bios Scientific Publishers
6. Gohl, E., Vile sky, L. (2003), Textile Science: an explanation of fiber properties (2 edition), New Delhi.
7. Hollen, R. N., Saddler, J., & Langford, A. (1979). Textiles. Macmillan Publishers.
8. Joseph, M. (1992), Introductory Textile Science. Sixth edition, California: Harcourt College Publishers
9. Kadolph, S.J. 2009. Textiles. Tenth edition. New Delhi: Dorling Kindersley (India)
10. Madhulika, P. (2013). Weaving. New Delhi: Random Publishing. 12. Mahapatra, N.N. (2015). Textile Technology. New Delhi: A.P.H. Publishing Corporation.
13. Needles, L.H. (1986). Textile Fibers, Dyes, Finishes, and Processes. USA, New Jersey: Noyes publications.

14. Rastogi, D., & Chopra, S. (2017). Textile
15. Annalees Lim,(2013).Textile Crafts -Craft Attack, The Rosen Publishing Group, New York.
16. Ruth Singer, (2013).Fabric Manipulation: 150 Creative Sewing Techniques, David and Charles, UK. 3. Zeena Shah, (2015), How to Print Fabric: Kitchen-table Techniques for Hand-printed Accessories With Over 20 Easy Sewing Projects, "F+W Media, Inc,U.S.
17. Jera Brandvig, (2017). Quilt As-You-Go Made Vintage: 51 Blocks, 9 Projects, 3 Joining Methods, C and T Publishing, California.
18. Sherri Haab ,(2015). Charm Love Friendship Bracelets: 35 Unique Designs with Polymer Clay, Macrame, Knotting, and Braiding, Quarry Books, China.
19. Ruth Singer, (2010). Sew Eco: Sewing Sustainable and Re-Used Materials, Aandamp;C Black, London,

HSC-156-MJP- INTRODUCTION TO TEXTILE SCIENCE (PR)

UNITS	CONTENT	HOURS
I	Identification of fiber by visual test and feel of the fabric, burning test, solubility test, microscopic test	16
II	Identification of stain removal Stain removal procedure – Tea, Coffee, Blood, Butter, Ghee and oil, Curry etc	16
III	Laundry equipment	08
IV	Demonstration of washing Machine Starching	08
V	Washing and finishing of cotton, silk, woolens, synthetics	12
	Total	60

OE-151-HSC MEDIA SKILL DEVELOPMENT (PR))

Course Outcomes

1. Develop skill in preparation and presentation of traditional, printed and projected media
2. To analyze the role of media in imparting developmental messages.
3. To develop competencies in script writing.

UNITS	CONTENTS	HOURS
I	Elements of feature writing Selection of topic – informative & Current Content – font size, spacing, language	04
II	Planning and writing an article for the print media(Newspaper /Magazine) Planning the article – deciding upon the theme Organization of Content – Title & Subtitle Illustration, graphs, Visual Editing of Article Writing Style and Presentation	20
III	Preparation of leaflets and pamphlets for the selected theme Selection of topic, target audience Layout – title, content size, colors lettering and illustration Information – Accurate Authentic	12
IV	Preparation and presentation of traditional media PUPPETS Preparation of puppets and their Costumes & Accessories Writing Script according to the target audience and the theme Provision of music, song & dance Stage and stage accessories Presentation – manipulation, clarity voice modulation. STREET PLAY Writing of script for social messages Orientation to body language	12

	Voice Modulation Practice & performance of the street play	
V	Preparation of a radio talk for a selected target group Unit 1: Radio Talk a) Writing Basics - Selection of theme, objective of the talk b) Writing style (As per the specification of a radio broad cast) c) Presentation	12
		60

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SEC-151-HSC -RESOURCE MANAGEMENT (PR)

Course Outcomes-

1. To help students understand the fundamental concepts and Principles of Management
2. To assist students in gaining knowledge about the theoretical aspects and practices applicable to the managerial process.
3. To enable students to know how to effectively utilize resources such as time, energy and money.

UNITS	CONTENT	HOURS
I	<p>Management Process</p> <p>Introduction ,Meaning and definition ,Basic concept of Management , Management and Change, Obstacles in Management , Misconception about Management , Steps of Management Process</p> <p>Apply the management process to organize a picnic / wedding anniversary</p>	10
II	<p>Decision Making Process</p> <p>Meaning and Definition, Types of decision making Steps in decision making Process, Factors affecting decision making , Conflicts solving Methods</p> <p>Write a report on decision making process of selecting personal aim</p>	08
III	<p>Resources</p> <p>Definition , Classification and Characteristics Stages of Family Life Cycle: Beginning, Expanding</p> <p>Identify and categorize the available resources in your family.</p>	08
IV	<p>Money Management</p> <p>Definition , Classification of income</p> <p>Budget: meaning, types and steps</p>	08

	<p>Financial security: savings, insurance, taxation and investments , Factors affecting expenditure</p> <p>Prepare a monthly budget for a joint family.</p> <p>Maintain the monthly expenditure in various types of accounting system</p>	
V	<p>Time Management</p> <p>Meaning ,Classification of activities , Tools of Time cost, Management process applied to time Make a time plan of a working college day and exam day</p>	10
VI	<p>Energy Management</p> <p>Meaning and Classification of household tasks Types of efforts , Energy management process Factors affecting energy management</p> <p>Fatigue: meaning, types, causes and remedies</p> <p>Observe the task carried out by the homemaker through the use of informal paper and pencil techniques</p>	08
VII	Visit any well known management institute	08
		60

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Second Year B.Sc. Program in Food Science and Nutrition

(Faculty of Science & Technology

S.Y. B.Sc.(Home Science)

To be implemented from Academic Year 2025- 2026

SY B.Sc. Sem-III (Food Science and Nutrition)

Course code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
FSN- 201 -MJT	Major	Nutrition for the Family	02	--	15	35	50	02	--	02
FSN -202- MJT		Therapeutic Nutrition	02		15	35	50	02		02
FSN -203- MJP		Practical I		04	15	35	50		02	02
FSN-221-VSC	VSC	Bakery and Confectionary		04	15	35	50	02	-	02
FSN-231-FP	FP/OJ T/CEP	Field Project	02		15	35	50	02	-	02
HSC-241-MNT	Minor	Family Dynamics Group (A)	02	04	15	35	50	02	-	02
HSC-242-MNP		Family Dynamics				35	50	02		02
HSC-243-MNT		Consumer Education Group (B)	02	04	15	35	50	02	-	02
HSC-244-MNP	Consumer Education choose any 1			15	35	50	02		02	
HSC-201-OE-T	GE/OE	Marriage and Family Studies	--	04	15	35	50	--	02	02
FSN-201-IKS	IKS	Traditional Indian Foods	02	--	15	35	50	02	--	02
	AEC	Course from University basket	02	--	15	35	50	02	--	02
	CC	Course from University	02	--	15	35	50	02	--	02
		Total			165	385	550	14	08	22

SY B.Sc. Sem-IV (Food Science and Nutrition)

Course code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
FSN- 251- MJT	Major	Food Preservation	02		15	35	50	02		02
FSN- 252 -MJT		Food Microbiology	02		15	35	50	02		02
FSN- 253- MJP		Practical II		04	15	35	50		02	02
FSN-271- VSC-P	VSC	Millet Processing		04	15	35	50	02	-	02
FSN-281- CEP	FP/OJ T/CEP	CEP		04	15	35	50	02	--	02
HSC-291-MNT	Minor	Event Management Group (A)	02		15	35	50	02	--	02
HSC-292-MNP		Event Management		04	15	35	50	02	--	02
HSC-293-MNT		Early Childhood Care and Education Group (B)	02		15	35	50	02	--	02
HSC-294-MNP		Early Childhood Care and Education Choose any 1		04	15	35	50	02		02
HSC-251-OE-P	GE/OE	Marriage and Family Studies	--	04	15	35	50	--	02	02
SEC-251-HSC	SEC	Teaching aid in Home Science Extension Education	02	--	15	35	50	02	--	02
	AEC	Course from University basket	02	--	15	35	50	02	--	02
	CC	Course from University basket	02	--	15	35	50	02	--	02
		Total			165	385	550	14	08	22

SY B.Sc. Sem-III(Textile and Clothing)

Course code	Course Type	Course name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
TC- 203 -MJT	Major	Clothing Management	02	--	15	35	50	02	--	02
TC-204- MJP	Major	Home Textiles and Care	02		15	35	50	02		02
TC-205- MJP	Major	Practical I		04	15	35	50	--	02	02
TC-222-VSC	VSC	Traditional Embroideries of India I		04	15	35	50	02	-	02
TC-231-FP	FP/OJT/CEP	Field Project	02	00	15	35	50	02	-	02
HSC-241-MNT	Minor	Family Dynamics Group (A)	02	00	15	35	50	02	-	02
HSC-242-MNP		Family Dynamics		04	15	35	50		02	02
HSC-243-MNT	Minor	Consumer Education Group (B)	02		15	35	50	02	-	02
HSC-244-MNP		Consumer Education Choose any 1		04	15	35	50	02		02
OE-201-HSC	GE/OE	Marriage and Family Studies	--	04	15	35	50	--	02	02
TC-201-IKS	IKS	History of Fashion	02	--	15	35	50	02	--	02
	AEC	Course from University basket	02	--	15	35	50	02	--	02
	CC	Course from University basket	02	--	15	35	50	02	--	02
		Total			165	385	550	14	08	22

SY B.Sc. Sem-IV (Textile and Clothing)

Course code	Course Type	Course name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	Pr	CE	EE	Total	TH	PR	Total
TC- 251 -MJT	Major	Textile Chemistry	02	--	30	70	50	02	--	02
TC- 252 MJT		Wet Processing	02	--	15	35	50	--	02	02
TC- 252 MJP		Practical II	--	04	15	35	50	--	02	02
TC-271-VSC	VSC	Traditional Embroideries of India II	--	04	15	35	50	02	-	02
TC-281-CEP	FP/OJT/CEP	CEP	02	--	15	35	50	02	--	02
HSC-291-MNT	Minor	Early Childhood care and Education Group (A)	02		15	35	50	02	--	02
HSC-292-MNT		Early Childhood care and Education		04	15	35	50	02		02
HSC-293-MNT	Minor	Event Management Group (B)	02		15	35	50	02	--	02
HSC-294-MNP		Event Management Choose any 1		04	15	35	50	02		02
HSC- 251- OE-P	GE/OE	Marriage and Family Studies	--	04	15	35	50	--	02	02
HSC-251-SEC	SEC	Teaching aids in Extension	00	04	15	35	50		02	02
	AEC	Course from University basket	02	00	15	35	50	02	00	02
	CC	Course from University basket	02	00	15	35	50	02	00	02
		Total			165	385	550	14	08	22

Introduction to Undergraduate Degree Course in Home Science:

As per the recommendations of UGC-F-2022, the undergraduate (UG) degree course in Home Science is a 6-semester course spread over 3-academic years. The Teaching Learning Process (TLP) is students' centric. It involves both theory and practical components. It offers a flexibility of program structure while ensuring that the student gets a strong foundation in the subject and gains in depth knowledge. Besides the DSCs (Major Core), a student has options courses from the syllabus comprising of DSEs (Minor), GEs, SECs, IKSs and VSCs. Hence, this will bring out the interdisciplinary as well as multidisciplinary approach and adherence to innovative ways within the curriculum framework. It also allows students' maximum flexibility in pursuing her studies at the undergraduate (UG) level to the extent of having the liberty to eventually design the degree with multiple exit options. Students have these exit options depending upon the needs and aspirations of the student in terms of her goals of life, without compromising on the teaching learning, both in qualitative and quantitative terms. This will suit the present day needs of students in terms of securing their paths towards higher studies or employment.

SEMESTER-III

FSN-201-MJT- NUTRITION FOR THE FAMILY

Course Objectives:

1. The course will enable the students to: .To introduce the basic concepts of meal planning
2. To equip the knowledge of physiological changes, nutritional requirements and balanced diet
3. To relate the Principles of planning with specific nutrient requirements of various age groups
4. To incorporate healthy food choices during the life cycle

UNITS	CONTENTS	LECTURES
I	<p>Menu Planning</p> <p>Explanation of Terms Health, Balanced Diet, Nutrient Requirement, DRI, RDA, Phytochemical, Nutraceutical</p> <p>Functional Foods Food group(ICMR) Food Guide General Guideline Suggested by ICMR Food Exchange List Planning a Balanced diet Principals of planning diet Steps Involve in Planning a Diet Nutritional Recommendations and Food Requirement of Adults</p> <ol style="list-style-type: none"> 1)Indian reference man, reference woman 2)Classification of adults based on Occupation 3)Nutritional recommendation 4)Food Requirements 5)Dietary guidelines 6)Dietary guidelines to reduce cost of meals 7)Vegetarian diet, vegan Diet 	07

II	<p>Nutritional Recommendations and Food Requirement of Expectant Mothers Lactating Women</p> <ol style="list-style-type: none"> 1)Physiological Changes 2)Nutritional Recommendations 3)Food Requirement Dietary guidelines 4)General dietary problems- 5)Complication during Pregnancy <p>Nutritional Recommendations and Food Requirement of Expectant Mothers Lactating Women</p> <p>Nutritional Recommendations and Food Requirement of Infants</p> <ol style="list-style-type: none"> 1)Growth and Development during Infancy 2)Nutritional recommendation 3)Food Requirements-Breast Feeding Infant Milk Substitute 4)Breast milk bank 5)Artificial feeding 6)Low birth Weight Baby 7)Preterm baby 8)Weaning 9)Types of supplementary foods 10)Problems in weaning 	08
III	<p>Nutritional Recommendations and Food Requirement of Preschooler and School Going Children</p> <ol style="list-style-type: none"> 1)Nutritional Recommendations 2) Food Requirements, Dietary guidelines 3)Feeding Problems- Dental Decay, pica 4)Feeding Disorder-Picky eating 5)Nutritional related problems of Preschooler- and Schooler <p>Importance of Breakfast</p> <ol style="list-style-type: none"> 1)Packed Lunches 2)Points to be Considered in planning a pack lunch 	07
	<p>Nutritional Recommendations and Food Requirement of Adolescents</p> <ol style="list-style-type: none"> 1)Nutritional Recommendations 2) Food Requirements, Dietary guidelines <p>Nutritional Problems</p>	08

IV	<p>Obesity, Eating disorder</p> <p>Anorexia Nervosa</p> <p>Bulimia Nervosa</p> <p>Anemia,</p> <p>Nutritional Recommendations and Food Requirement of Elderly</p> <p>1)Process of aging</p> <p>2)Nutritional Recommendations</p> <p>3)Food Requirements, Dietary guidelines</p> <p>4) Dietary guidelines</p> <p>5)Nutritional related problems of Old age</p> <p>Sarcopenia, Osteoporosis Obesity, Anemia, Constipation</p> <p>Dehydration</p>	
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10. Whitney, E. N.and Rolfes, S. R. (1996) Understaning Nutrition, 7th Edition, West publishing Company, St. Paul, U.S.A.
11. Wardlaw, G. M. (2006) Perspectives in Nutrition, 7th Edition, McGraw Hill Inc, Europ

FSN-202-MJT- THERAPEUTIC NUTRITION

Course Objectives:

1. Understand the etiological factors and physiological changes associated with specific disease conditions.
2. Develop an insight into the role of modified diets in specific conditions.
3. Acquire the ability to modify the normal diet to suit individuals suffering from specific diseases and lifestyle disorders

UNITS	CONTENT	LECTURES
I	Therapeutic Diet and Introduction to Diet Therapy 1)Routine Hospital Diet Special feeding Methods 2)Types of Foods, Parenteral Nutrition Total Parenteral Nutrition 3)Glycemic Index, Prebiotic and Probiotics Artificial Sweeteners	08
II	Nutritional Anemia in Physiological and Pathological Condition Prevalence, causes Types, Prevention Iron deficiency Anemia, Megaloblastic anemia Pernicious anemia Haemolytic Anemia	07
III	Diet in underweight and Obesity Obesity Aetiology, Role of hormone. Assessment, Types Treatment, Complications prevention Underweight Aetiology Nutritional and Food Requirement	08
IV	Diet in Diabetes Mellitus prevalence, Types, Aetiology, Symptoms Diagnosis Treatment and Complication of Diabetes	07

References:

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FSN-203-MJP PRACTICAL- I

Course Objectives:

- 1, Understand the etiological factors and physiological changes associated with specific disease conditions.
2. Develop an insight into the role of modified diets in specific conditions.
3. Acquire the ability to modify the normal diet to suit individuals suffering from specific diseases and lifestyle disorders

OBJECTIVES-

1. Introduction to menu planning for the family use of food guide and exchange list
2. Plan and Prepare diet for sedentary adult man and woman and modify for moderate worker and heavy worker
3. Plan and prepare diet for sedentary, moderate and heavy work pregnant women.
4. Plan and prepare diet for sedentary, moderate and heavy work lactating women (0-6 months)
5. Plan and prepare complementary (weaning) foods for infants
6. Plan and prepare diet for a preschool child
7. Plan and prepare diet for a school going children
8. Plan and prepare a diet for an adolescents
9. Plan and prepare diet for elderly
10. Plan and prepare Clear fluid diet, Full fluid diet and soft Diet
11. Plan and prepare diet for Obesity,
12. Plan and prepare diet for Underweight
13. Plan and prepare diet for Anemia
14. Plan and prepare diet for Diabetes mellitus

FSN-271-VSC-P BAKERY AND CONFECTIONARY

Course Objectives:

1. Create hands on training in the development of products.
2. The students will be able to handle equipment used in the development of bakery products.
3. To impart skill oriented knowledge regarding Bakery science

CONTENTS:

- 1.Introduction to Bakery Science
- 2.Identify and differentiate the small and large equipment used in confectionery
- 3.Standard preparation of Breads: White bread and Multigrain bread
- 4.Standard preparation of Pizza
- 5.Standard preparation of Cakes: Sponge Cake, Chocolate Cake
- 6.Standard preparation of Biscuits Wheat biscuits, Ragi Biscuits
- 7.Standard preparation of Cookies
- 8.Preparation Chocó chip cookies,
- 9.Preparation of Fondants
- 10.Preparation of Icing for cake decoration
- 11.Preparation of Candy
- 12.Preparation of Toffee
- 13.Preparation of Chikki
- 14.Preparation of Doughnut
- 15.Preparation of Fondants and Icing of the cakes preparation

References:

1. Dubey, S.C. 2007, Basic Baking, 5" Edition, Chankya Mudrak Pvt Ltd.
2. Raina et al., 2010, Basic Food Preparation- A Complete Manual, 4" Edition, Orient Black Swan Ltd.
- 3.Khanna K, Gupta S, Seth R, Mahna R, Reki T, 2004, The Art and Science of Cooking: A Practical Manual , Revised Edition, Elite Publishing House Pvt Ltd
4. Textbook of Bakery & Confectionery by Yogambal Ashok kumar

HSC-241-MNT FAMILY DYNAMICS

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept to marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

UNITS	CONTENTS	LECTURES
I	<p>Introduction</p> <p>Introduction of “Marriage and Family” as an institution and its importance. Meaning of traditional marriage and its functions Goals of modern marriage</p>	07
II	<p>Marriage</p> <ol style="list-style-type: none"> 1. Pre-marital Involvement, Marriage counseling; Premarital and postmarital counseling 2. Mate selection: Guidelines for mate selection, Modes of mate selection, factors in self-choice and arranged marriage 3. Engagement: Meaning, importance and functions of engagement, Broken engagement: causes, ways of coping. 4. Wedding and Honeymoon 5. Wedding: Traditional and Court Marriage Honeymoon: Value of honeymoon, Significance of honeymoon 	08
III	<p>Family</p> <ol style="list-style-type: none"> 1. Definition and types, functions of family 2. Family life cycle and developmental tasks, adjustments within family areas and patterns. 3. Alternate family patterns - causes, characteristics and implications. 4. Family crisis: Types of crisis and ways of coping. 	07

IV	Parenthood <ol style="list-style-type: none"><li data-bbox="437 91 1118 129">1. Concept and significance of planned parenthood<li data-bbox="437 147 970 185">2. Pleasures and hazards of parenthood<li data-bbox="437 203 1230 241">3. Family planning methods: advantages and disadvantages	08
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HSC-242-MNP FAMILY DYNAMICS

1. Survey on any one of the following topics
2. Mate selection criteria
3. Changing roles of family members
4. Pre-marital preparation by youth
5. Critical qualitative analysis of Film-Serial/Advertisement on "Marriage Ceremony"
6. Workshop on Family Planning methods by Gynecologist & report writing.
7. Workshop on premarital counseling & report writing.
8. Visit to family counseling center or matrimony center.
9. Skit presentation on Family crisis.

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2. Durrall E.M. (1977): Marriage and family development Lippincott Co. Philadelphia.
3. Dyer E.D. (1983): Courtship, Marriage and family, American style, The Dorsey Press-Illians.
4. Blood, Robert and Wolfe (1960): Husband and wife dynamics and married life: Free Press, New York.
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6. Smart S. and Smart M. S. (1980): Families-developing relationship, Mcmillan P

HSC-243-MNT CONSUMER STUDIES

Course Objectives:

To enable students to –

1. Be aware of the consumer problem in the market
2. Become aware of the rights and responsibilities of consumer
3. Realize the importance of the effective role of consumers in the market
4. Develop good buymanship skill in the selection of goods in the market
5. Be aware of consumer protective services

UNITS	CONTENTS	LECTURES
I	CONSUMER AND CONSUMER PROBLEMS Definition of a consumer Consumer movement – Introduction and Objectives Need for consumer education Consumer Problems <ul style="list-style-type: none">• Adulteration• Faulty weights and measures• Misleading advertisements• Other problems like online banking- shopping ect.	7
II	ADVERTISEMENTS AND CONSUMER GUIDES Advertisement – Definition, Influence of advertisement on consumers, usefulness of advertisement to consumers. Misleading advertising <ul style="list-style-type: none">• Brands - meaning, types of brands, advantages and disadvantages of brands• Labels – meaning and definition of labels, types of labels.• Grading and Standardization – Role of BIS, AGMARK, FPO, ECO marks, Silk mark, wool mark, Cotton mark, Handloom mark	8
III	CONSUMER DECISION MAKING PROCESS What is consumer decision – types of consumer decision (rational and irrational) Decision making process to include problem recognition, information seeking, equation of alternatives, buying decisions, post purchase evaluation.	7

	<p>Good buymanship</p> <p>CONSUMER RIGHTS AND RESPONSIBILITIES</p> <p>Consumer Rights- eight right of consumer in details</p> <p>Consumer responsibilities- critical awareness, action, social responsibilities, environmental awareness, solidarity</p>	
IV	<p>CONSUMER PROTECTION</p> <p>What is consumer protection</p> <p>Need for consumer protection</p> <p>Consumer redressal forum-3 R'S and redressal mechanisms,</p> <p>How to provide consumer protection Act 1986 (COPRA)</p> <ul style="list-style-type: none"> ➤ MRTP Act ➤ Food Adulteration Act ➤ Essential Commodities Act ➤ Packaged Commodities Act <p>Weights and Measures Act</p> <ul style="list-style-type: none"> • Agencies CFBP, CERS, CGSI 	8

HSC-244-MNP CONSUMER STUDIES

1. Identify 5 consumer problems related to food adulteration/ faulty weights and measures/ sales gimmicks. Interview a consumer who has faced some problem related to any one of the areas mentioned above, in the market and document the same.
2. Presentation of the report
3. Collect 5 samples for labels from various products such as food/ medicines/cosmetics/clothing.
4. Write a detailed report regarding the information given to the Consumers through these labels followed by a discussion in the class regarding the positive and negative points of the labels.
5. Collect 5 samples various brands
6. Advertisements from any media like Television/ radio / print media and write a detailed report followed by a discussion in the class.
7. Observe how decision making process is used, in your own family for the purchase of some consumer product like refrigerator/television/ food processor/ washing machine and write a report
8. Procedure for Redressal for a consumer problem
9. A written report on Role of Consumer Agencies like CGSI/ CERC/CFBP in consumer protection.

References:

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- 7 Sherlikar S.A.: Marketing and Salesmanship, Himalaya Publishing House,Mumbai.
- 8 Sherlikar S.A.: Trade Practise and Consumer protection, Himalaya Publishing House,Mumbai.
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- 10 Varkey V.O.: Handbook on Marketing, Everest Publishing House,Mumbai.
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- 13 Azmi S.S.H. (1992): Sale of goods and consumer protection in India, Deep and Deep Publications, NewDelhi.
- 14 Antony M.J. (1990): Consumer Rights, Hnd Pocket Books Pvt.Ltd, NewDelhi.
- 15 Consumer Laws (1985): Consumer Guidance Society Of India, Bombay.
- 16 Loudon David L. (1993): Consumer Behaviour: Concepts and applications, McGraw Hill Inc., NewYork.
- 17 Fetterman E. et al (1976): Consumer educaton in practice, John Wiley and sons, NewYork.
- 18 Mehta S.C. (1993): Indian Consumers – Studies and cases for marketing decisions, Tata McGraw Hill Pub., NewDelhi.
- 19 Garman E.Thomas et al. (1974) : The consumer's world- Buying, money management and issues, McGraw Hill Book Co. NewYork
- 20 Schiffman L. (2000): Consumer Behaviour, Prentice Hall Of India Pvt. Ltd., NewDelhi.

OE-201-HSC MARRIAGE AND FAMILY STUDIES

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept to marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

UNITS	CONTENTS	LECTURES
I	<p>Introduction</p> <p>Introduction of 'Marriage and Family' as an institution and its importance.</p> <p>Meaning of traditional marriage and its functions</p> <p>Goals of modern marriage</p>	07
II	<p>Marriage</p> <p>Pre-marital Involvement, Marriage counseling; Premarital and postmarital counseling</p> <p>Mate selection: Guidelines for mate selection, Modes of mate selection, factors in self-choice and arranged marriage</p> <p>Engagement: Meaning, importance and functions of engagement, Broken engagement: causes, ways of coping.</p> <p>Wedding and Honeymoon</p> <p>Wedding: Traditional and Court Marriage Honeymoon: Values of honeymoon, Significance of honeymoon</p>	08
III	<p>Family</p> <p>Definition and types, functions of family</p> <p>Family life cycle and developmental tasks, adjustments within family areas and patterns.</p> <p>Alternate family patterns - causes, characteristics and implications.</p> <p>Family crisis: Types of crisis and ways of coping.</p>	07
IV	<p>Parenthood</p> <p>10. Concept and significance of planned parenthood</p> <p>11. Pleasures and hazards of parenthood</p> <p>12. Family planning methods: advantages and disadvantages</p>	08

References:

1. Henslin J.M.(ed)(1989):Marriageandfamilyinchangingsociety.Thefree preasU.S.A.
2. Durall E.M.(1977):Marriageand familydevelopmentLippincottco.philadelphia.
3. Dyer E.D. (1983):Courtship,Marriageand family,Americanstyle,TheDorseypress-Illians.
4. Blood,RobertandWolfe(1960):Husbandand wifedynamicsandmarriedlife:Freepress,Newyork.
5. *Vivahanikautumbicsambadh(2009):PharakadeTriveni,GongoSulabha,VidyaPrakashan, Nagpur.*
6. SmartS.andSmartM. S.(1980):Families-developingrelationship,McmillanP

FSN-250-IKS TRADITIONAL INDIAN FOODS

Course Objectives :

1. To create understanding on historical and cultural perspective of Indian foods
2. To acquire basic information on the traditional foods of different regions of India
3. To introduce Festival food of India

UNITS	CONTENTS	LECTURES
I	Historical and Cultural perspective Introduction Objectives Philosophy of Indian Food Pre Ancient Era Ancient Era The Great Indian Cuisine – Key Features	07
II	Regional Influences on Indian Food Indian Regional Cuisine at a glance Typical Breakfast, meal and snack and street food of- South India North-east North India Western India Eastern India	08
III	Festival Foods in India South India North-east North India Western India Eastern India	08
IV	Foods of Modern India Crops cultivated and agriculture, Food storage, Food preparation, Tools, equipments and utensils	07

References:

1. Colleen Taylor Sen, 2015 “Feasts and Fasts: A History of Food in India”
2. Hause & Alan M. & Labensky & Sarah R. & Martel & Priscilla A, 2013 “On Cooking : A 3Textbook of Culinary Fundamentals”
3. K. T. Achaya” 1994, “Indian Food Tradition: A Historical Companion”
4. Ken Albala, 2013 “Food: A Cultural Culinary History”
5. Linda Civitello, 2011, “Cuisine and Culture: A History of Food and People”
6. Lizzie Collingham, 2006 “Curry: A Tale of Cooks and Conquerors”
7. Marcus, Jacqueline B. , 2013 “Culinary Nutrition”
8. Nilanjana Roy, 2004, “A matter of Taste” the penguin book of Indian writing on Food.”
9. Vaishali Tripathi, 2017 “Traditional Indian Thali: Maharashtyan, Gujarati
10. Rajashthani, Punjabi, South Indian Thali “[Vegetarian]

FSN- 231- FP Field Project

Course Objectives:

- 1.To expose students to practical field-based applications of Food Science and Nutrition .
- 2.To understand indigenous Foods in Rural Area ,
- 3.To encourage project work, teamwork, and reporting based on real-world in Nutrition
- 4.To help students understand the role of Nutrition in Rural and Urban Population and industrial area
- 5.To build skills in scientific documentation, field ethics, and communication .

Contents

Field Area

- 1.Dairy industry
2. Anganwadi
- 3.Preschool
- 4.Food processing Unit
- 5.Rural Hospitals
- 6.Self help Group

Project Examples: (Sample Only)

- Survey on Locally available Food
- Survey on Weaning Food
- Study on Traditional foods
- Survey on Pregnant Women Diet
- Survey on Adolescent Problems
- Survey on Anemia
- Survey on Adolescent Obesity

Teaching-Learning Methods:

- Orientation lectures on project planning
- Field visits and guided sample collection.
- Data analysis workshops.
- Guidance sessions for report writing and presentation.

Structure of Project Report:

1. Title Page
2. Certificate by Guide/Institution
3. Student Declaration Certificate

4. Acknowledgment
5. Abstract
6. Table of Contents
7. List of Figures, Tables, and Photographs

Chapter 1: Introduction: Background, problem statement, objectives, scope of the study.

Chapter 2: Review of Literature

Chapter 3: Materials and Methods: Description of field sites, Sampling methods and techniques used, Safety and ethical considerations, team members' roles.

Chapter 4: Results Presentation of collected data (graphs, tables, images).

Chapter 5: Discussion, Interpretation, and implications of results.

Chapter 6: Conclusion and Recommendations: Summary of findings, Suggestions for future work or applications.

References/Bibliography

Appendices: Logbook entries, additional photos, fieldwork certificates, etc.

Evaluation Scheme:

Internal Evaluation (15 Marks)

Parameter Marks

Area/Topic Selection 5

Regular Fieldwork and Follow-up 10

External Evaluation (35 Marks)

Parameter Marks

Project Report 15

Logbook/Record Book 10

Viva-Voce (Oral Examination) 10

SEMESTER –IV

FSN-251-MJT FOOD PRESERVATION

Course Objectives:

1. To understand the basic principles of food preservation.
2. To understand the need and scope of food preservation
3. To learn the various preservation techniques and their applications
4. To develop an awareness regarding commercial techniques of food preservation and Packaging

UNITS	CONTENTS	LECTURES
I	<ul style="list-style-type: none">• Introduction to food preservation• Importance, scope and objectives of food preservation • Basic principles of food preservation• Traditional methods of food preservation.• Selection criteria for preserved food products• Factors affecting post-harvest storage stability of foods.• Causes and classification of food by ease of spoilage <p>Methods of food preservation:</p> <ul style="list-style-type: none">• Asepsis or keeping out micro organisms, different techniques applied for asepsis.• Removal of micro organisms, use of different filters and other techniques to remove micro organisms-washing, centrifugation, filtration	08
II	<p>Methods of Food Preservation involving temperatures Use of high temperature</p> <ul style="list-style-type: none">• Factors affecting heat resistance, TDT and Pasteurization • Canning (green peas, mushroom, mango pulp, pineapple) and its use in food industry <p>Use of low temperature</p> <p>Blanching</p> <p>Freezing (slow, quick freezing)</p> <p>frozen storage,</p> <p>changes during storage and thawing</p>	07

III	<p>Drying or dehydration</p> <p>Factors affecting dehydration, pretreatments and post treatments, different techniques of dehydration. sun dryer. foam mat dryer, tunnel drying, vacuum drying,</p> <p>Intermediate moisture food</p> <p>Other Methods of Food Preservation- Use of preservatives</p> <ol style="list-style-type: none"> 1. PFA classification of food preservatives- class I and class II preservatives, developed preservatives. 2. Irradiation, its advantages and disadvantages. 3. Other methods- microwave heating, hurdle technology, wax emulsion 	08
IV	<p>Food Packaging</p> <ol style="list-style-type: none"> 1. Importance of packaging 2. Types of packaging materials available in the market. 3. <p>Characteristics of an ideal packaging</p> <ol style="list-style-type: none"> 4. Advantages of packaging 5. FAO, FSSAI, AGMARK, HACCP, 	07

References:

1. Frazier W. & Westhoff. D. (1988): Food Microbiology, Tata McGraw- Hill Publisher • Subbulakshmi G. and Udipi S.A. (2001): Food Processing and Preservation, New Longree K and Armbruster John Wiley and Sons, Quantity food sanitation 4th edition
2. Roday, Food sanitation and hygiene (1989): Basic Food Microbiology, Chapman and Hall Publication, New York
3. Desorosier N.W., (1963), The Technology of Food Preservation. The AVT Publishing Company.
4. Salunke D.K., (1974), Storage, Processing and Nutritional Quality of Fruits & Vegetables, C.R.S. Press, Cleveland Ohio.
5. Banwart G.J., (1989), Basic Food Microbiology, Chapman & Hall Publication, New York. • Girdharilal, Siddappa .G.S. and Tandon .G. L., Preservation of Fruits and Vegetable published, ICAR, New Delhi
6. Dr Swaminathan .M., Food Science Chemistry and experimental Foods Published by the Bangalore Printing and Publishing co. Ltd.
7. Longree, K. and Armbruster, G. (1996) Quantity Food Sanitation, 5th Edition, John Wiley, New York, U.S.A.
8. Dr Swaminathan .M., Food Science Chemistry and experimental Foods Published by the Bangalore Printing and Publishing co. Ltd.
9. Longree, K. and Armbruster, G. (1996) Quantity Food Sanitation, 5th Edition, John Wiley, New York, U.S.A

FSN- 252-MJT FOOD MICROBIOLOGY

Course Objectives:

1. To understand the nature and the role of microorganisms in food.
2. To have a knowledge of the basic principles of food sanitation and safety.
3. To acquire a perspective of the importance of microorganisms in environmental microbiology.
4. Identify the factors affecting microbial growth in food and describe mechanisms of food spoilage.
5. Explain the role of beneficial microorganisms in food

UNITS	CONTENTS	LECTURES
I	<p>Introduction to Food Microbiology</p> <p>Importance & Scope of microbiology.</p> <p>Introduction to microorganisms-Classification of Micro-organisms (bacteria, algae, fungi, protozoa and viruses) General characteristics and classification of microorganisms</p> <p>Contamination from air, water, soil, sewage</p> <p>Sterilization and Disinfection</p>	07
II	<p>2. Food Spoilage and Contamination</p> <p>(1) Contamination and spoilage of cereals, grains and cereal products.</p> <p>(2) Contamination and spoilage of Fruits and Vegetables</p> <p>(3) Contamination and spoilage of eggs, fish and meats</p> <p>(4) Contamination and spoilage of milk and milk products.</p> <p>(5) Contamination and spoilage of Sugar and Sugar Product and milk products</p>	08
III	<p>Beneficial effects of microorganisms.</p> <p>Microbial fermentation and Role of microorganisms in Food fermentations</p> <ul style="list-style-type: none"> • Beer • Wine • Bread • Indian pickles • Fermented dairy products Curd, yoghurt & cheese • Vinegar <p>Indian fermented products –Idli, dhokla, khaman.</p>	10
IV	<p>Definitions and differentiation between:</p> <ul style="list-style-type: none"> ➤ Food poisoning and infections. ➤ Salmonella and Clostridium Botulism ➤ Staphylococcus 	05

References:

1. Ananthanarayan and Paniker's,2016.A Text book of Microbiology,7th edition. Orient Blackswan, Hyderabad.
2. Tolaro.K.P.,2009.Foundations in Microbiology,7thInternational edition. McGraw Hill Education, Bangalore.
3. Michael. T. M.,Thomas. D.B.,2008. Brock biology of microorganisms, 12th edition, CA: Pearson/Benjamin Cummings, San Francisco
4. Purohit S. S., 2003. Microbiology fundamentals and applications, 6thedition, Agrobios Publisher, Jodhpur.
5. Frazier W.C. and Westhoff D.C. 2004. Food Microbiology, TMH Publication, New Delhi.
6. Stanier.R.Y.,Ingraham.J.L.,Wheelis.M.L.andPainter.P.R.,2001.General Microbiology, 5th edition, Macmillan Education Ltd., London.
7. MichaelJ.P.,Chan.C.S.,NoelR.K.,1986.Microbiology5thedition, McGraw Hills Publication, America.

FSN- 253-MJP: PRACTICAL- II

1. Introduction to Food Preservation -Aseptic handling in laboratory
2. Sugar preserves-: Preparation of jam, jellies, morabba and marmalade, Preparation of fruit peels, toffees
3. Sauces: Preparation of tomato ketchup and sauce, Preparation of Red chilli, Green chilli and tamarind sauce
4. Syrups and squashes:
5. Home scale methods for making synthetic syrups and squashes (Pineapple, Sweet lime, Lemon, Orange)
6. Preparation of the following:
 - a. Masalas (Tea, Milk Masala, Sambhar, Pavbhaji, Chat Masala, Garam Masala,)
 - b. Dry Chutney (Metkut, Dangar, Niger Seed Chutney, Flax Seed Chutney, Coconut Chutney)
7. Freezing of fruits and vegetables
8. Regional/Dehydrated foods (Sandge, Kurudai, Wafers and Papad)
9. Preparation of pickles (on basis of expected shelf life): Short and long shelf life pickles, Sweet pickles, Spicy and sour pickles with or without oil (Lemon, Mango, Green Chillies and Mix Vegetable Pickles) To study the Introduction to the Basic Microbiology Laboratory Practices.
10. To study the use of instruments for microbiology (Incubator, oven, autoclave, water bath etc.
11. To study the functioning and use of compound microscope.
12. To Prepare culture media(Nutrient broth, Nutrient agar, Macconkeys agar, Sabouraud's agar).Sterilization of media

FSN-271-VSC-P MILLET PROCESSING

Course Outcomes:

1. Identify and classify different millet grains based on physical, chemical & nutritional properties
2. Demonstrate cleaning, grading, and dehusking of millets using laboratory-scale equipment.
3. Prepare traditional and modern value-added millet products
4. Learn about packaging & storage material used for millet

CONTENT

Introduction to Millets

- Identification and classification of millets (major and minor)
- Physical and chemical characteristics

Pre-processing Techniques

- Cleaning, grading, and destoning
- Soaking and germination of millets
- Dehusking, Malting & Fermentation

Milling and Flour Preparation

- Dry and wet milling of millet grains
- Preparation of millet flour using stone mills or hammer mills
- Sieving and storage techniques

Preparation of Millet-Based Products

- Traditional products: **Roti, Idli, Upma**
- Formulated Products: Extruded millet snacks & Instant mixes
- Bakery Products: Cakes & Cookies

Packaging and Storage

- Packaging materials for millet and millet products
- Storage conditions and shelf-life evaluation

- Visit to a millet processing or food industry unit

HSC-291-MNT EARLY CHILDHOOD CARE AND EDUCATION

Course Objectives:

1. To develop and understand the need and importance of early childhood education.
2. To develop and understand curricular planning.
3. To learn various skills required for conducting developmentally appropriate program for children.
4. To gain insight into the organization and management of a preschool center.

UNITS	CONTENTS	LECTURES
I	Introduction Meaning, Importance and Objectives of ECE Organization of Preschool Centers: different types of preschool, physical setup, equipments- importance, selection & care Maintaining records and reports and its importance	07
II	Contribution of Child Educators and Programme planning Maria Montessori, Froebel, Rousseau, Tarabai Modak, Ravindranath Tagore, Mahatma Gandhi, Learning through play Play meaning, values, types, stages, play-way method	08
III	Components of ECE programme Child directed and Teacher directed activities need and values. Long term and short term planning Creative activities- painting, cutting and pasting, blocks sand play, water play, clay modeling- values and role of teacher of teacher Language activities- Types and methods 1. Songs 2. stories 3. Puzzles 4. Internal Talk 5. Object Talk 6. Selection of songs and stories for or preschoolers. Science activities, Importance and Types, Role of Teacher Social Studies- Importance and activities and celebration of festivals Mathematics and 3 R.S. Types of activities	07

IV	Working with parents and guiding children Importance of Parental Involvement and ways of parental involvement. Guiding children in Daily situation: Feeling of Insecurity and Hostility.	08
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HSC-292-MNP EARLY CHILDHOOD CARE AND EDUCATION

1. Observation of Nursery school and writing a report.
2. Creative and craft activities-Different types of drawing, Different types of painting. Finger painting
Modeling, Tearing, cutting and collage making
3. Threading and Lacing-
4. Language Activities pictures book, Collection of objects
5. Storytelling techniques. Preparing and telling a story
6. Science-Listing of science experiences
7. Mathematics-Preparing kit on pre-mathematical concepts
8. Music and movement-Collection of songs (i.e. Marathi, Hindi, English) • Singing songs in right tune
and pitch.
9. Making musical instrument
10. Readiness Activities-Reading readiness activities (Matching sets visual discrimination cards, Work pages
etc.)
11. Writing Readiness activities (Pencil Fun Games, Simple to Complex activities).
12. Games: Indoor and Outdoor.

References:

1. Skipper Witherspoon (1987) Good Schools for young children, Macmillan Publishing co,
New York.
2. Read K. (1967) The Nursery school Oxford IBH Publishing co, Dales.
3. Kulkarni S. (1998) Parent Education, Perspective and Approaches, Rawat
Publication, Jaipur.
4. Brewer: Early Childhood Education.
5. Desai Anupama, Vinita Apate- Learning through environment.
6. Spodek B. (1973) Early Childhood Education. Prentice Hall, New Jersey

HSC-293-MNT EVENT MANAGEMENT

Course Objectives:

1. Students will learn and understand the basic things in event management
2. Students will get knowledge about concept and design of the event
3. Students will learn the feasibility in event planning
4. Students will get acquainted about event marketing
5. Students will learn to know various human resource functions in event management
6. Students will learn various methods for event promotion and media functions
7. Students will learn the budgeting and to write the event proposals and event project

UNITS	CONTENTS	LECTURES
I	Introduction to Event Management: Events Defined, meaning & size of events, types of events, Importance & scope, qualities of an event manager	6
II	Concept & Design: 5 C's of events Developing the concept- Planning, controlling, organizing, evaluation Designing the events Staging - Choosing the event sight, Developing the theme, Conducting the rehearsals, Providing services, Arranging catering Protocol – Titles, Dress for formal occasions, protocol for speakers	8
III	EVENT MARKETING: Introduction to Event Marketing Nature of Event Marketing Process of Event Marketing The marketing Mix sponsorship	8

	Keys to Success, The SWOT Analysis	
IV	Promotion & Media: Purpose of promotion Use of different media – Print media, Networking Components, Radio, T.V, Internet, cable, Outdoor media, sponsorships at venues Factors to make promotion effective, solidarity. Event Proposal & Project Preparing the event Budget	8

References :

1. Sanjaya singh Gaur, Sanjay V. Saggere, Event marketing & mgmt, Frank Bros & CO
2. Getz D Cognizant, Event Mgmt & Event Tourism,
3. Communication Corporation
4. Raguda, Media & Communications Mgmt, Himalaya Publishing House
5. Gold Blatt, Best Practices in Modern Event mgmt
6. Dr. C.B. Memoria, Best Practices in Modern Event mgmt
7. Watt D. Longman, Leisure & Tourism Events Mgmt & Organizational Mgmt
8. Weaver D.John, Tourism Mgmt, Wiley & Sons
9. J.M. Mathe, Hospitality marketing & management, Avishkar Publications

HSC-294-MNP EVENT MANAGEMENT

1. Topic/ content Analysis
2. Planning & Evaluation for organizing sp. Events new year celebrations, birthday parties or any types of celebration.
3. Preparation & budget
4. Promotion
5. A study on marketing of any festival for advertisement.
6. Advertising for any event.
7. Selection of media and presentation skills Visit to hotel, fair any intuitions.
8. Exercise on interpersonal skill & communication. Preparation of communication management for any event.
9. Decoration for special event.
10. Staging- choosing the event site, conducting the rehearsals, providing services, titles of the shows, Dress for formal occasion, protocol for speakers.

OE-251-HSC-P MARRIAGE AND FAMILY STUDIES

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept of marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

CONTENTS-

1. Survey on any one of the following topics
2. Mate selection criteria
3. Changing roles of family members
4. Pre-marital preparation by youth
5. Critical qualitative analysis of Film-Serial/Advertisement on "Marriage Ceremony"
6. Workshop on Family Planning methods by Gynecologist & report writing.
7. Workshop on premarital counseling & report writing.
8. Visit to family counseling center or matrimony center.
9. Skit presentation on Family crisis.

References:

1. Henslin J.M. (ed) (1989): Marriage and family in changing society. The free press U.S.A.
2. Dural E.M. (1977): Marriage and family development Lippincott co. Philadelphia.
3. Dyer E.D. (1983): Courtship, Marriage and family, American style, The Dorsey press-Illians.
4. Blood, Robert and Wolfe (1960): Husband and wife dynamics and married life: Free press, New York.
5. *Vivahanika utumbicsambadh (2009): Pharakade Triveni, Gongo Sulabha, Vidya Prakashan, Nagpur.*
6. Smart S. and Smart M. S. (1980): Families-developing relationship, Mcmillan P

SEC-251-HSC-P TEACHING AIDS IN HOME SCIENCE EXTENSION EDUCATION

Need Assessments of Community

1. Assessing prevailing conditions of community focusing on aspects such as Health, Population, Housing, Education, Sanitation, etc.
2. Compilation of data collected utilizing it for preparing Preparation of questionnaire
3. Conduct a survey on different current issues of community
4. Analysis of information about conducting survey (Group discussion)

Community Contact Methods

1. Preparation of Graphic Aids- Posters, Charts, Leaflets etc. for selected target group.
2. Preparation of suitable communication aids for individual contact
3. Preparation of suitable communication aids for group contact
4. Preparation of suitable communication aids for mass contact
5. Enlist different traditional medias
6. Enlist modern media

Technology-Based Aids:

1. Interactive Whiteboards:
 2. These devices allow for interactive learning and can be used to present multimedia content, engage students in group activities, and facilitate discussions.
3. Educational Apps:
 4. Apps can provide interactive lessons, games, and quizzes, making learning more enjoyable and effective.
- Virtual Reality:
 5. Virtual reality can simulate real-life scenarios, such as field trips to historical sites or demonstrations of complex concepts.
6. Multimedia Projectors:
 7. Projectors can be used to display a variety of materials, including videos, presentations, and interactive simulations.

FSN- 281- CEP COMMUNITY ENGAGEMENT PROGRAM

Course Objectives:

- 1.To enable students to apply Food Science and Nutrition concepts for the benefit of local communities
- 2.To promote awareness of Breast feeding,Weaning foods, Low cost locally available food , balanced Diet, anemia diet, hygiene and sanitation in Kitchen
- 3.To develop skills in communication, teamwork, leadership, and public outreach
- 4.To bridge the gap between classroom learning and real-world community problems
- 5.To cultivate social responsibility and ethical scientific practices among Food science and Nutrition students

1. Orientation & Planning 15L

Importance of Home science outreach and Food Science and Nutrition in community health. 2.Training in communication skills, ethics, and safety.

- 3.Team formation and selection of target community/topic.

2. Community Engagement Activities 15L

Students (in groups) will carry out one or more of the following:

Awareness campaign of Breast feeding,Weaning foods, Low cost locally available food , balanced Diet, anemia diet, hygiene and sanitation in Kitchen ,Immunization

Planning + Reporting 15L

Designing posters, pamphlets, or short videos for awareness

Demonstrations using posters, models, videos, or hands-on activities

Distribution of pamphlets created by students.

Interaction with schools, self-help groups, Anganwadi and

Group discussions with community members

Documentation & Presentation 15L

1.Maintain logbooks or field diaries.

2.Collect community feedback and summarize outcomes.

3. Final group report submission.

4.Oral/poster/ppt presentation of experiences and impact.

Rules for CEP Work:

1. Group Formation and Size: Students will be assigned to groups based on the project theme. Each group should consist of a minimum of 4 students and a maximum of 6 students, depending on the nature and scope of the project.
2. Community Engagement Work Requirement: Each group must complete 7 full days or 15 part-time days of active community engagement work. Students must submit certificates of completion or photographic evidence in the final report if the fieldwork is conducted at a recognised institution or organisation.
3. Project Report Submission: Students must submit a printed and bound report with a minimum of 5,000 words. The report should be neatly organised and include charts, graphs, photographs, maps, and other relevant illustrations.
4. Role and Responsibility Documentation: The methodology section of the report must clearly outline the roles and responsibilities undertaken by each group member during the project.

Sample Community Engagement Themes for Food Science and Nutrition

Awareness campaign of Breast feeding, Weaning foods, Low cost locally available food , balanced Diet, anemia diet, hygiene and sanitation in Kitchen ,Immunization

Evaluation Scheme:

Internal Evaluation (15 Marks)

Parameter Marks

Area/Topic Selection 5

Regular Fieldwork and Follow-up 10

External Evaluation (35 Marks)

Parameter Marks

Project Report 15

Logbook/Record Book 10

Viva-Voce (Oral Examination) 10

Savitribai Phule Pune University, Pune

(Formerly University of Pune)



Second Year B.Sc. Program in Textile and Clothing

(Faculty of Science & Technology)

S.Y. B.Sc.(Home Science)

To be implemented from Academic Year 2025- 2026

Introduction to Undergraduate Degree Course in Home Science:

As per the recommendations of UGC-F-2022, the undergraduate (UG) degree course in Home Science is a 6-semester course spread over 3-academic years. The Teaching Learning Process (TLP) is students' centric. It involves both theory and practical components. It offers a flexibility of program structure while ensuring that the student gets a strong foundation in the subject and gains in depth knowledge. Besides the DSCs (Major Core), a student has options courses from the syllabus comprising of DSEs (Minor), GEs, SECs, IKSs and VSCs. Hence, this will bring out the interdisciplinary as well as multidisciplinary approach and adherence to innovative ways within the curriculum framework. It also allows a student's maximum flexibility in pursuing her studies at the undergraduate (UG) level to the extent of having the liberty to eventually design the degree with multiple exit options. Students have these exit options depending upon the needs and aspirations of the student in terms of her goals of life, without compromising on the teaching learning, both in qualitative and quantitative terms. This will suit the present day needs of students in terms of securing their paths towards higher studies or employment.

SEMESTER-III

TC-203-MJT CLOTHING MANAGEMENT

Course Objectives:

- 1) To impart knowledge of Fibers, sources of fibers and their properties
- 2) To impart knowledge Machines and tools used for sewing.
- 3) To impart knowledge Clothing for different age groups

UNITS	CONTENTS	LECTURES
I	Clothing Importance of Clothing Clothing demands or requirements during different stages of family life cycle. Management Responsibilities in clothing a family Theories of clothing – theory of modesty, immodesty, protection, adornment, combined need theory	07
II.	Family resources affecting clothing management Human relationship in clothing family Group Problems in clothing a family Money cost of clothing the family Technical problems in clothing a family Clothing Management Process	08
III	Wardrobe Planning Factors Affecting on clothing management Factors affecting selection or buying of clothes Clothing for different age groups with special reference to fabrics, colours, style and details	07
IV	Management in selection and care of clothing Renovation of clothing	08

References:

1. Tholia Akshay, (2011) Fabric Swatch Work Book, Ist Edition, Published by SARU International.
2. Cream, Penelope., (1996) The Complete Book of Sewing - A Practical Step by Step Guide to Sewing Techniques, DK Publishing Book, New York.
3. Janace E. Bubonia. (2012) Apparel production terms and processes, Fairchild Books, New York.

4. Thomas, (1986) *The Art of Sewing* UBSPD Publishers Distributors Ltd. New Delhi Bray, Natalie., *More Dress Pattern Making*, BSP.
5. Holman, Gillian., (1997) *Pattern Cutting Made Easy*, BSP.

TC-204-MJP HOME TEXTILE AND CARE

UNITS	CONTENTS	LECTURES
I	History and evolution of home Textiles <ul style="list-style-type: none">• Furnishings importance and their functions.• Selection, care and maintenance of different household textiles- Table linen, bath linen, kitchen towels and napkins• Floor covering• Bed linen• Curtains and draperies	08
II	Clothing as a portable environment: Protective clothing- health professionals, farm, industrial workers, fire fighters <ul style="list-style-type: none">• Clothing design to accommodate physical disabilities and irregularities• Clothing design for military• Impact protective clothing• Significance of uniforms and national costumes	07
III	Household Linen Care maintenance and Selection- Kitchen Linen Table Linen Bed Linen Bath Linen Draperies and Curtains Rugs and Carpets	08
IV	Selection of costume according to age group and gender Factors affecting selection of clothing – <ul style="list-style-type: none">• Economic factors• Psychological effects of clothing• Socio- psychological aspects of clothing Clothing symbolism, fashion, fad, costume, tradition, culture	07

References:

1. Winget, Textiles and their selection.
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4. Readers Digest, the complete book of sewing.
5. Bane A. Creative clothing constructions, Mc Graw.
6. Carson B., How you look and dress, Mcgraw Hill Book Company.
7. Savitri Pandit, Manual of Childrens Clothing, Orient Longmans Ltd.
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9. Cooklin G. 1997. Garment Technology for Fashion Designers. Blackwell Science.
10. Kilgus R. (Ed.) 1999. Clothing Technology. Europa Lehrmittel, Textile Institute, Manchester.
11. Cranz RLM. 1972. Clothing concepts. Collier Mcmillan.

TC-204-MJP PRACTICAL III

Clothing

1. Basic hand stitches- Basting, Hemming-visible/invisible, Tailor's tack.
2. Practice exercise of Basic seams
3. Types of Seam - Plain, Run and fell, French, lapped.
4. Types of Seam
5. Finishes- Overlock, Hand overcasting, Turned and Stitched, Binding
6. Make any one sample of Home decor
7. Make any one sample of Table linen/Bed Linen
8. Making of any home textile article by using embroidery
9. Survey on selected functional clothing available in the market
10. Designing clothing for pregnant women and nursing mothers. Specify (illustration or stitching)
11. Project Making - Study of various household textiles-fiber content, yarn type, weave, design and finish.
12. Rug making from old fabrics

TC-VSC-222 TRADITIONAL EMBROIDERIES OF INDIA I

UNITS	CONTENTS	LECTURES
I	Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (North & South India) <ul style="list-style-type: none">● Kashida of Kashmir● Chikankari of Uttar Pradesh	07
II	Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (North & South India) Phulkari of Punjab <ul style="list-style-type: none">● Chamba Rumal of Himachal Pradesh● Kasuti of Karnataka	08
III	Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (East & West India) <ul style="list-style-type: none">● Kantha of Bengal● Gold & Silver Metal embroidery (Zari & zardozi)	07
IV	Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (East & West India) <ul style="list-style-type: none">● Embroidery of Gujarat● Manipuri of Manipur.● Applique of Orissa & Pipli	08

References:

1. Brij Bhushan Jamila – Costumes and Textiles of India, D B Taraporewala and Sons, 1958.
2. Chattopadhyaya Kamaladevi – Carpets & Floor covering of India, Secretary of Indian Council for Cultural relations, New Delhi. D. B. Taraporewala & Sons Co. Pvt. Ltd., 1976.
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5. Dongerkery Kamala – Romance of Indian Embroidery, Thaker and Co. Ltd
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8. Jasleen Dhamija and Jay Jyotindra – “Hand woven Fabrics of India.” Ahmedabad, Mopin Publishing, 1991.
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13. Lynton Linda– The sari-style – patterns – History – Techniques, London : Thames & Hudson , 1995.
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15. Mehta Rustam J. – Handicrafts of India Taraporewalla house of Books, Bombay.
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17. Murphy V. & Crill R.- Tie & Dye Textiles of India, Victoria Albert Museum, London, 1991.
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TC- 231- FP FIELD PROJECT

Course Objectives:

1. To expose students to practical field-based applications of Textile and Clothing
2. To understand awareness about Clothing in Rural and urban area
3. To encourage project work, teamwork, and reporting based on real-world.
4. To build skills in scientific documentation, field ethics, and communication.

Contents

Field Area

1. Textile Park
2. Weaving Centre
4. Garment Industry
5. Boutique

Project Examples: (Sample Only)

Survey on Age wise Clothing

Survey on Fashion

Study on Traditional Costumes

Teaching-Learning Methods:

Orientation lectures on project planning

Field visits and guided sample collection.

Data analysis workshops.

Guidance sessions for report writing and presentation.

Structure of Project Report:

1. Title Page
2. Certificate by Guide/Institution
3. Student Declaration Certificate
4. Acknowledgment
5. Abstract
6. Table of Contents
7. List of Figures, Tables, and Photographs
8. Chapter 1: Introduction: Background, problem statement, objectives, scope of the study.
9. Chapter 2: Review of Literature
10. Chapter 3: Materials and Methods: Description of field sites, Sampling methods and techniques used, Safety and ethical considerations, team members' roles.
11. Chapter 4: Results Presentation of collected data (graphs, tables, images).

12. Chapter 5: Discussion, Interpretation, and implications of results.
13. Chapter 6: Conclusion and Recommendations: Summary of findings, Suggestions for future work or applications.
14. References/Bibliography
15. Appendices: Logbook entries, additional photos, fieldwork certificates, etc.

Evaluation Scheme:

Internal Evaluation (15 Marks)

Parameter Marks

Area/Topic Selection 5

Regular Fieldwork and Follow-up 10

External Evaluation (35 Marks)

Parameter Marks

Project Report 15

Logbook/Record Book 10

Viva-Voce (Oral Examination) 10

HSC-241-MNT FAMILY DYNAMICS

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept to marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

UNITS	CONTENTS	LECTURES
I	<p>Introduction</p> <p>Introduction of “Marriage and Family” as an institution and its importance.</p> <p>Meaning of traditional marriage and its functions</p> <p>Goals of modern marriage</p>	07
II	<p>Marriage</p> <p>Pre-marital Involvement, Marriage counseling; Premarital and postmarital counseling</p> <p>Mate selection: Guidelines for mate selection, Modes of mate selection, factors in self-choice and arranged marriage</p> <p>Engagement: Meaning, importance and functions of engagement, Broken engagement: causes, ways of coping.</p> <p>Wedding and Honeymoon</p> <p>Wedding: Traditional and Court Marriage Honeymoon: Values of honeymoon, Significance of honeymoon</p>	08
III	<p>Family</p> <p>Definition and types, functions of family</p> <p>Family life cycle and developmental tasks, adjustments within family areas and patterns.</p> <p>Alternate family patterns - causes, characteristics and implications.</p> <p>Family crisis: Types of crisis and ways of coping.</p>	07
IV	<p>Parenthood</p> <p>Concept and significance of planned parenthood</p> <p>Pleasures and hazards of parenthood</p> <p>Family planning methods: advantages and disadvantages</p>	08

HSC-242-MNP FAMILY DYNAMICS (60 LECTURE)

1. Survey on any one of the following topics
2. Mate selection criteria
3. Changing roles of family members
4. Pre-maritalpre-preparationbyyouth
5. CriticalqualitativeanalysisofFilm-Serial/Advertisementon“MarriageCeremony”
6. WorkshoponFamilyPlanning methodsbyGynecologist &reportwriting.
7. Workshoponpremaritalcounseling&reportwriting.
8. Visittofamilycounseling centerormatrimony center.
9. SkitpresentationonFamilycrisis.

References:

1. HenslinJ.M.(ed)(1989):Marriageandfamilyinchangingsociety.Thefree preasU.S.A.
2. DurallE.M.(1977):Marriageand familydevelopmentLippincottco.philadelphia.
3. DyerE.D. (1983):Courtship,Marriageand family,Americanstyle,TheDorseypress-Illians.
4. Blood,RobertandWolfe(1960):Husbandand wifedynamicsandmarriedlife:Freepress,Newyork.
5. *Vivahanikautumbicsambadh(2009):PharakadeTriveni,GongoSulabha,VidyaPrakashan, Nagpur.*
6. SmartS.andSmartM. S.(1980):Families-developingrelationship,McmillanP

HSC-243-MNT CONSUMER STUDIES

Course Objectives:

To enable students to –

1. Be aware of the consumer problem in the market
2. Become aware of the rights and responsibilities of consumer
3. Realize the importance of the effective role of consumers in the market
4. Develop good buy man ship skill in the selection of goods in the market
5. Be aware of consumer protective services

UNITS	CONTENTS	LECTURES
I	CONSUMER AND CONSUMER PROBLEMS Definition of a consumer Consumer movement – Introduction and Objectives Need for consumer education Consumer Problems <ul style="list-style-type: none">• Adulteration• Faulty weights and measures• Misleading advertisements• Other problems like online banking- shopping ect.	7
II	ADVERTISEMENTS AND CONSUMER GUIDES Advertisement – Definition, Influence of advertisement on consumers, usefulness of advertisement to consumers. Misleading advertising <ul style="list-style-type: none">• Brands - meaning, types of brands, advantages and disadvantages of brands• Labels – meaning and definition of labels, types of labels.• Grading and Standardization – Role of BIS, AGMARK, FPO, ECO marks, Silk mark, wool mark, Cotton mark, Handloom mark	8
III	CONSUMER DECISION MAKING PROCESS What is consumer decision – types of consumer decision (rational and irrational) Decision making process to include problem recognition, information seeking, equation of alternatives, buying decisions, post purchase evaluation.	7

	<p>Good buymanship</p> <p>CONSUMER RIGHTS AND RESPONSIBILITIES</p> <p>Consumer Rights- eight right of consumer in details</p> <p>Consumer responsibilities- critical awareness, action, social responsibilities, environmental awareness, solidarity</p>	
IV	<p>. CONSUMER PROTECTION</p> <p>What is consumer protection</p> <p>Need for consumer protection</p> <p>Consumer redressal forum-3 R'S and redressal mechanisms,</p> <p>How to provide consumer protection Act 1986 (COPRA)</p> <ul style="list-style-type: none"> ➤ MRTP Act ➤ Food Adulteration Act ➤ Essential Commodities Act ➤ Packaged Commodities Act <p>Weights and Measures Act</p> <ul style="list-style-type: none"> • Agencies CFBP, CERS, CGSI 	8

HSC-244-MNP CONSUMER STUDIES

1. Identify 5 consumer problems related to food adulteration/ faulty weights and measures/ sales gimmicks. Interview a consumer who has faced some problem related to any one of the areas mentioned above, in the market and document the same.
2. Presentation of the report
3. Collect 5 samples for labels from various products such as food/ medicines/cosmetics/clothing.
4. Write a detailed report regarding the information given to the Consumers through these labels followed by a discussion in the class regarding the positive and negative points of the labels.
5. Collect 5 samples various brands
6. Advertisements from any media like Television/ radio / print media and write a detailed report followed by a discussion in the class.
7. Observe how decision making process is used, in your own family for the purchase of some consumer product like refrigerator/television/ food processor/ washing machine and write a report
8. Procedure for Redressal for a consumer problem
9. A written report on Role of Consumer Agencies like CGSI/ CERC/CFBP in consumer protection.

References:

- 1 Ahuja B.N. & Chhabra S.S. (1989) : Advertising, Surjeet Publication, Delhi
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- 18 Mehta S.C. (1993): Indian Consumers – Studies and cases for marketing decisions, Tata McGraw Hill Pub., New Delhi.
- 19 Garman E. Thomas et al. (1974) : The consumer's world- Buying, money management and issues, McGraw Hill Book Co. New York
- 20 Schiffman L. (2000): Consumer Behaviour, Prentice Hall Of India Pvt. Ltd., New Delhi.

OE-201-HSC-T MARRIAGE AND FAMILY STUDIES

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept to marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

UNITS	CONTENTS	LECTURES
I	<p>Introduction</p> <p>Introduction of “Marriage and Family” as an institution and its importance.</p> <p>Meaning of traditional marriage and its functions</p> <p>Goals of modern marriage</p>	07
II	<p>Marriage</p> <p>Pre-marital Involvement, Marriage counseling; Premarital and postmarital counseling</p> <p>Mate selection: Guidelines for mate selection, Modes of mate selection, factors in self-choice and arranged marriage</p> <p>Engagement: Meaning, importance and functions of engagement, Broken engagement: causes, ways of coping.</p> <p>Wedding and Honeymoon</p> <p>Wedding: Traditional and Court Marriage Honeymoon: Values of honeymoon, Significance of honeymoon</p>	08
III	<p>Family</p> <p>Definition and types, functions of family</p> <p>Family life cycle and developmental tasks, adjustments within family areas and patterns.</p> <p>Alternate family patterns - causes, characteristics and implications.</p> <p>Family crisis: Types of crisis and ways of coping.</p>	07
IV	<p>Parenthood</p> <p>Concept and significance of planned parenthood</p> <p>Pleasures and hazards of parenthood</p> <p>Family planning methods: advantages and disadvantages</p>	08

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1. Henslin J.M. (ed) (1989): Marriage and family in changing society. The free press U.S.A.
2. Durrall E.M. (1977): Marriage and family development Lippincott co. Philadelphia.
3. Dyer E.D. (1983): Courtship, Marriage and family, American style, The Dorsey press-Illians.
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TC-251-IKS HISTORY OF FASHION

Course Objectives:

1. To provide an overview of history of costume from ancient civilization to the present
2. To explain the socio-cultural factors influencing costume
3. To explain the influence of industrial revolution on fashion industry.
4. To discuss the evolution of modern Indian fashion

UNITS	CONTENTS	LECTURES
I	What is Fashion? Fashion Retrospect Fashion Cycle Fashion Leaders and Followers Fashion Theories	07
II	Classification of Fashion Factors influencing fashion Principles of fashion	08
III	History of Textiles of India History of Fashion in India	07
IV	Overview of clothing & Clothing cultures The Roman period Gothic Period Egyptian Period The Byzantine Period Greek Period Russian Influence French Historic Costumes	08

References:

1. Alkazi, R. (2011). Ancient Indian Costumes. Art Heritage Biswas, A.(2017).
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The Complete History of Costumes and Fashion. Facts on File Publisher. Laver, J. (2002).
3. Costume and Fashion. Thames & Hudson. Peacock, J. (1991).
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SEMESTER IV

TC-251-MJT TEXTILE CHEMISTRY

UNITS	CONTENTS	LECTURES
I	Spinning Polymerization Chemical spinning Bi-component and bi-constituent fibers.	07
II	Classification of finishes Definitions and uses of following finishes – <ul style="list-style-type: none"> ◆ Basic routine finish – Tentering, Mercerization, Calendaring or Pressing. ◆ Special finishes - Carbonizing, Weighting, Deguming. ◆ Finishes for appearance, hand & performance- Heat setting, Embossing surfaces, Napping. ◆ Softening finishes ◆ Optical finishes- Delustering, Brightening 	08
III	Special finishes to improve performance of fabrics- Antistatic finish, Durable press finish, Flame Retardant finish, Moth proofing finish, Stain -& Soil Resistant finish, Water –Repellent & Waterproof finish	07
IV	Classification of dyes □□ Stages of dyeing □□ Printing methods and style	08
	Practical	
1.	Introduction to Chemical Processing	
2.	Singeing	
3.	De-sizing	
4.	Scouring	
5.	Bleaching	
6.	Mercerization	

Preparation of fabric for dyeing and printing: • Scouring • Bleaching •Desizing at cottage level

References:

1. Collier Billie & Epps, Helen - Textile Testing and Analysis, Upper Saddle River, Merrill Publishing, 1999
2. Corbman – Textiles: Fibres to Fabrics, 6Th EDITION, New York: McGraw Hill Book Co., 1983.

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10. Marsh J. T. – Introduction to Textile Finishes. B. I. Publication Pvt. Ltd.
11. Marsh J. T. – Textile Science – An Introductory manual. B. I. Publication Pvt. Ltd.
12. Moncrieff R. W. – Manmade Fibers. (6th Edition), London, Newnes – Butterworth.
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14. Prayag R. S. – Finishes. Dharwad 1990.
15. Skinkle J.H. – Textile Testing. 2nd Ed. Bombay – D.B. Taraporewala Sons & Company, 1972.
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21. Wyenn (1997) – Textiles – Motivate series, London, Macmillan Education, Ltd.

HSC-252-MJT – WET PROCESSING

Course Objectives :

- To improve Knowledge of textile and garments wet processing.
- To introduce students to various chemicals, dye and auxiliaries used in chemical processing.
- To improve the knowledge of textile coloring and various dyeing methods to the students.
- To bring an awareness on the industrial techniques of dyeing.

Units	Contents	Lectures
I	<ul style="list-style-type: none">• wet processing: Introduction1. Introduction of dye and pigments, dye fixers & mordents2. Difference between dye and pigments3. Study of Auxiliaries used for dyeing and printing	07
II	<ul style="list-style-type: none">• Dye: Classification of Dye1. Natural and Synthetic2. Types of dyes and their application in various Fabrics.	
III	<ul style="list-style-type: none">• Methods of dyeing : Stock, yarn, Skein, package, Beam, piece, union & cross dyeing, garments dyeing, solution dyeing. <ul style="list-style-type: none">• Common Dyeing Defects and their remedy	
IV	Printing : <ul style="list-style-type: none">• Definition, Printing Paste Ingredients• Difference between dyeing and printing• Methods of printing : Block, stencil, Roller, Screen, Rotary screen, Transfer , Digital, <ul style="list-style-type: none">• Style of dyeing : Direct, Resist, Discharge	

References :

1. Cockett, B. R. (1964) : Dyeing and printing, London, Sir Issac Pitman and sons Ltd.
2. Gohl and Vilensky (1987) : Textile science, Delhi, BCS Publishers and Distributors.
3. Grossicki, Watson's (1975) : Textile design and colour, Butterworth and company.

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10. History of Indian Textiles, Ahmedabad, Calico Museum of Textiles
11. Andrea Mcnamara, Patrik Snelling (1995) : Design and practice for printed textiles, Australia, Oxford University Press.

PRACTICAL-II

UNITS	CONTENTS	LECTURES
I	<ul style="list-style-type: none">• Pretreatments of dyeing<ol style="list-style-type: none">1. Desizing of Cotton fabric2. Degumming of the silk fabric3. Scouring of cotton fabric by Sodium Hydroxide4. Bleaching of the cotton fabric by Hydrogen Peroxide	08
I	<ul style="list-style-type: none">• Dyeing & its Style<ol style="list-style-type: none">1. Dyeing of cotton with direct Dyes2. Dyeing of wool with reactive dyes3. Dyeing of cotton fabric with different Natural dye	07
III	<ul style="list-style-type: none">• Tie and dye Techniques of cotton fabric<ol style="list-style-type: none">1. Marbling2. Spiral3. Pleating4. Knotting5. Circle6. Ovals7. Stitch8. Spider	08
IV	Printing : <ol style="list-style-type: none">1. printing of cotton fabric with block printing2. Printing of cotton fabric using Stencil3. Printing of cotton fabric with Screen Printing4. Batik Print on the cotton fabric	07

VSC- 272 TRADITIONAL EMBROIDERIES OF INDIA II

1. Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (North & South India)

- Kashida of Kashmir
- Chikankari of Uttar Pradesh
- Phulkari of Punjab
- Chamba Rumal of Himachal Pradesh

Kasuti of Karnataka

2. Introduction of Origin, Significance, Tools, Materials, Stitches, Motifs, Colors, and Products Used in traditional Indian embroideries. (East & West India)

- Kantha of Bengal
- Gold & Silver Metal embroidery (Zari & zardozi)
- Embroidery of Gujarat
- Manipuri of Manipur.
- Applique of Orissa & Pipli

References:

1. Brij Bhushan Jamila – Costumes and Textiles of India, D B Taraporewala and Sons, 1958.
2. Chattopadhyaya Kamaladevi – Carpets & Floor covering of India, Secretary of Indian Council for Cultural relations, New Delhi. D. B. Taraporewala & Sons Co. Pvt. Ltd., 1976.
3. Chattopadhyaya Kamaladevi – Handicrafts of India, Secretary of Indian Council for Cultural relations, New Delhi. D. B. Taraporewala & Sons Co. Pvt. Ltd., 1976.
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14. Marg Publication – Textiles and Embroideries of India, Bombay, Marg Publication, 1962.
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18. Naik Shailja –Traditional Embroidery of India, New Delhi, A P H Publishing Co, 1997.
19. Pandit Savitri – Indian Embroidery, Jaymudra, Baroda.

HSC-291-MNT EARLY CHILDHOOD CARE AND EDUCATION

Course Objectives:

1. Develop and understand the need and importance of early childhood education.
2. Develop and understand curricular planning.
3. Learn various skills required for conducting developmentally appropriate program for children.
4. Gain insight in to the organization and management of a preschool center.

UNITS	CONTENTS	LECTURES
I	Introduction Meaning, Importance and Objectives of ECE Organization of Preschool Centers: different types of preschool, physical setup, equipments- importance , selection & care Maintaining records and reports and its importance	07
II	Contribution of Child Educators and Programme planning Maria Montessori, Froebel Rousseau, Tarabai Modak, Ravindranath Tagore, Mahatma Gandhi, Learning through play Play meaning, values, types, stages, play-way method	08
III	Components of ECE programme Child directed and Teacher directed activities need and values. Long term and short term planning Creative activities-painting, cutting and pasting, blocks sand play, water play, clay modeling-values and role of teacher of teacher Language activities-Types and methods 1.Songs 2.stories 3.Puzzles 4.Internal Talk 5.ObjectTalk 6.Selection of songs and stories for preschoolers. Science activities, Importance and Types, Role of Teacher Social Studies-Importance and activities and celebration of festivals Mathematics and R.S. Types of activities	07

IV	Working with parents and guiding children Importance of Parental Involvement and ways of parental involvement. Guiding children in Daily situation : Feeling of Insecurity and Hostility.	08
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HSC-292-MNP EARLY CHILDHOOD CARE AND EDUCATION

1. Observation of Nursery school and writing a report.
2. Creative a craft activities-Different types of drawing, Different types of painting. Finger painting Modeling, Tearing, cutting and collage making
3. Threading and Lacing-
4. Language Activities pictures book, Collection of objects
5. Story telling techniques. Preparing and telling a story
6. Science-Listing of science experiences
7. Mathematics-Preparing kit on premathematical concepts
8. Music and movement-Collection of songs (i.e. Marathi, Hindi, English) • Singing songs in right tune and pitch.
9. Making musical instrument
10. Readiness Activities-Reading readinessactivities(Matchingsets visualdiscriminationcards, Work pages etc.)
11. Writing Read inessactivities(PencilFunGames,SimpletoComplex activities).
12. Games:IndoorandOutdoor.

References:

1. SkipperWitherspoon(1987)GoodSchoolsforyoungchildren,Macmillan Publishing co, Newyork.
2. ReadK.(1967)TheNurseryschoolOxford IBHPublishingco,Dales.
3. Kulkarni S. (1998) Parent Education, Perspective and Approaches, Rawat Publication, Jaipur.
4. Brewer:EarlyChildhoodEducation.
5. DesaiAnupama,VinitaApate-Learningthroughenvironment.
6. SpodekB.(1973)Early ChildhoodEducation.PrenticeHall,NewJers

HSC-293-MNT EVENT MANAGEMENT

Course Objectives:

1. Students will learn and understand the basic things in event management
2. Students will get knowledge about concept and design of the event
3. Students will learn the feasibility in event planning
4. Students will get acquainted about event marketing
5. Students will learn to know various human resource functions in event management
6. Students will learn various methods for event promotion and media functions
7. Students will learn the budgeting and to write the event proposals and event project

UNITS	CONTENTS	LECTURES
I	Introduction to Event Management: Events Defined, meaning & size of events, types of events, Importance & scope, qualities of an event manager	6
II	Concept & Design: 5 C's of events Developing the concept- Planning, controlling, organizing, evaluation Designing the events Staging - Choosing the event sight, Developing the theme, Conducting the rehearsals, Providing services, Arranging catering Protocol – Titles, Dress for formal occasions, protocol for speakers	8
III	EVENT MARKETING: Introduction to Event Marketing Nature of Event Marketing Process of Event Marketing The marketing Mix sponsorship	8

	Keys to Success, The SWOT Analysis	
IV	Promotion & Media: Purpose of promotion Use of different media – Print media, Networking Components, Radio, T.V, Internet, cable, Outdoor media, sponsorships at venues Factors to make promotion effective, solidarity. Event Proposal & Project Preparing the event Budget	8

References :

1. Sanjaya singh Gaur, Sanjay V. Saggere, Event marketing & mgmt, Frank Bros & CO
2. Getz D Cognizant, Event Mgmt & Event Tourism,
3. Communication Corporation
4. Raguda, Media & Communications Mgmt, Himalaya Publishing House
5. Gold Blatt, Best Practices in Modern Event mgmt
6. Dr. C.B. Memoria, Best Practices in Modern Event mgmt
7. Watt D. Longman, Leisure & Tourism Events Mgmt & Organizational Mgmt
8. Weaver D.John, Tourism Mgmt, Wiley & Sons
9. J.M. Mathe, Hospitality marketing & management, Avishkar Publications

HSC-294-MNP EVENT MANAGEMENT

1. Topic/ content Analysis
2. Planning & Evaluation for organizing sp. Events new year celebrations, birthday parties or any types of celebration.
3. Preparation & budget
4. Promotion
5. A study on marketing of any festival for advertisement.
6. Advertising for any event.
7. Selection of media and presentation skills Visit to hotel, fair any intuitions.
8. Exercise on interpersonal skill & communication. Preparation of communication management for any event.
9. Decoration for special event.
10. Staging- choosing the event site, conducting the rehearsals, providing services, titles of the shows, Dress for formal occasion, protocol for speakers.

OE-251-HSC-P MARRIAGE AND FAMILY STUDIES

Course Objectives:

1. To sensitize the students towards marriage and family.
2. To understand the traditional and changing norms of the institution of the family with reference to its social environment.
3. To get familiar with the concept of marriage and Planned Parenthood and the areas of adjustment within the family.
4. To become aware of problems in family and way of coping.

CONTENTS-

1. Survey on any one of the following topics
2. Mate selection criteria
3. Changing roles of family members
4. Pre-marital preparation by youth
5. Critical qualitative analysis of Film-Serial/Advertisement on "Marriage Ceremony"
6. Workshop on Family Planning methods by Gynecologist & report writing.
7. Workshop on premarital counseling & report writing.
8. Visit to family counseling center or matrimony center.
9. Skit presentation on Family crisis.

References:

1. Henslin J.M. (ed) (1989): Marriage and family in changing society. The free press U.S.A.
2. Durrall E.M. (1977): Marriage and family development Lippincott Co. Philadelphia.
3. Dyer E.D. (1983): Courtship, Marriage and family, American style, The Dorsey press-Illians.
4. Blood, Robert and Wolfe (1960): Husband and wife dynamics and married life: Free press, New York.
5. *Vivahanika utumbicsambadh* (2009): Pharakade Triveni, Gongo Sulabha, Vidya Prakashan, Nagpur.
6. Smart S. and Smart M. S. (1980): Families-developing relationship, Mcmillan P

SEC-251-HSC-P TEACHING AIDS IN HOME SCIENCE EXTENSION EDUCATION

Need Assessments of Community

1. Assessing prevailing conditions of community focusing on aspects such as Health, Population, Housing, Education, Sanitation, etc.
2. Compilation of data collected utilizing it for preparing Preparation of questionnaire
3. Conduct a survey on different current issues of community
4. Analysis of information about conducting survey (Group discussion)

Community Contact Methods

1. Preparation of Graphic Aids- Posters, Charts, Leaflets etc. for selected target group.
2. Preparation of suitable communication aids for individual contact
3. Preparation of suitable communication aids for group contact
4. Preparation of suitable communication aids for mass contact
5. Enlist different traditional medias
6. Enlist modern media

Technology-Based Aids:

1. Interactive Whiteboards:
 2. These devices allow for interactive learning and can be used to present multimedia content, engage students in group activities, and facilitate discussions.
3. Educational Apps:
 4. Apps can provide interactive lessons, games, and quizzes, making learning more enjoyable and effective.
5. Virtual Reality:
 6. Virtual reality can simulate real-life scenarios, such as field trips to historical sites or demonstrations of complex concepts.
7. Multimedia Projectors:
 8. Projectors can be used to display a variety of materials, including videos, presentations, and interactive simulations.

TC- 281- CEP COMMUNITY ENGAGEMENT PROGRAM

Course Objectives:

- 1.To enable students to apply Textile and Clothing concepts for the benefit of local communities
- 2.To promote awareness about proper Clothing,for all age group
- 3.To develop skills in communication, teamwork, leadership, and public outreach
- 4.To bridge the gap between classroom learning and real-world community problems

1. Orientation & Planning 15L

- Importance of clothing outreach and 2.Training in communication skills, ethics, and safety.
- 3.Team formation and selection of target community/topic.

2. Community Engagement Activities 15L

Students (in groups) will carry out one or more of the following:

- 1.Awareness campaign Leftover Clothing ,Garment Ornament
- 2.Traning for Self help group on Block printing and Tie and Dye
To become a entrepreneur

Planning + Reporting 15L

Designing posters, pamphlets, or short videos for awareness

Demonstrations using posters, models, videos, or hands-on activities

Distribution of pamphlets created by students.

Interaction with schools, self-help groups, Anganwadi and

Group discussions with community members

Documentation & Presentation 15L

- 1.Maintain logbooks or field diaries.**
- 2.Collect community feedback and summarize outcomes.**
- 3. Final group report submission.**
- 4.Oral/poster/ppt presentation of experiences and impact.**

Rules for CEP Work:

1. Group Formation and Size: Students will be assigned to groups based on the project theme. Each group should consist of a minimum of 4 students and a maximum of 6 students,

depending on the nature and scope of the project.

2. Community Engagement Work Requirement: Each group must complete 7 full days or 15 part-time days of active community engagement work. Students must submit certificates of completion or photographic evidence in the final report if the fieldwork is conducted at a recognised institution or organisation.

3. Project Report Submission: Students must submit a printed and bound report with a minimum of 5,000 words. The report should be neatly organised and include charts, graphs, photographs, maps, and other relevant illustrations.

4. Role and Responsibility Documentation: The methodology section of the report must clearly outline the roles and responsibilities undertaken by each group member during the project.

Sample Community Engagement

Themes for Textile and Clothing

1. Awareness campaign Leftover Clothing ,Garment Ornament

2. Training for Self help group on Block printing and Tie and Dye

To become an entrepreneur

Evaluation Scheme:

Internal Evaluation (15 Marks)

Parameter Marks

Area/Topic Selection 5

Regular Fieldwork and Follow-up 10

External Evaluation (35 Marks)

Parameter Marks

Project Report 15

Logbook/Record Book 10

Viva-Voce (Oral Examination) 10

Savitribai Phule Pune University, Pune

Third year B.Sc. (Home Science) Food Science and Nutrition effect from (2021-2022)

Semester V

Course Code	Course	Teaching scheme Hours/Week			Examination Scheme and Marks					Credit	
		Theor y	Tuto rial	Practical	CIA	End-Sem	CIA	PR	Total	TH	PR
HS-501	Nutritional Biochemistry	03	01	04	30	70	20	30	150	3	1.5
HS-502	Diet Therapy I	03	01	04	30	70	20	30	150	3	1.5
HS-503	Health, Hygiene and Microbiology	03	01	04	30	70	20	30	150	3	1.5
HS-504	Dietary Management for health and fitness	03	01	04	30	70	20	30	150	3	1.5
HS-505	Personality an Soft Skill Development – I	3	--	--	15	35			50	2	
HS-506	Entrepreneurship Development– I	3	--	--	15	35			50	2	
		18	4	16	150	350	80	120	700	16	6
Total Credits										22	

Semester VI											
Course Code	Course	Teaching scheme Hours/Week			Examination Scheme and Marks					Credit	
		Theory	Tutorial	Practical	Theory		Practical		Total	TH	PR
		Theory	Tutorial	Practical	CIA	End-Sem	CIA	PR	Total	TH	PR
HS-601	Institutional Food Service Management	03	01	04	30	70	20	30	150	3	1.5
HS-602	Community Nutrition	03	01	04	30	70	20	30	150	3	1.5
HS-603	Food Product Development and Quality Control	03	01	04	30	70	20	30	150	3	1.5
HS-604	Diet Therapy II	03	01	04	30	70	20	30	150	3	1.5
HS-605	Bakery Science – I	3	--	--	15	35			50	2	
HS-606	Internship or Project – I	3	--	--	15	35			50	2	
		18	4	16	150	350	80	120	700	16	6
Total Credits										22	

Semester V

HS-501 Nutritional Biochemistry(Th)

Objectives:

1. This course will enable students to:
2. Understand the fundamentals of metabolic processes occurring in the body.
3. Develop awareness about the significance of various metabolic processes / pathways.
4. Develop the ability to apply the significance of these processes to different physiological / metabolic conditions.

Credits-03+1.5

Theory: 4 Lectures/week

Theory: 100 Marks

Practical: 4 Lectures

Practical: 50 Marks

Units	Content	No of Lectures
Unit 1	<ul style="list-style-type: none">• Introduction, Definition, objectives, scope and inter relationship between Biochemistry and nutrition.• Metabolism – Digestion & Absorption of different nutrients in the human system.	05
Unit 2	Carbohydrate metabolism: Classification of Carbohydrate <ul style="list-style-type: none">• Various Biological pathways -- site, significance, with, enzymes, ,• Glycolysis, TCA [Kreb's cycle], chemical structure of tCa Gluconeogenesis, Glycogenesis• Glycogenolysis	8
Unit 3	Lipid Metabolism: <ul style="list-style-type: none">• Biosynthesis of fatty acids, regulation of synthesis.• Ketosis and Ketogenesis• Triglycerides synthesis --- Intestinal resynthesis of triglycerides, synthesis in Liver.• Introduction of Cholesterol – Control of cholesterol metabolism• Plasma Lipoproteins, Metabolism of Chylomicrons, LDL, HDL and VLDL	8

Unit 4	Protein Metabolism Trans-amination,role of pyridoxine,significance Uric acid and gout Metabolic fate of the carbon skeleton of amino acids – glucogenic, ketogenic and glucogenic and ketogenic amino acids.	8
Unit 5	Enzymes & Hormone Definition, & classification.. Factors affecting enzymes. Enzyme inhibition. Types & role of coenzymes	8
Unit 6	Nutraceuticals and phytochemicals for prevention of non communicable diseases like cardiovascular diseases, cancer, diabetes, cholesterol management, obesity and joint pain, immune enhancement, age-related muscular degeneration, endurance performance Inborn errors of metabolism PhenylketonureaMaple syrup urin disease,Tyrosinemia Galactosemia,Wilsan disease	8

Practicals

1. Qualitative Estimation of Normal Constituents of Urine.
2. Qualitative Estimation of Carbohydrates
3. Abnormal Constituents of Urine.

Quantitative Estimation in Urine.

3. Urea
4. Uric acid
5. Glucose

Quantitative estimation in serum / blood.

6. Urea
7. Total protein
8. Albumin
9. Cholesterol

References:

1. Rastogi S.C. "Biochemistry", 2nd Edition, (2003) Tata MacGraw Hill Publishing Co. Ltd.
2. Jain, J, L., S. Jain and N. Jain. "Fundamentals of Biochemistry". 6th Edition, (2005). S.Chand Company Ltd.

3. Plummer, D.T., "An Introduction to Practical Biochemistry". 2nd Edition, (1971) McGraw-Hill Publishing Co. Ltd.
4. Apps D.K. and Cohen B.B. and Steel C.M. "Biochemistry: A Concise Text for Medical Students" (1992), Bailliere Tindall,
5. Debajyoti D, "Biochemistry" 2nd Edition, (1980) Academic Publishers,.
6. Satyanarayana U and Chakrapani U "Biochemistry", 3rd Edition, (2008), Books & Allied Publishers.
7. Chatterjee M.N., Shinde R. "Textbook of Medical Biochemistry" 8th Edition (2012) Jaypee Brothers, Medical Publishers.
8. Nelson DL & Cox MM. 5th Edition, 2009. "Lehninger's Principles of Biochemistry". Freeman and Co.
9. Berg J.M. Tymoczko J.L., and Stryer. L. "Biochemistry", 5th edition, (2002). W.H. Freeman.
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11. "Murray Harper's Illustrated Biochemistry" 29th Edition, (2012) Prentice Hall Int.
12. Voet D, and Voet J.G "Biochemistry" 4th Edition. (2011), *John Wiley Oser*, B. L. Ed "Hawk's Physiological Chemistry" (1979), 14th.Rep. ed Tata McGraw-Hill Publishing Company Ltd.
13. H. Varley, A. H. Gowenlock, and M. Bell, "Practical Biochemistry, Vol. 1", London, UK, 5th Edition, (1976), Edited by: I. W. Heinemann.
14. Godkar P.B. Godkar D.P Textbook of Medical Laboratory Technology (2006), 2nd Edition, Bhalani Publishing House.
15. Burtis C.A, Ashwood E.R, Bruns D.E. (2007), "Tietz Fundamentals of Clinical Chemistry", 6th Edition, Elsevier Health Sciences.
16. **Davidsohn, I (Editor) & Henry, J B (Editor)** "Todd-Sanford Clinical Diagnosis by Laboratory Methods" (1984), 17th Edition. W.B. Saunders.

Semester- V
HS-502- Diet Therapy-I

Objectives

This course will enable students to:

1. Understand the etiological factors and physiological changes associated with specific disease conditions.
2. Develop an insight into the role of modified diets in specific conditions.
3. Acquire the ability to modify the normal diet to suit individuals suffering from specific diseases and lifestyle disorders

Credits-03+1.5

Theory - 4lec./week

Marks -100

Practical -4lec/week

Marks -50

Sr No	Content	No of Lecture Weightage
Unit I	Basic concept of diet therapy Therapeutic adaptations of normal diet. Principals & classification of therapeutic diets. Role and Responsibilities of Dietitian Indian Dietetics Association	04
Unit II	Routine Hospital Diet Regular, Light, Soft, Fluid Diet. Parenteral & Enteral Feeding. Pre & post-operative Diets	04
Unit III	Diet in Obesity Etiology and assessment Types of Obesity Complications of Obesity Prevention and treatment Dietary management Importance of exercise - aerobic, weight training.	08
	Diet in Underweight Etiology Nutritional and Food Requirement Prevention and treatment	04
Unit IV	Diet in Fever Causes Types General dietary consideration. Typhoid, Influenza, Malaria. TB.	04
Unit V	Diet in Diabetes Mellitus Classification, Symptoms, Diagnosis,	08

	Normal Blood Glucose level Management of Diabetes Mellitus. Oral Hypoglycemic agents.and insulin Role of diet in the management of IDDM and NIDDM Special Diabetic Foods. Artificial Sweeteners. Patient Education Food Exchange List	
Unit VI	Dietary management in cardiovascular disorders coronary artery disease, Atherosclerosis, Role of Fat in the development of Atherosclerosis Hypertension classification (mild, moderate, severe) Hypercholesterolemia Dietary modification and low sodium foods and salt alternatives. Fat Substitute Physical activity and Heart Disease Dylipidemia a) Role of diet in management of high cholesterol b) Role of diet in management of high Triglycerides c) Role of Omega 3 in management of dyslipidemia.	13

Practicals

1. Planning & preparation of full fluid food preparation
2. Planning & preparation of clear fluid food preparation
- 3.Planning & preparation of Low calorie Diet for Obesity.
- 4.Planning & preparation of High calorie Diet for Underweight Patient
- 5.Planning and preparation of diets, without insulin, with insulin, adult and juvenile, diabetes in pregnancy, diabetes and illness
- 6.Formulation of low sodium & low cholesterol recipes
- 7.Planning and preparation of diet For hypertension

References

1. Anderson L., Dibble M.V., Turkki P.R., Mitchell H.S. and Rynbergin H.J. (1982) : Nutrition in health and disease, 17th Ed., J.B. Lippincott and Co. Philadelphia.

2. Antia F.P. (1973) : Clinical dietetics and nutrition, 2nd Ed., Oxford University Press, Delhi.
3. Mahan L.K., Arlin M.T. (1992) : Krause's food nutrition and diet therapy, 8th Ed., W.B. Saunders Co., London.
4. Robinson C.H., Lawler M.R., Chenoweth W.L. and Garwick A.E. (1986) : Normal and therapeutic nutrition, 17th Ed., Macmillan Pub. Co.
5. Williams S.R. (1989) : Nutrition and diet therapy, 6th Ed., Times Mirror/Mosby college Pub. St Louis.
6. Raheena Begum (1989) : A textbook of foods, nutrition and dietetics, Sterling Pub., New Delhi.
7. Joshi S.A. (1992) : Nutrition and dietetics, Tata McGraw Hill Pub., New Delhi.
8. Bamji M. S. Rao, P. N. Reddy V (Eds) (1996) Textbook of Human nutrition, Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi

Semester V

HS-503-Health, Hygiene and Microbiology (Th)

Objectives :-To enable students -

- (1) To know the environmental hygiene
- (2) To understand the value of sanitation
- (3) To understand basic microbiology
- (4) To know the personal and community hygiene
- (5) To understand the physical environment

Credits -03+1.5

Theory: 4 Lectures/week

Practical: 4 Lectures

Theory: 100 Marks

Practical: 50 Marks

Unit	Content	No of Lectures
Unit 1	Concept of health. Dimension of Health: Physical, mental, social, spiritual, emotional, vocational. DeterminantsofHealth: Heredity,Environment,Life style, Socio-EconomicConditions. IndicatorsofHealth: Mortalityindicators,Morbidity indicators,disabilityrates,nutritionalstatusindicator. Health care delivery indicator, utilizationrates. Indicatorofsocialandmentalhealth.	08
Unit 2	General characteristics and classification of micro-organisms. Bacteria, virus, yeast,mould. Useful micro-organisms in food industry Fermented milk, cheese, alcoholic beverages &vitamins. Destruction of Micro-organisms: Methods of sterilization & disinfections.	08
Unit 3	Water and water born ediseases. Sources of water, Definition of pure and portable water. Water Pollutants, Purification of water on small & large scale. Water borne diseases: - Cholera, typhoid, dysentery. Air borne diseases – COVID 19 Measles, chicken pox, whooping cough, diptheria.	08
Unit 4	Diseases transmitted by mosquitoes, housefly, lice, their life cycle, control methods Structure, life cycle, mode of infection,	08

	harmful effects of Entamoeba, Hook worm. Tape worm, Thread worm Diseases carried by direct social contacts – Syphilis, Gonorrhoea, AIDS.	
Unit 5	National Tuberculosis Control Programme. National Malaria Eradication Program . National family welfare programme. Importance of personal hygiene in life and its maintenance	03
Unit 6	Contamination and spoilage of cereals, milk, egg ,meat, fruits and vegetables and Food Borne Diseases Food Poisoning and Infections: Definitions and differentiation between: Food poisoning and infections. Salmonella and Botulism E.coli and S. aureus	10

Practicals

1) Use of microbial instruments.

- Autoclave.
- Incubator
- Oven
- Refrigerator
- Laminar air flow

2) Staining methods of bacteria.

3) Preparation of culture media composition and uses

4) Study of disinfectants

5) Visit to Primary Health Centre.

7) Bacteriological Analysis of Water.

8) Bacteriological analysis of milk.

References

1. Park J.E. & Park K. – Text Book of Preventive and Social Medicine
2. Frazier ,W.C,&Westhoff,D.1988 Food Microbiology .Tata McGraw-Hill
3. Guthrie ,R.K.[ed].1972.Food sanitation Inc.Eaglewood Cliff,N.J
4. Jay,1978.Modern food microbiology.Van Nostrand Reinhold Company ,New York
5. Marriot .N.G.[,1995]Principles of Food Sanitation .4th edition Edward Arnold
6. Pelczar ,M.L .,and R.D Reid -1972 Microbiology.McGraw &Hill ,New York
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14. Stanier,R.Y.,E.A.Adelberg,and Ingraham .1976 .The microbial world .4th ed.Prentice Hall

Semester V

HS504-Dietary Management for Health and Fitness (Th)

Objectives

This course will enable students to:

1. Understand various aspects of health and fitness
2. Adopt a holistic approach towards health management and disease prevention.
3. Develop the ability to provide guidance on healthy diet, exercise & life style modifications for disease prevention and management.

CREDITS 03+1.5

Theory - 4lec./week
Practical -4lec/week

Theory Marks -100
Practical marks-50

Unit	Content	No of Lecture
Unit 1	Introduction to Health and Fitness Definition of Health and fitness (WHO) Important terms – Exercise, Physical Activity Stamina, Endurance, Intensity, VO ₂ max, Duration, Flexibility, Muscle strength, Muscle endurance, Agility Healthy behaviors: Physical activity, Healthy Food Choices, Weight Control, Stress Management.	8
Unit 2	Different Aspects of Fitness Evaluation of fitness Wrong exercise practices and injuries Body Composition through the life span, its significance in fitness and body composition evaluation techniques. Stress: Its effect on health and its management through Relaxation and Meditation	8
Unit 3	Energy Systems Energy usage during anaerobic and aerobic exercises Energy usage in weight reduction and maintenance of body weight Nutrition, Exercise and Immunity Role of nutrients & exercises in the promotion of immunity	8
Unit 4	Life style modification for the following conditions: Reproductive health before Pregnancy Polycystic ovarian disease Bone health during Life Span. Chronic Degenerative diseases: Syndrome X	8

Unit 5	Performance Enhancement through the use of Nutritional Supplements: (General information, Uses and Disadvantages) 1. Ergogenic Aids 2. Protein Supplements 3. Vitamin and Mineral Supplements.	8
Unit 6	Popularly used slimming techniques : 1. Meal replacers 2. Fat burners 3. Appetite Suppressants 4. Fad Diets 5. Spot reductions, Bariatric Surgery 6 Quackery in Diets and Exercises	05

Practicals

- 1) Assignments of physical fitness
- 2) Strength assessment - Muscular Strength -lifting weight, working with resistance bands climbing stairs, hill walking, cycling, push up sit-ups.
- 3) Cardio-vascular endurance assessment; squats, on treadmill work-out etc
- 4) Cardio respiratory Endurance –running and walking events, skipping on the treadmill workout etc
- 5) Strength assessment - Muscular Strength -lifting weight, working with resistance bands climbing stairs, hill walking, cycling, push up sit-ups.
- 6) Cardio-vascular endurance assessment; squats, on treadmill work-out etc
- 7) Cardio respiratory Endurance –running and walking events, skipping on the treadmill workout etc
- 8) Agility–coordination forward running, lateral running, side to side drills, jump box, shuttle run, medicine ball throw, zig-zag run etc.
- 9) Flexibility assessment –yogic exercise aerobics exercise, gymnasium etc. Demonstration of Personal Exercise for Physical Fitness-yoga, pranayam, Relaxation techniques
- 10) Case Study-Observation and presentation of five case study to assess the impact of exercise on physical fitness
- 11) Planning and preparation of diet for physically active individuals
- 12) Visit to a Physical Fitness Center, sports club

References

1. Elenor N., Whitney S., Rady R. (1993): Understanding Nutrition, West Publishing Company, Minneapolis
2. Wardlaw (1993): Perspectives in Nutrition, Paul Insel Mosby.
3. Bhatia Arti: Nutrition & Dietetics- Anmol Publication Pvt. Ltd.- New Delhi.

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web
14. <http://www.brianmac.co.uk/plan.htm>
15. <http://www.sport-fitness-advisor.com/resistance training.html>
16. <http://www.heartfoundation.org.au/SiteCollectionDocuments/GP-besity-fact-sheet.pdf>
17. <http://www.who.int/mediacentre/factsheets/fs311/en/>
18. <http://www.guideline.gov/content.aspx?id=15597>
19. <http://www.who.int/features/factfiles/obesity/facts/en/index5.html>
20. Dr Leena Raje, Amruta Bahel ,Dietary management for Health and Fitness Smt P.N.Doshi Womens College Ghatkoper Mumbai.

Semester- V
Skills Enhancement

HS-505-Personality and Soft Skills Development

Objective-

- 1) To develop all round personalities with a mature outlook to function effectively in different circumstances
- 2) To develop effective communication (spoken and written) and presentation Skills.
- 3) To develop self effectiveness by mastering interpersonal skills and leadership skills.
- 4) To get acquainted with need competencies, skills and motivation of self empowerment.

CREADITS 02

Theory
- 3lec./week

Marks-50

Unit I	<p>Personality – Meaning of Personality, The personality pattern, individuality, persistence in personality, change in personality, some important personality determinants, level of adjustment, Hazards in personality development.</p> <p>Introduction to soft skills What are soft skill, Importance Attributes, Top soft skills Practicing soft skills</p> <p>Etiquette & Manners Introduction to manners and etiquettes Classification of etiquettes Benefits of etiquettes Poor manners of etiquettes special manners & etiquettes, - accompanying woman/men, taboo topics, driving, flight mobile office professional & various occasional manners & etiquettes</p>	08
Unit II	<p>Communication Skills</p> <p>Types of communication, verbal skills & non verbal skills</p> <p>Speaking skills, formal & informal communication, barriers of communication, effective communication, public speaking, overcoming fear of public speaking</p> <p>Non verbal (body) communication – forms of body parts of body language uses of body language, improving body language.</p> <p>Writing skills, importance of effective writing creative writing , drawbacks of written communication</p>	08

Unit III	C V writing Introduction and meaning, Difference among bio data, CV & resume, purpose types,tips, design, content and cover letter. Interview skills Introduction & meaning Types of interview Basic tips, dos and don'ts, before during & after theinterview How to present well in interview Typical questions asked	08
Unit IV	Team work and team building Aspects, skills for team building, Team vs. Group Characters of effective team Role of team leader and team members Difficulties in team building and team work Time management Time management Introduction Features of time 80.20 rules Time management matrix Difficulties in the management Time wasters Time savers Realizing the value of time Importance of time management	06

References

1. Personality Development. Hurlock, E.B. Tata Mc GrawHill, New Delhi.
2. Fundamentals of modern psychology. Banerjee J.C., Allied Publishers Pvt.Ltd., Calcutta
3. Motivation and Personality. Maslow, A.H. Pearson Education India.
4. Dr. K. Alex, 2011, Revised edition, soft skills - S. Chand Publication, ISBN – 81 – 219 –3192 – 4
5. Essentials of business communication, Rajendra Pal, J.S.Korlanhalli, S. Chand & Sons, New Delhi.
6. Effective Business communication, Asha Kaul, Prentice, Hall of India, Pvt. Ltd, New Delhi.
7. Effective Teamwork, Michael A. West, BPS Blackwell.
8. Principles of management, P.C. Pripath, P.N. Reddy, the McGraw Hill.
9. How to write better letters, S.K. Tarafder, A.P.H. publishing corporations.
10. Professional presentations, Malcolm Goodale, Cambridge University press.

11.The motivation manual,Gisela Hagemann, multi-tech publishing co.

12.Basic Managerial skills for all, E.H.MaGrath, S.J. Prentice, Hall of India, Pvt. Ltd, NewDelhi.

SE-HS-506- Entrepreneurship Management (Th)

Objectives:

To enable the students to:

- 1) To understand the nature of entrepreneurial activities.
- 1) To make aware about self employment
- 2) To asses their Strength and weaknesses as entrepreneurs and identify how to strengthen their skills.

Credits-02

Theory: 3 Lectures/week

Theory: 50 Marks

Units	Content	Lectures
Unit I	Entrepreneurship – Definition, Scope Characteristics, factors affecting entrepreneur development, Entrepreneur Vs Intrapreneur, classification of entrepreneur, Role of entrepreneur in economic development.	08
Unit II	Women entrepreneurs – Definition, status in India, steps taken for the promotion of entrepreneurs, problems faced by women entrepreneurs.	08
Unit III	EDP–Definition, steps, agencies conducting EDP, agencies for entrepreneurial support – KITCO, SIDCO, KVIC, DIG, STED, SIDO, NSIC, TCO, SISI, SIDBI, WDC (Women Development Corporation)	08
Unit IV	Project – definition, types, steps, project life cycle, project appraisal, project report preparation, SWAC Analysis.	06

References :

2. Prescott, A and Proctor, B.B. (1987), Food Technology, Mc Graw Hill Book Co. , New York.
3. Potter, N.W. and Hotchkiss, J.H (1996), Food science 5th edition, C.B.S. Publishers and Distributors, New Delhi.
4. Desai, N. (1996).Entrepreneurial development – Principles, Programmes, Policies (Vol I), Formulation Appraisal and Financing (Vol II) and Programmes and Performance (Vol III), Himalaya Publishing House, Bombay.
5. Winze, M.D. (1987). Women Entrepreneurs in India, Mital publications, New Delhi, .
6. Jayan, Entrepreneurship Development Jose Paul, N. Ajit Kumar, Entrepreneurship Development and Management, Himalaya Publishing.
7. Khanka S. S. Chand and Co. Ram Nagar, New Delhi, Entrepreneurship Development

8. M. Gangadhara Rao, "Entrepreneurship and Entrepreneurial development, Kanishka Publishing House, New Delhi – (1992).
9. Vasant Desai – Entrepreneurship Development, Himalaya Publishing House (1991)
9. Sami Uddin – Entrepreneurship Development in India, Mittal Publication, New Delhi

Semester-VI
Institutional Food Service Management (Th)

Objectives

1. To understand the applications of basic principles to bulk production of the food
2. To gain knowledge regarding selection and purchase of food
3. To develop skills in menu planning for quality preparation
4. To understand the different styles of food service.
5. To gain knowledge of food service layout
6. To gain knowledge to develop skills in handling equipment and maintenance Practical –

CREDITS 03+1.5

Theory - 4lec./week
Practical -4lec/week

Theory Marks -100
Practical marks-50

Units	Contents	No of Lectures
Unit I	Institutional Food Management Food service systems and their development Introduction to food service industry. <ul style="list-style-type: none"> • Styles of food service. • Types of food service • Management, Principles and function • Tools of management • Attribute and qualities of Manager 	08
Unit II	Management of Space and Equipment Kitchen Space Storage Space Service Space Catering Equipment Selection of Equipment Equipment Design Installation and Operation Care and maintenance of Equipment	08

Unit III	Food Material Management Food Purchasing Methods of purchasing Function of Purchasing Menu planning <ul style="list-style-type: none"> • Definition, importance • Food selection • Characteristics of food • Types of food • Definition of Menu Objectives in Meal planning Types of Menu Construction of Menu Guidelines in Menu Making	08
Unit IV	Receiving and Storage of Foods Receiving Procedure Storage Organization of Storage Storage Procedure	06
Unit V	Financial Management <ul style="list-style-type: none"> • Book Keeping, Accounting, Organization Management. • Pricing of food Factors affecting & Cost control	07
Unit VI	Sanitation ,Safety and Laws Sanitation and safety in food service institutions, Personal hygiene garbage disposal, pest control. Laws Personnel Management	08

Practicals:

1. Standardization of four selected recipes from each of the following cuisines-
2. South Indian
3. North Indian,
4. East Indian and
5. West Indian.
6. Development of recipe book.
7. Preparation of various menu cards
8. Table setting
9. Visit to different food service industry.
10. Running canteen for one week & report writing

References

1. Institutional Food Management(2018) Mohini Sethi ,Ne age International Publication,New Delhi.
2. Food service system and Lewis J. Minor, Ronald. Cichy, Avi Publishing Co.
3. Food Service operations: Mahmood A. Khan,Avi Publishing Co 1987
4. Conol A. King (1988). Professional Dining Room Management, VNR, New York.
5. John Fuller and Hutchinson, (1983). Modern Restaurant Sevices.
6. Dorothy Tompikins (1969). Table Layout and Decoration, Wardlock & co Ltd
7. Lillicarp, D.R, (1989). Food and Beverage Services, 2nd Ed. BLBS Reprinted.
8. Besbe, B., West, Le Velle, (1986) Revised by HArger V. Shugant M.S. June Payne Palacio, MacMillan Publishing Co.
9. Mass Catering WHO Publishing.
10. Avery-A.A, (1980). Modern Guide to Food Service Equipment, C.B.I Publishing Inc. Anderson F, (1976). Home Appliances Servicing Taraporewala Sons & Co.
- 11)Johnston J.B, (1965). Equipment for Modern Linings, MacMillan Co.
11. Kotschevir, L and Terrll, M. E, (1971). Food Service Planning Layout and Equipment, John Wiley Eastern Ltd.
12. Mohini Sethi and Surjet Malhan, (1987). Catering Management, “An Integrated Approach. Wiley Eastern Ltd

HS-602 Community Nutrition (TH)

Objectives:

This course will enable students to:

1. Identify the causes of commonly prevalent nutritional problems in the country.
2. Understand various methods of assessment of the nutritional status in the community.
3. Know about strategies and intervention programmes undertaken by the government, national and international voluntary agencies to combat nutritional problems.

CREDITS 03+1.5

Theory - 4lec./week

Practical -4lec/week

Theory Marks -100

Practical marks-50

Units	Topics	No of Lectures
Unit1	Introduction to Community Nutrition Definition and general characteristics of community Nutritional problems in India and factors contributing to it (PEM, nutritional anemia, IDD, Vitamin A & D deficiency, fluorosis, (metabolic syndrome).	04
Unit II	Food habits Knowledge, attitudes, practice. Food habits and dietary patterns in different regions and communities in India. Factors affecting food habits – family size, composition, structure, economic status, working status of Mother Education	04

Unit III	<p>Assessment of Nutritional Status of Community:</p> <p>Importance of sampling in community nutrition.</p> <p>Anthropometry: Importance of anthropometry especially for vulnerable sections (0-6 yrs, adolescent).</p> <p>Indices : Weight, height, MUAC, Head chest circumference, growth -chart, thinness chart, how to measure and significance of Indices) Name the reference standards. (WHO, IAP, NCHS, ICMR.)</p> <p>Dietary Assessment</p> <p>Importance and its types</p> <p>Clinical Assessment</p> <p>Bio-chemical assessment: it's Significance and limitations</p> <p>Vital Statistics</p> <p>Significance of vital statistics. Definition and present-India data of IMR, MMR, Neonatal Mortality rate.</p>	12
Unit IV	<p>Strategies and intervention for improving nutritional status of the community</p> <p>Nutrition – Health Education</p> <p>Importance of Nutrition ,Principles of Nutrition exhibition/ demonstration and dramatization</p>	08
Unit V	<p>Intervention Programmes –</p> <p>Objective, services and beneficiaries of the following : Supplementary feeding programme (MDMP/ school lunch programme, SNP, ICDS, NNAPP, NIDDCP, Vit - A prophylaxis programme.</p>	08

Unit VI	Role of National, international and voluntary agencies: NIN, ICMR, ICAR, VHAI, FAO, WHO UNICEF, CARE, CFTRI	08
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Practicals

1) Training students to use questionnaire.

- Family size, composition
- Family income/per capita income.
- Age/sex/qualification.

Anthropometrics: clinical & Dietary Survey :

2) Diet and Nutrition Surveys

Select any one vulnerable group :

- Infant
- Preschool Children
- Adolescent
- Pregnant women
- Lactating woman.

2) Knowledge, Attitude, Behaviour & Practice.

Methods of extension used in nutrition education

Demonstration:

Demonstration of nutritious recipes, using locally available ingredient of low cost in various urban and rural slum complexes and welfare centres.

Field Visit:

- Observation of different nutritional problems faced by all the vulnerable section.

Train students to identify various sign and symptoms of deficiency diseases

3) Preparation of Audio-visual aids for nutrition education of community

References:

1. Park J.E. (1983) Textbook of Preventive and Social Medicine. 9th Edition. Banarsidas Bhanot Publishers, Jabalpur, India.
2. Dhama O.P. and Bhatanagar O.P. (1980) Education and Communication for Development. 1st Edition. Oxford University Press India, New Delhi, India.
3. Shukla P.K. (1982). Nutritional Problems of India. 1st Edition. Prentice Hall of India Pvt. Ltd., New Delhi.
4. Swaminathan M.S. (1985) Essentials of Food and Nutrition. Vol. II. 2nd Edition. Bangalore Printing and Publishing Company Limited, Bangalore, India.
5. Ghosh S. (1977) The Feeding and Care of Infants and Young Children. 1st Edition. Voluntary Health Association of India, New Delhi.
6. Rao V.K. (1982) Food, Nutrition and Poverty in India. 1st Edition. Vikas Publishing House Pvt Ltd, Noida, Uttar Pradesh, India.
7. Gopaldas T. Seshadri S. (Editors) (1987) Nutrition: Monitoring and Assessment. 1st Edition. Oxford University Press India, New Delhi, India.
8. Rajalakshmi R. (1987) Applied Nutrition. 1st Edition. Oxford/IBH Publishing Co, New Delhi, India
9. Diploma in Nutrition and Health Education, Set of Indira Gandhi National Open University (IGNOU) study material.
10. Wadhwa, A. and Sharma, S. (2003) Nutrition in the Community - A Text Book. Elite Publishing House Pvt. Ltd. New Delhi.

Advanced references:

1. Jelliffe D.B. (1996) The Assessment of the Nutritional Status of the Community, WHO Monograph, Geneva
2. Allgood, M. B. (1964) Demonstration Techniques. 2nd Edition. Prentice Hall of India Pvt Ltd, New Delhi, India
3. Obert, J.C. (1986) Community Nutrition. 2nd Edition. Prentice Hall Publications, New Jersey, U.S.A.
4. Shah C.H. (1983) Nutrition Gap. An Economic Analysis. 1st Edition. Himalaya Publishing House, Mumbai, India.
5. King F.S. and Burgess A. (1998) Nutrition for Developing Countries. 2nd Edition. Oxford University Press, USA
6. King F.S. and Burgess A. (1998) Nutrition for Developing Countries. 2nd Edition. Oxford University Press, USA. Vir S.C., (2015), Public health nutrition in developing countries (Part I and II), Woodhead Publishing India Pvt, Ltd.
7. WHO and Chan, M., (2011) 'Haemoglobin concentrations for the diagnosis of anemia and assessment of severity', Geneva, Switzerland: World Health Organization, Geneva pp. 1–6.
8. Cashman, K. D., Sheehy, T., & O'Neill, C. M. (2018). Is vitamin D deficiency a public health concern for low middle-income countries? A systematic literature reviews. European journal of nutrition, 1-21.
9. Links
10. www.cdc.gov/nutritionreport/99-02/part_3.html

2. www.fao.org/ag/agn/nutrition/ind_en.stm
3. nihfw.org/pdf/Brochure_Public%20Health%20Nutrition.pdf
4. www.unicef.org/india/nutrition_1556.htm
5. nutritionfoundationofindia.res.in/.../Nutrition%20Transition%20in%20in...

Semester- VI
HS-603-Food Product Development and Quality Control(Th)

Objectives

This course will enable students to:

1. Understand the market and develop new food product.
2. Formulate, prepare and conduct shelf life studies of a new product.
3. Design packaging and nutrition labeling.

CREDITS-3+1.5

Theory - 4lec./week

Practical -4lec/week

Marks -100

Marks-50

UNIT	Content	No of Lecture
Unit I	<p>What is Food Product Development</p> <ul style="list-style-type: none"> • The need for developing new Product • Rising demand of convenience foods • Rising demand of health foods • Rising demand of healthy alternatives of convenience foods 	08
Unit II	<p>Development of product</p> <ul style="list-style-type: none"> • Recipe standardization • Definition how to standardize • Advantages of standardization • Writing in recipe format • Filling and indexing of recipes <p>Market Survey</p> <ul style="list-style-type: none"> • The need of market survey • Different survey methods and techniques • Market demand and need for a particular product 	08
Unit III	<ul style="list-style-type: none"> • Food Packaging and labeling • Importance of packaging • Food Labeling • Importance of labeling • Rules, food laws, regulations and bar coding • Standards of labeling for processed and fresh/perishable foods • Food packaging laws 	08

Unit IV	Sensory Evaluation <ul style="list-style-type: none"> • Significance of sensory evaluation, sensory characteristics of foods • Panels, environment, sample preparation and presentation for sensory evaluation • Use of different sensory tests in evaluation of foods • Detection of basic tests, threshold tests, difference tests, preference tests 	08
Unit V	Food Adulteration <ul style="list-style-type: none"> • Classification incidental adulteration • Food laws and regulations • Agencies in food quality control • International agencies • Quality, importance of quality control, National, International procedures and food additives. • Standards for food product quality and safety 4) HACCP Good hygiene practice (GHP) 5) Good manufacturing practice (GMP) 6) Hazard analysis critical control point (HACCP) 7) Quality management system 	08
Unit VI	Food Safety-Basic concepts of physical, chemical and biological hazards associated with foods <ul style="list-style-type: none"> • Cleanliness with regard to hand, habits, working attire/cloths, jewelry • Health of a food handler <ol style="list-style-type: none"> 1. Hygiene in handling and service of food • Physical facilities and environment including equipment • Food storage, preparation and service of food • Food handling practices 	05

1) **Practicals**

- 2) Identify a food product to be developed using Market surveys,
- 3) Standardization of the food product.
- 4) Sensory evaluation and shelf life study of the food product.
- 5) Nutrition labeling
- 6) Budget management/ food costing
- 7) Food adulteration
- 8) Detection simple test for food adulterants
- 9) Study of food labeling and legal requirements.
- 10) Study of requirements of food product under BIS and Agmark.

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- 11) Product Development and Shelf life studies.
 - 12) Study of pack house and Export facility centers

References

1. Fuller G.W. (1994) – New Product Development : From concept to market place, CRC Press, New York.
2. Craft, E and Saguy I.S. (1991) – Food Product Development : From concept to market place, Van Nostrand Reinhold, New York.
3. Oickle, J.G. (1990) – New Product Development and Value Added. Food Development Division Agriculture, Canada.
4. Frazier W. and Westthoff. D. (1988) : Food microbiology, Tata McGraw-Hill Publisher
5. Subbulakshmi G. and Udipi S.A. (2001) : Food Processing and Preservation, New age international (P) ltd. Publication
6. Banwart G.J. (1989) : Basic food microbiology, chapman and hall publication, New York

Journals :-

- (1) International Journal of Food Science and Technology.
- (2) Food Technology
- (3) Journal of Food Technology.
- (4) Trends in Food Science and Technology

HS-604 Diet Therapy II (Th)

Objectives:

This course will enable students to:

1. Understand the basic principles of diet therapy.
2. Be aware of the physiological changes associated with specific diseases.
3. Understand the relationship between dietary modifications and physiological changes observed in specific disease conditions.
4. Acquire the ability to modify the normal diet to suit individual needs in specific disease conditions.

CREDITS-3+1.5

Theory - 4lec./week

Marks -100

Practical -4lec/week

Marks -50

Units	Topics	No of Lectures
Unit 1	Basic Concept of Diet Therapy : Definitions : Therapeutic diet, Types of diet acute, chronic, symptoms Principles of diet therapy. Principles of planning therapeutic diet. Modification of normal diet in consistency and nutrients Nutritional care in the hospital	08
Unit2	<ul style="list-style-type: none">• Dietary counseling• Counseling process& its significance• Assessment of need of patient• Establishing rapport• Communication process• Patient education	08

Unit3	<p>Modification of diet in GI disorders:</p> <p>Peptic ulcer, diarrhea, constipation.</p> <p>- Etiology, symptoms and principles of diet in the specific conditions, drugs commonly used.</p> <p>- Other terms: Achlorhydria, Dumping syndrome, endoscopy.</p>	08
Unit4	<p>Diet in Renal Disorders:</p> <p>Physiology of Kidney. causes of renal disorders.(in brief)</p> <p>- Introduction to acute and chronic nephritis.</p> <p>- Principle of Diet therapy in Renal calculi etiology symptoms.</p> <p>- Modification of the diet.</p> <p>Renal calculi for types of stones.</p> <p>- Alkaline and acid ash diet</p>	08
Unit5	<p>Diet in Liver disorders:</p> <p>Functions of the liver.</p> <p>Dietary modification for:</p> <p>- Infective hepatitis - causes, symptoms, modification of the diet.</p> <p>- Cirrhosis of liver- symptoms and modification of the diet.</p> <p>- Terms : Ascites, Oesophnageal varices and hepatic coma.</p>	08
Unit 6	<p>Diet in Cancer</p> <p>Risk Factors</p>	05

	Etiology Symptoms Dietary Management in Cancer Nutritional Problems of Cancer patients	
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Practicals

- 1) Planning & preparation of full fluid food preparation.
- 2) Planning & preparation of clear fluid food preparation.
- 3) Planning and preparation of diet for peptic ulcer
- 4) Planning and preparation of diets for cirrhosis of Liver
- 5) Planning and preparation of diets for acute renal failure.
- 6) Planning and preparation of diets for chronic renal failure.
- 7) Planning and preparation of diets for dialysis.
- 8) Planning and preparation of diets for cancer therapy

References:

1. Srilakshmi, B. (2019) Dietetics, 8th Edition, New Age International (P) Limited Publishers, New Delhi, India.
2. Krause, M. M., Mahan, L.K. and Escott, S. S. (2003) Krause's – Food, Nutrition and Diet Therapy, 11th Edition, W. B. Saunders, Philadelphia, U.S.A.
3. Williams, S. R. (1995) Diet Therapy, 1st Edition, Mosby Year Book Inc, St. Louis, Missouri, U.S.A.
4. Williams, S. R. (1990) Essentials of Nutrition and Diet Therapy, 5th Edition, Times Mirror / Mosby College Publishing, St. Louis, Missouri, U.S.A.
5. Whitney, E. N., Cataldo, B. C., DeBruyne, L. K., and Rolfes, S. R. (1996) Nutrition for Health and Health Care, 1st Edition, West publishing Company, St. Paul, U.S.A.
6. Smolin, L. A. and Grosvenor, M. B. (2007) Nutrition – Science and Applications, 4th Edition, Wiley
7. Garrow J. S. and James, W. P. T. (2000) Human Nutrition and Dietetics, 10th Edition, Churchill Livingstone Publishers, Edinburgh, U.K.
- 8.Sizer, F. and Whitney, E. (2006) Nutrition – Concepts and Controversies, 10th Edition, Wadsworth Thomson Books Inc, London, U.K.

9. 9)Antia, F. P. (1989) Clinical Nutrition and Dietetics, 3rd Edition, Oxford University Press, New Delhi, India.

Skill Enhancement

HS-605 -Bakery Science (Th)

Objectives:

This course will enable students to:

1. Knowledge of the evolution of baking and emerging trends in baking
2. Understand the principles involved in baking various products and confectionery and Organoleptic evaluation
3. Knowledge to set up a bakery unit and handling of the equipments
4. Develop entrepreneurial skills and responsibility for setting up bakery and confectionery

CREDITS-02

Theory -3lec./week

Marks -50

Units	Contents	No of Lectures
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Unit 1	<p>Wheat Processing</p> <p>History of baking, Structure and Composition of the Wheat Kernel, 15</p> <p>Steps in Wheat Milling, By products of wheat, Enrichment of Flour and Bread.</p> <p>Quality aspects of flour and dough</p>	07
Unit2	<p>Principles of Baking</p> <p>Classification of Baked Foods, Role of Ingredients – Water, Yeast,</p> <p>Sugar, Shortening, Milk, Egg, Butter, Salt, Leavening Agents, Spices, Flavorings, Fruits and Nuts, Food Colors, Setting Materials, Cocoa and Chocolate ,emulsifiers, flour</p> <p>improvers, recipe balance, storage of baked products, selection of packaging materials</p>	08
Unit3	<p>Factors for Setting up a Bakery Unit 15</p> <p>Factors to be considered for Setting up a Bakery Unit</p> <p>Types of Ovens – Construction and Working of Conventional and Modern</p> <p>Ovens, Study and Maintenance of Major and Minor Equipments</p> <p>Bread Making – Steps and Methods, Role of Ingredients</p> <p>Variety Breads, Qualities of a Good Loaf, Bread Faults, bread diseases</p>	08

Unit4	<p>. Preparation and Decoration of Baked Foods</p> <p>Cake Making – Functions of Ingredients</p> <p>Cake Mixing Methods, Types of Cakes, Cake Judging, Cake Faults and remedies</p> <p>Biscuit, Cookie and Pastry Making, Types and techniques of Icing,</p> <p>Frosting and fillings. Sensory evaluation of baked products- objective and subjective methods</p>	07
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References

1. Dubey, S.C. (2012), Basic Baking IV Edition, The Society of Indian Bakers, New Delhi.
2. Bakers Handbook on Practical Baking (2008) Compiled and Published by US Wheat Associates, New Delhi.
3. NIR Board, The Complete Technology Book on Bakery Products, National Institute of Industrial Research, New Delhi (2010)
4. Yogambal Ashokkumar Textbook of Bakery and confectionery second edition PHI learning private limited New Delhi.2012

Reference Books:

1. Fellows, J.P. (1998), Food Processing Technology – Principles and Practice, Ellis Horwood Limited, London.
2. Avantina Sharma, (2006), Text Book of Food Science and Technology, International Book Distributing Co., Chaman Studio Building, Charbagh, Lucknow

Skill Enhancement

HS-606- INTERNSHIP

Objectives:

This course will enable students to:-

1. Develop skills as per requirement of the agencies/institutions.
2. Develop abilities to perform the given tasks and confidence to deal with people effectively.
3. Acquire hands-on experience in working in thrust areas.

Guidelines: Duration: 6 weeks.

- Areas of placements: Food and allied industries, Hospitals, health clubs, NGO's working in health related areas.

Credits-02

Marks: 50 Marks

or

HS-606- PROJECT

Objectives:

This will enable students to:

1. Develop research skills.
2. Develop reviewing, report writing and presentation skills

Credits-02

Theory: 50 Marks

Guidelines:

The department will assign suitable topics for project works in areas of
1) Market research, Community nutrition.2) Food product development: Therapeutic foods, Speciality products3)The students may work individually or in groups-Report writing, Report presentation