

Bhagat Phool Singh Mahila Vishwavidyalaya Khanpur Kalan
Scheme and Syllabus of Bachelor of Home Science 2nd year and 3rd year
(Interdisciplinary scheme)

With effect from the Academic Session 2024-25

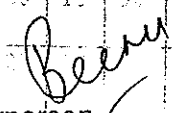
Syllabus and Scheme of B. Sc. Home Sc. 2nd year and 3rd year

Scheme of Examination for 3rd Semester

Third Semester													
Sr. No.	Course Code	Course Type	Course Title	Workload			Credits	Division of Marks					
				L	P	T		Internal Marks		External Marks		Total Marks	
								T	P	T	P		
1	B-CN-301	DSC-A	Community Nutrition	3	2	0	4	20	10	50	20	100	
2	B-LSD-302	DSC-B	Life Span Development-I	3	2	0	4	20	10	50	20	100	
3	B-FRM-303	DSC-C	Family Resource Management	3	2	0	4	20	10	50	20	100	
4	B-CE-304	MIC	Consumer Education	3	2	0	4	20	10	50	20	100	
5	B-HSC-303	MDC	Introductory Home science-III	3	0	0	3	25	0	50	0	75	
6		AEC					2					50	
7		SEC					3					75	
Total Credits							24	Total Marks				600	

Scheme of Examination for 4th Semester

Forth Semester													
Sr. No.	Course Code	Course Type	Course Title	Workload			Credits	Division of Marks					
				L	P	T		Internal Marks		External Marks		Total Marks	
								T	P	T	P		
1	B-CD-401	DSC-A	Community Development	3	2	0	4	20	10	50	20	100	
2	B-LSD-402	DSC-B	Life Span Development-II	3	2	0	4	20	10	50	20	100	
3	B-TET-403	DSC-C	Traditional Embroideries and Textiles of India	3	2	0	4	20	10	50	20	100	
4	B-FS-404	MIC(VOC)	Food Science	3	2	0	4	20	10	50	20	100	
5		AEC					2					50	
6		VAC					2					50	
Total Credits							20	Total Marks				500	


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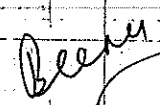
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Scheme of Examination for 5th Semester

Fifth Semester													
Sr. No.	Course Code	Course Type	Course Title	Workload			Credits	Division of Marks					
				L	P	T		Internal Marks		External Marks		Total Marks	
								T	P	T	P		
1	B-NN-501	DSC-A	Normal Nutrition	3	2	0	4	20	10	50	20	100	
2	B-ECE-502	DSC-B	Early Childhood Education	3	2	0	4	20	10	50	20	100	
3	B-PDP-503	DSC-C	Principles of Dyeing, Printing and Finishing	3	2	0	4	20	10	50	20	100	
4	B-FM-504	MIC(VOC)	Food Microbiology	3	2	0	4	20	10	50	20	100	
5		SEC	Internship during summer vacations				4					100	
Total Credits							20	Total Marks				500	

Scheme of Examination for 6th Semester

Sixth Semester													
Sr. No.	Course Code	Course Type	Course Title	Workload			Credits	Division of Marks					
				L	P	T		Internal Marks		External Marks		Total Marks	
								T	P	T	P		
1	B-THN-601	DSC-A	Therapeutic Nutrition	3	2	0	4	20	10	50	20	100	
2	B-HHP-602	DSC-B	Hygiene & Human Physiology	3	2	0	4	20	10	50	20	100	
3	B-HSM-603	DSC-C	Housing & Space Management	3	2	0	4	20	10	50	20	100	
4	B-NBC-604	MIC	Nutritional Biochemistry	3	2	0	4	20	10	50	20	100	
5	B-ETT-605	MIC(VOC)	Entrepreneurial Trends & Techniques	3	2	0	4	20	10	50	20	100	
Total Credits							20	Total Marks				500	


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Community Nutrition
B-CN-301

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Be familiar with the common nutritional problems of the community.
- CO2** Get exposed to the schemes programmes and policies of government of India to combat malnutrition.
- CO3** Understand about food habits and dietary pattern of India.
- CO4** Be familiar with different food adulterants and nutrition assessment methods.

Unit-I

Definition, concept and scope of community nutrition. Food habits and factors affecting food habits: family size, composition, economic status, education, working status of parents, education and socio-cultural factors. Dietary pattern of India.

Unit-II

Nutritional problems of India their causes, signs/symptoms, prevention and management: Protein energy malnutrition, Fluorosis, Nutritional Anaemia, IDD, Vitamin A deficiency, Osteomalacia, Pellagra. Nutrition education: definition, methods, teaching aids used in nutrition education.

Unit-III

Food adulteration: definition, types, common adulterants and their ill effects on health, common household methods to detect adulterants, consumer protection from adulterated food. Assessment of nutritional status-clinical signs and symptoms, nutritional anthropometry, biochemical tests, biophysical tests, diet survey methods.

Unit-IV

National programmes and role of national and international agencies in improving nutritional status of the community- Integrated Child Development Service (ICDS), Supplementary Nutrition Program (SNP), Applied Nutrition Program (ANP), Mid-Day Meal Program (MDMP), Vitamin A Prophylaxis Program, Anaemia Prophylaxis Programme. Food and Agricultural Organization (FAO), World Health Organization (WHO), United Nations Children's Fund (UNICEF), UNDP, CARE and other Voluntary and Government Agencies.

Recommended Readings

1. Sehgal, S. and Raghuvanshi, R.S. (2007). Text Book of Community Nutrition. ICAR, New Delhi.
2. Srilakshmi, B. (2002). Nutrition Science. New Age International Limited Publishers, New Delhi.
3. Swaminathan, M.C. (2013). Advanced Text Book on Food and Nutrition (Vol. II) BAPPCO, Bangalore.
4. Khanna, K, Gupta, S, Passi, S. J, Seth, R, Mahria, R, & Puri, S: (1997). Textbook of nutrition and dietetics.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Reference: ICAR, FAO, WHO, World Health Organization, WHO, United Nations Children's Fund (UNICEF), UNDP, CARE and other Voluntary and Government Agencies.

For more information, please visit the website of the Department of Food & Nutrition, BPSMV Khanpur Kalan.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Assessment of nutritional status of an individual/community using anthropometry and dietary survey- preparation of schedule, survey work, analysis of data and writing of report. Visit to local health center to identify clinical signs and symptoms of nutritional problems. Identification of adulterants in common foods. Visit to an ICDS Block. Development of audio-visual aids-popular articles, chart/posters, leaflets etc. Planning, implementation and evaluation of nutrition education for a target group.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up, and execution of the practical work done in the class and at the time of the examination.

Life Span Development-I
B-LSD-302

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Discuss factors that affect physical, cognitive and socio-emotional development during adulthood and old age.
- CO2** Understand concept of marriage and family.
- CO3** Understand various developmental tasks of adulthood.
- CO4** Understand different types of challenges of adults and elders.

Unit-I

Stages of adult development and the process of aging: characteristics-physical, cognitive, social, sexual, vocational. Emotional needs in early adulthood (18-25 years). Hazards-physical, vocational.

Unit-II

Marriage-types and functions. Family-types, functions, challenges in interpersonal relationship, responsibilities. Hazards- social, sexual and emotional.

Unit-III

Development in adulthood (25-45 years) - developmental tasks. Physical changes-cardiovascular and respiratory system, motor performance, immune system. Cognitive development-changes in mental abilities, crystallized and fluid intelligence. Life transitions and adjustments during early adulthood: exploring sexual orientations, stable romantic relationships, alternative life choices. Marriage, family life, parenting and care giving, social mobility.

Unit-IV

Cultural, gender and social class variations in the experience of adulthood and aging. Interpersonal relationships and responsibility challenges in different spheres of life balancing work and family. Socio-cultural responsibilities, health challenges, emotional stress, financial security. Hazards of adulthood.

Recommended Readings

1. Berk, E.L. (2013). Exploring Life Span Development (3rd Ed.). McGraw Hill, New York.
2. Grinder, R.E. (1993). Adolescence. John Wiley and Sons, New York.
3. Hurlock, E. B. (2001). Child Development. Tata McGraw-Hill Education, India.
4. Papalia, D.E. and Olds, S.W. (2008). Human Development (11th Ed.). McGraw Hill, New York.
5. Santrock, J. (2012). Life Span Development (14th Ed.). McGraw Hill, New York.
6. Schaumburg, L.B. (1988). Child and Adolescent Development. McGraw Hill, New York.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs


Practical

Preparation of an album on developmental transitions, individual and family life transitions during adult life. Visit to leisure facilities for adults like laughing clubs, recreational clubs. Visiting your parents' workplace to understand their roles and responsibilities. Documenting your mother's life aspirations and experiences before and after marriage. Interviewing adult couples about their relationship, life challenges and satisfactions.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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**Family Resource Management
B-FRM-303**

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Acquaint the skill of time, energy, and money management.
- CO2 Understand the concept of human and non-human resources.
- CO3 Gain knowledge regarding budget, investment, and savings.
- CO4 Understand the principles and techniques of work simplification.

Unit-I

Family Resource Management: Definition, importance and scope. Family: types of family, stages of family life cycle. Resources: Definition, importance, classification, characteristics and factors affecting use of resources.

Unit-II

Time Management: Tools in time management, process of time management and its importance. Energy Management: Definition, aims, types and process of energy management. Fatigue: Types and reasons of fatigue, various ways to overcome fatigue.

Unit-III

Work Simplification: Definition, importance, principles, and techniques. Family income: Definition and types of family income (money income, real income and psychic income) meaning & sources; factors affecting personal family income. Savings: Meaning, objectives and types.

Unit-IV

Family Budget: Definition, types, factors affecting budget, advantages and limitations. Investment: Meaning, objectives, need & types of investment. Insurance: Meaning and various types of insurance.

Recommended Readings

1. Bhargava, B. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.
2. Mann, M.K. (2004). Home Management for Indian Families. Kalyani Publisher, Ludhiana.
3. Nickell, P. and Dorsey, J.M. (1970). Management of Family Living. Wiley Eastern, New Delhi.
4. Oberoi, K. (2006). Resource Management for Better Homes. R.K. Offset, Delhi.
5. Premalatha M. (2011). Textbook of Home Science, Kalyani Publications, New Delhi.
6. Santosh S, Tikoo. (2021). Family Resource Management, Modern Publication New Delhi.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

To analyze family: type, composition, stages of family life cycle. Time plans for working day and holiday, implementation, and evaluation/feedback. Making family, personal budget. Method of taking insurance policies.

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The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

Consumer Education
B-CE-304

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Develop awareness about consumerism.
- CO2** Gain knowledge of the Consumer Protection Act.
- CO3** Acquaint themselves with standardized marks and consumer protection agencies.
- CO4** Recognize problems in purchasing and understand the means of redressal.

Unit-I

Consumer education: Definition, meaning and importance of consumer. Problems of consumers: Adulteration in food, medicines, and clothes. Steps for prevention of problems of adulteration.

Unit-II

Weight and measures: Problems and prevention of defective weight and measures. Labelling: Definition, problems, and prevention of inadequate labelling. Imitations: Problems and steps for prevention of sale of imitations.

Unit-III

Consumer choice: Factors affecting and decision taken for proper consumer choice. Consumer selection: Food selection, cloth selection, equipment's selection, and selection of services. Consumer rights and responsibilities.

Unit-IV

Consumer protection act and Government legislation and order, NGOs for consumer protection and welfare. Consumer guidance society of India (CGSI), Consumer unity of trust society.

Recommended Readings

1. Seetharaman P. and Sethi M. (2002). Consumerism Strategies and Tactics. CBS Publishers and Distributors, New Delhi.
2. Shukul, M. and Gandotra, N. (2006). Home Management and Family Finance. Dominant Publishers and Distributors, New Delhi.
3. Tiwari, O.P. (2000). Consumer Protection Act. Allahabad Law Agency.
4. Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur.
5. Varghese, M.N., Ogale, N.N. and Srinivasaan, K. (1992). Home Management. Wiley Eastern, New Delhi.
6. Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi.
7. Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana.
8. Mann, M.K. (2004). Home Management for Indian Families. Kalyani Publisher, Ludhiana.
9. Singh, S. (2007). Ergonomics Integration for Health and Productivity. Himanshu Publications, Udaipur and New Delhi.
10. Sharma, Karuna and Verma, Sandhya. (2008). "Family Finance & Consumer Education", Shiva Publication, Indore.
11. Aggarwal, S.C. (2004). "Principles of Marketing", Dhanpat Rai Publishing Company, New Delhi.

12. Sarkar, A., "Problem of Consumers in Modern India", Discovery Publication House.
13. Santosh Tikoo. (2021). Family Resource Management, Modern Publications, New Delhi.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Creating a flowchart of the steps involved in filing a case in a consumer forum.
Understanding the standard quality control measures with illustrations, including ISI, BIS, PPO, AGMARK, Eco Mark, Wool Mark, Silk Mark, Cotton Mark, and Handloom Mark.
Prepare an article on labelling and packaging.

❖ **Instructions for External Practical Paper Setter/Examiner**

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

Introductory Home Science -III
B-HSC-303

Total Credits: 3

L-T-P

3-0-0

Internal marks: 25

External marks: 50

Time allowed: 2 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

CO1 Develop skills in cooking.

CO2 Become aware of consumer education and Consumer Protection Act.

CO3 Gain knowledge regarding child development.

Unit-I

Cooking: Principles, aims, methods, advantages and disadvantages of cooking. Enhancing nutritive value of food: Germination, fermentation, and combination of different kind of food, supplementation, fortification. Problems and prevention of adulteration, adulteration in food stuffs, medicines, and clothes.

Unit-II

Budget: Definition, types, factors affecting budget, advantages and limitations. Fatigue: Types of fatigue, various methods to overcome fatigue. Consumer education: Definition and importance. Consumer protection: Consumer Protection Act, steps taken by the Government, voluntary organisations and responsibilities of consumer.

Unit-III

Adolescence: Definition, problems and characteristics of adolescent age. Traditional embroidered of India: kashida, phulkari, chikankari and kantha. Principles and approaches of extension education. Extension Education and its relationship with other social sciences.

Recommended Readings

1. Bhargava, B. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.
2. Dahama, O.P. and Bhatnagar, O.P. (2003), Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Kalia, M. and Sood, S. (2010), Food Preservation and Processing. Revised Edition, Kalyani Publishers, New Delhi.
4. Srilakshmi, B. (2011), Food Science. 5th Edition. New Age International Publishers, New Delhi.
5. Schaimberg, L.B. (1988), Child and Adolescent Development. McGraw Hill, New York.
6. Tikoo, S.S. (2017), Physiology, Clothing & Textiles. Modern Publications, New Delhi.
7. Tikoo, S.S. (2021), Family Resource Management, Modern Publication

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 7 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

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Community Development
B-CD-401

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Understand the concept of community development in India.
- CO2** Impart knowledge about organizational set up and working of community development program.
- CO3** Understand the impact of community development on rural life.
- CO4** Gain knowledge about community welfare programs of the government.

Unit-I

Community Development: Concept, need, meaning, objectives, characteristics, elements, philosophy, importance, and scope. Principles and functions of community development in India.

Unit-II

Organizational set up and working of community development program at Central, State, District and Village level. Importance of community development program in rural reconstruction. Role of home scientist in community development.

Unit-III

Community problems. Role of community development worker. Impact of community development on rural life of India. Similarities and dissimilarities between community development and extension education.

Unit-IV

Community development for national integration. Developmental programmes for the welfare of women and children in India.

Recommended Readings

1. Dahama, O.P. and Bhatnagar, O.P. (2003). Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Pattni M. Thakur, U.S. (2002). Extension Education and community development, Shiva publication, Indore.
3. Ray, G.L. (2003). Extension Communication and Management. Kalyani Publishers. Fifth Revised and Enlarged Edition, New Delhi.
4. Sandhya RM. (2017). Home Science extension Education and Rural Development. Anchor Academic Publishing.
5. Vikram G. (2011). Principles of Agricultural extension. Discovery Publishing. Badot U.P.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Recommended Readings

1. Dahama, O.P. and Bhatnagar, O.P. (2003). Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Pattni M. Thakur, U.S. (2002). Extension Education and community development, Shiva publication, Indore.
3. Ray, G.L. (2003). Extension Communication and Management. Kalyani Publishers. Fifth Revised and Enlarged Edition, New Delhi.
4. Sandhya RM. (2017). Home Science extension Education and Rural Development. Anchor Academic Publishing.
5. Vikram G. (2011). Principles of Agricultural extension. Discovery Publishing. Badot U.P.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Planning an activity to create awareness among women and children of community surveyed according to their needs and interests - Lecture cum group discussion. Field Visits – ICDS / Anganwadi center to collect information. Community development – Need based group project work. Analysis of developmental programs for the welfare of women and children in India.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

Life Span Development-II
B-LSD -402

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Discuss factors that affect physical, cognitive and socio-emotional development during adulthood and old age.
- CO2** Identify groups of adults and elderly across contexts.
- CO3** Evaluate policy recommendations for adults and elderly across contexts.
- CO4** Execute developmental programs of intervention for varied groups of adults and elders.

Unit-I

Adulthood (45-65 years): Definition, characteristics, developmental tasks, physical and cognitive changes, changes in interests-social, emotional and vocational development.

Unit-II

Relationships at midlife: Marriage and divorce, changing parent-child relationships, grandparenthood, siblings, friendships, relationship across generations: middle aged children and their aging parents. Preparation for old age from work to retirement, emotional, financial, social, and familial transitions. The phenomenon of aging: Biological, psychological, sociological, and functional age, optimal aging, normal aging. Gerontology: definition, concept, history, importance, and scope.

Unit-III

Psychosocial development in old age, Erikson's theory—ego integrity vs. despair, Wisdom theories. Changing relationships in old age: Marriage and divorce, widowhood, never-married, childless, older adults, siblings, friendships, physical and mental changes. Vocational adjustments: Adjustment to retirement, different living arrangements, familial roles and relationships.

Unit-IV

Dealing with stressful life events, divorce, terminal illness, death, and bereavement. Overview of Alzheimer, Dementia, Parkinson's disease: Common abuses among elderly—physical, emotional, psychological, verbal and financial, reporting abuse. Adult protective services. Policy provisions for the elderly: Global and national.

Recommended Readings

1. Berk, E.L. (2013). Exploring Life Span Development (3rd Ed.). McGraw Hill, New York.
2. Grinder, R.E. (1993). Adolescence. John Wiley and Sons, New York.
3. Hurlock, E. B. (2001). Child Development. Tata McGraw-Hill Education, India.
4. Papalia, D.E. and Olds, S.W. (2008). Human Development (11th Ed.). McGraw Hill, New York.
5. Santrock, J. (2012). Life Span Development (14th Ed.). McGraw Hill, New York.
6. Schaumburg, L.B. (1988). Child and Adolescent Development. McGraw Hill, New York.

Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Preparation of an album on developmental transitions, individual and family life transitions during adult life. Visit to old age home or specialized living arrangements for elderly. Visit to leisure facilities for elderly like laughing clubs, recreational clubs. Visiting your parents' workplace to understand their roles and responsibilities. Documenting your mother's and grandmother's life aspirations and experiences before and after marriage. Preparing a list of specialized services for the elderly in the city and / or preparing an elderly support kit (support with amenities, important phone numbers, medicines, reminders etc.) Planning a hands-on workshop session for teaching internet and smart phone use to elderly. Interviewing elderly couples about their relationship, life challenges and satisfactions.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Traditional Embroideries and Textiles of India
B-TET-403

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Get acquainted with traditional embroideries of different states of India.
- CO2** Gain knowledge about traditional textiles of India.
- CO3** Understand the manufacturing process of woven textile.
- CO4** Know the advantages and importance of sustainable fibres and care labels used for clothing and textiles.

Unit-I

Traditional embroideries of India: Different embroideries associated with various states of India. Origin, types, fabric used, motifs, color combinations, stitches and thread used in Phulkari, Kantha, Chikankari, Chamba, Kashida, Kasuti, Zardozi, Kutch and Kathiawar embroidery.

Unit-II

Resist dyed and printed textiles of India: Different textiles associated with various states of India. Origin, manufacturing process, colour combinations and motifs used in Bandhani of Gujarat, Bandhej & lehariya of Rajasthan. Ikat: Patola of Gujarat, Bandhas of Odisha, Ikat textiles of Andhra Pradesh (Telia Rumal, Pochampalli Ikats). Dabu, Ajrakh from Gujarat, Bagru and Sangner prints from Rajasthan, Kalamkari from Andhra Pradesh, Madhubani from Bihar.

Unit-III

Hand-woven textiles of India: Origin, manufacturing process, colour combinations and motifs used in Sarees (Banaras Brocades, Baluchari, Jamdani, Paithani, Kanjeevaram, Chanderi and Maheshwari).

Unit-IV

Shawls: Kashmir, Himachal Pradesh, Sikkim and Manipur. Floor coverings: Carpets, Durries & Rugs of Kashmir and Uttar Pradesh.

Recommended Readings

1. Bhatnagar, P. (2005). Decorative Design History in Indian Textiles and Costumes. Abhishek Publication, Chandigarh.
2. Chattopadhyay, K. (1977). Indian Embroidery. Wiley Eastern Limited, New Delhi.
3. Chattopadhyay, K. (1974). Carpet and Floor Covering of India. Vikas Publishing House Pvt. Ltd.
4. Gillow, J. and Barnard, M. (1991). Traditional Indian Textiles. Thames and Hudson Ltd., London.
5. Naik, S. D. (1996). Traditional Embroideries of India. APH Publishing Co. New Delhi.
6. Pandit, S. (1979). Indian Embroideries and its Variegated Charms. Vikas Publishing House Pvt. Ltd., Baroda, Gujarat.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Sample preparation of Phulkari, Kantha, Chikankari, Chamba, Kashida, Kasuti embroideries. Portfolio of different traditional textiles along with their motifs. Preparation of one article of any one traditional embroidery.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Food Science
B-FS-404

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Acquire knowledge of various concepts of food science.
- CO2 Impart knowledge about improving nutritional quality of various foods.
- CO3 Develop understanding of various nutrients and their requirements for healthy living.
- CO4 Understand processing of various food groups.

Unit-I

Cereals and millets: Structure, processing, storage, use in various preparations, breakfast cereals. Pulses and legumes: Nutritional aspects, variety, storage, use in various preparations. Milk and milk products: Composition, classification, pasteurisation, storage, use in various preparations, nutritional aspects, shelf life.

Unit-II

Eggs: Structure, composition, grading, selection, spoilage, nutritional aspects, role in cookery. Meat, fish, poultry: Types, selection, storage, spoilage, nutritional aspects, use in various food preparations. Vegetables and fruits: Nutritional aspects, selection, storage, use in various preparations.

Unit-III

Sugar and sugar products: Types of natural sweeteners, manufacture, storage and use as preservatives, stages in sugar cookery. Fats and oils: Types and sources (animal & vegetable), processing, storage, spoilage, nutritional aspects, use in various preparations. Spices, condiments and herbs: classification and uses. Beverages: Tea, coffee, chocolate: processing and use in various preparations. Aerated beverages: Types, processing and use.

Unit-IV

Food additives (antioxidants, preservatives, food colours, food flavours, emulsifiers and stabilizers, anti-caking agents, sequestrants, acid, bases and buffers, anti-foaming agents, enzymes, and leavening agents). Sensory evaluation of food products and selection of sensory panel.

Recommended Readings

1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi.
2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi.
3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi.
4. Mahtab, S. Bamji, Kamala Krishnasamy, Brahman G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
5. Sunetra Roday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
6. Kalia, M. and Sood, S. (2010). Food Preservation and Processing. Revised Edition, Kalyani Publishers, New Delhi.

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❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

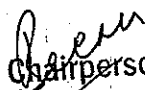
Time: 3 Hrs

Practical

Laboratory conduct and responsibilities. Knowledge of different food stuffs in English, Hindi and local language. Terms used in cookery, weights and measures. Identification and use of different kitchen items and equipment. Identification and listing of various food groups. Market survey of processed and preserved foods; cereal cookery, pulse cookery, preparation of cereal and pulse combined recipes; nuts and oilseeds; milk cookery; fruits and vegetables cookery. Demonstration on canning and bottling of fruits and vegetables. Sugar cookery-preparation of fudge and fondant. Process of caramelization. Demonstration of 1-thread and 2-thread consistency syrups. Visit to food industries.

❖ **Instructions for External Practical Paper Setter/Examiner**

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.


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Normal Nutrition
B-NN-501

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Understand nutritional requirements across various stages of life.
- CO2 Understand dietary needs of Indians.
- CO3 Develop the skills for meal planning at various life stages using recommended dietary intake and reference values.
- CO4 Understand special dietary needs and nutritional needs.

Unit-I

Definition of health and nutrition and effect of nutrition on health. Determination of nutritional requirements. Reference man and woman. Recommended dietary allowance. Calorie consumption unit. Energy requirement: Factors affecting energy requirements, BMR, activity, age, diet induced thermogenesis (SDA).

Unit-II

Concept of nutritionally adequate diet. Meal planning, importance of meal planning and factors to be considered while planning meals. Use of food groups and food exchange list in planning meals.

Unit-III

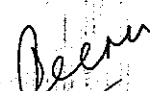
Nutritional requirements during pregnancy and lactation, infancy: growth, development and nutritional requirement, importance of breast feeding, weaning and supplementary foods. Pre-school children: growth and development, food habits and nutritional requirements. School age children and adolescents: growth and development, food habits and nutritional requirements.

Unit-IV

Nutritional requirements, problems, and food selection during early, middle and late adulthood. Geriatric nutrition: Nutritional requirements, problems, food selection, physiological and psychological changes during old age.

Recommended Readings

1. Agarwal, A. and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication, Delhi.
2. ICMR (2010). Dietary Guidelines for Indians. ICMR, NIN: Hyderabad.
3. Gopalan, C., Rama Shastri, B.V. and Balasubramanian, S.C. (2007). Nutritive Value of Indian Foods. NIN, ICMR, Hyderabad.
4. ICMR (2010). Nutrient Requirement and Recommended Dietary Allowance for Indians. A Report of Expert Group of the ICMR, NIN, Hyderabad.
5. Khanna, K., Gupta, S., Seth, R. and Puri, S. (2013). Text Book of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd., New Delhi.
6. Raghuvanshi, R.S. and Mittal, M. (2014). Food Nutrition and Diet Therapy. Westvills Publication, Delhi.
7. Srilakshmi, B. (2011). Dietetics (5th Ed.). New Age international Pvt. Ltd. Publishers, New Delhi.
8. Swaminathan, M.C. (2013). Advanced Text Book on Food and Nutrition (Vol. II) BAPPCO, Bangalore.


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❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Standardization of serving size portions. Planning and preparation of diets for different age groups: infancy, preschool age, school age, adolescent, adult, old age. Planning and preparation of diets for pregnant and lactating women. Planning and preparation of diets for special occasions like birthdays, festivals and packed lunches.

❖ **Instructions for External Practical Paper Setter/Examiner**

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Early Childhood Education
B-ECE -502

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Understand the concept of ECCE.
- CO2 Understand the contributions of Indian philosophers in the field of child education.
- CO3 Develop the skills of play in children.
- CO4 Understand the various educational models across the world.

Unit-I

Introduction to Early Childhood Care and Education (ECCE): Concept, meaning, scope, and significance of ECCE. Expansion from ECE to ECCE to ECD. Aims and objectives of ECCE: general and specific. Types of ECCE service delivery: formal and informal; government-funded, philosophy-oriented, laboratory nursery school, and franchise-oriented.

Unit-II

ECCE in India: History of early childhood care and education in India. Contributions of educational philosophers: McMillan Sisters, Montessori, Tagore, and Mahatma Gandhi. Policy perspectives in ECCE. Curriculum framework for Early Childhood Care and Education – New Education Policy, 2020.

Unit-III

Play and Its Importance: Play and its characteristics, theories of play – surplus energy theory, recreational theory, types of play, and the role of play in the overall development of children. Teacher's role in creating an environment and promoting play. Use of the play-way approach in the curriculum for young children.

Unit-IV

Innovative ECCE Models: Nutan Bal Sikshan Sangh, India; Dakshina Murti Bal Mandir, India; Gram Bal Shikshan Kendra, India; Lok Jumbish Programme, India; Mirambika, India; Rishi Valley, India; High Scope Model, USA; and the ECEC Model, Sweden.

Recommended Readings

1. Hendrick, J. (1980). Total Learning for the Whole Child. The C V Mosby, St. Louis.
2. Kaul, V. (1991). Early Childhood Education Programme. NCERT, New Delhi.
3. Kaul, V. and Bhatnagar, R. (1992). Early Childhood Education: A Trainer's Handbook. NCERT, New Delhi.
4. Lacper, S., Witherspoon, R. and Day, B. (1984). Good Schools for Young Children. Mac Millan, New York.
5. Maxim, G. (1985). The Very Young. Wadsworth Publishing Company, Belmont, California.
6. Murlidharan, R. and Asthana, S. (1991). Stimulation Activities for Young Children. NCERT, New Delhi.
7. Swaminathan, M. (1984). Play Activities for Young Children. UNICEF, New Delhi.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Observation of early childhood programs at government and non-government institutions. Listing the activities for each domain: language, social, motor to promote all round development in young children. Planning and recording activities and methods of playful interactions to foster development in children (birth –two years and two –six years). Conducting workshops in any two of the following: Developing worksheets to teach readiness concepts and enhance social and language skills, as well as incorporating music, movement, and drama for children. Preparing four low-cost play materials/equipment for children.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Department of Food & Nut
BPSMV Khanpur Kalan

Principles of Dyeing, Printing and Finishing
B-PDP-503

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Gain knowledge about basics of dyeing, printing, and finishing.
- CO2** Acquaint students with the importance of finishing of textiles.
- CO3** Develop the skills in doing dyeing and printing of textiles.
- CO4** Enhance the understanding of the relation between the dyes, pigments, and fabrics.

Unit-I

Dyeing and printing: Introduction concept and technology. Selection of suitable dyes. Difference between dyes and pigments.

Unit-II

Dyes: Definition, classification of dyes (In brief) on the basis of source of dye, Natural: vegetable, animal & mineral; Synthetic dye: Basic, acidic & neutral dye. On the basis of method of dyeing: Sulphur, direct, Vat, Mordant and developed dyes. Stages of dyeing: Raw stock dyeing, skein dyeing, fabric and garment dyeing. Principles and methods of dyeing, faults in dyeing and their remedies.

Unit-III

Printing: Definition, classification. Methods of printing, Hand printing: Block, stencil and screen. Machine printing: Roller, screen, discharge, resist and duplex printing. Resist dyeing: Tie and dye, batik and screen.

Unit-IV

Fabric finishes: Definition and importance, Classification of finishes: Physical: Singeing, napping, brushing, shearing, sizing, tendering, and calendaring. Chemical: Mercerising. Special-purpose finishes: Wrinkle resistant, water resistant, soil repellent and flame retardant, Bleaching and its types.

Recommended Readings

1. Gopal Krishnan, D. and Karthik, T. (2016). Basics of Textile Chemical Processing. Daya Publishing House, Astral International Pvt. Ltd., New Delhi.
2. Koushik, C.V. and Josico, A.I. (2003). Chemical processing of Textiles: Preparatory processes and dyeing. NCUTE, New Delhi.
3. Sekhri, S. (2011). Text Book of Fabric Science: Fundamentals to Finishing. PHI Learning, Pvt. Ltd, New Delhi.
4. Shenai, V.A. (2000). Chemistry of Dyes and Principles of Dyeing. Sevak Publications, Mumbai.
5. Shehnai V.A. (1991). Introduction to the Chemistry of Dye Stuffs. Sevak Publications, Mumbai.
6. Sheikh, I.A. (2006). Dyeing, Printing and Finishing Expert. Edited and Published by Textile Info Society, Lahore, Pakistan.
7. Vatsala R, (2003). Textbook of Textiles and Clothing. Indian Council of Agricultural Research, New Delhi.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.


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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Preparation of fabric for dyeing and printing: Desizing, scouring and bleaching. Preparation of samples: block, screen and stencil printing, tie and dye and batik. Application of starch by varying concentration and material. Product development using of printing technique.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.


Chairperson

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Food Microbiology
B-FM-504

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Understand various causes of food spoilage.
- CO2 Gain knowledge about microorganisms, their beneficial and harmful effects on food.
- CO3 Understand about food borne infection and various diseases.
- CO4 Understand about sanitation and personal hygiene.

Unit-I

Food microbiology: Definition and importance, brief history of food microbiology and important microorganisms in food. Classification and characteristics of microorganisms (bacteria, yeast, moulds, fungi). Extrinsic and intrinsic factors affecting the growth of microorganisms.

Unit-II

Types and causes of spoilage of cereals and cereal products, meat, egg and poultry, milk and milk products, fruits and vegetables, canned foods. General principles of food preservation: Physical, chemical and biological methods of preservation. Use of high and low temperature, dehydration, freezing, freeze drying, irradiation in food preservation.

Unit-III

Public health hazards due to contaminated food: Food borne infections and intoxication, symptoms, mode and sources of infection transmission (Botulism, Staphylococcal food poisoning, Clostridium perfringens food poisoning, Bacillus cereus gastroenteritis, Salmonellosis, Escherichia coli diarrhea, and colitis, Vibrio cholera).

Unit-IV


Microbes used in food biotechnology, fermented foods and their benefits. Indices of food, milk, water sanitary qualities, microbiological criteria of food, water and milk testing (Bacteriological analysis) and HACCP.

Recommended Readings

1. Adams, M.R., & Moss, M.O. (1995). *Food Microbiology*. New Age International Pvt. Ltd.
2. Ananthanarayan, R., & Paniker, C.K.J. (1986). *Textbook of Microbiology*.
3. Frazier, W.C., & Westhoff, D.C. (1998). *Food Microbiology*. Tata McGraw-Hill Publishing Co. Ltd.
4. Powar, C.B., & Dagainawala, H.F. (1986). *General Microbiology*. Himalaya Publishing House, New Delhi.
5. Sethi, M., & Surjeet, M. (1993). *Catering Management*. New Time International Pvt. Ltd.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.


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Practical

Internal marks: 10

External marks: 20


Time: 3 Hrs

Practical

Getting acquainted with of the following laboratory equipment: Compound microscope, autoclave, hot air oven, laminar flow chamber, colony counter, incubator, and a pH meter. Preparation of bacterial medium. Preparation of plates and slants. Isolation of pure cultures of bacteria by streaking method. Growing of bacterial colonies following dilution plate method and Estimation of CFU count by spread plate method. Staining methods: 1. Simple staining 2. Negative staining 3. Gram's staining 4. Capsule staining 5. Spore staining. Acid fast staining-observing permanent slides. Preparation of different types of solid media for growth of microorganism: 1) Synthetic media 2) Complex Media-Nutrient Agar 3) Selective and differential media: McConkey agar, EMB agar, Mannitol Salt Agar.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.


Chairperson
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Therapeutic Nutrition
B-THN-601

Total Credits: 4

L-T-P

3-0-

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

CO1 Understand the diet modifications for therapeutic purposes.

CO2 Gain knowledge about dietary management of diseases.

CO3 Modify normal diets to best suit therapeutic conditions.

CO4 Understand the role of dietitians.

Unit-I

Diet Therapy: Objectives and principles of diet therapy. Scope of dietetics. Role of dietitians. Special feeding methods: Intravenous and tube feeding.

Unit-II

Modification of normal diet for therapeutic purposes: full diet, soft diet, clear fluid diet, bland diet, high protein diet, high fiber diet, low fiber diet, calorie restricted diet. Dietary management and prevention of underweight, overweight and obesity.

Unit-III

Etiology, symptoms and dietary management in acute and chronic fevers- typhoid, influenza and tuberculosis. Etiology, symptoms and dietary management in gastrointestinal disorders- diarrhea, constipation and peptic ulcer. Etiology, symptoms and dietary management in Kidney disorders. Nutritional management for burn patients.

Unit-IV

Etiology, symptoms and dietary management in liver diseases- hepatitis, jaundice and cirrhosis of liver. Etiology, symptoms and dietary management in cardiovascular diseases- atherosclerosis and hypertension. Etiology, symptoms and dietary management in diabetes mellitus. Etiology, symptoms and dietary management in Cancer.

Recommended Readings

1. Agarwal, A. and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication, Delhi.
2. ICMR (2010). Dietary Guidelines for Indians. ICMR, NIN: Hyderabad.
3. Gopalan, C., Rama Shastri, B.V. and Balasubramanian, S.C. (2007). Nutritive Value of Indian Foods. NIN, ICMR, Hyderabad.
4. ICMR (2010). Nutrient Requirement and Recommended Dietary Allowance for Indians. A Report of Expert Group of the ICMR, NIN, Hyderabad.
5. Khanna, K., Gupta, S., Seth, R. and Puri, S. (2013). Text Book of Nutrition and Dietetics, Phoenix Publishing House Pvt. Ltd., New Delhi.
6. Raghuvanshi, R.S. and Mittal, M. (2014). Food Nutrition and Diet Therapy. Westvills Publication, Delhi.
7. Srilakshmi, B. (2011). Dietetics (5th Ed.). New Age international Pvt. Ltd. Publishers, New Delhi.
8. Agarwal, A. and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication, Delhi.

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❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10
External marks: 20
Time: 3 Hrs

Practical

Planning and preparation of therapeutically modified diets: Full diet, soft diet, bland diet, high protein diet, high fiber diet, low fiber diet, and calorie restricted diet. Planning and preparation of therapeutically modified diets in following disease conditions: constipation, diarrhoea, fever: typhoid, tuberculosis, diabetes, hypertension, CHD, peptic ulcer, and obesity.

❖ **Instructions for External Practical Paper Setter/Examiner**

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Hygiene & Human Physiology
B-HHP-602

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

CO1 Gain knowledge about symptoms, prevention, and treatment of various diseases.

CO2 Understand the importance of hygiene and health.

CO3 Learn about human anatomy.

CO4 Understand the physiological functions of the human body.

Unit-I

Meaning and principle of food hygiene, Health and factors affecting health; Eating & drinking habits, Body posture, sleep, exercise & games, cleanliness of body and house; Immunity - Definition and types of immunity, vaccination schedule.

Unit-II

Causes, symptoms & prevention/control of following diseases: (a) Diseases spread by insects: Malaria & Dengue; (b) Diseases spread by ingestion: Typhoid, diarrhea & Dysentery (c) Diseases spread by droplet infection: T. B. & Chickenpox (d) sexually transmitted disease: AIDS.

Unit-III

Cell biology: Animal cell structure; Digestive system: Structure and functions of various parts of alimentary canal, functions of liver, pancreas and salivary glands. Cardiovascular system: Blood and its composition, structure and functions of heart, blood pressure and its regulation. Skeletal System: Functions, names and number of different bones, joints of skeleton their names with examples.

Unit-IV

Reproductive system: Structure of reproductive organs in women, menstrual cycle, physiology of pregnancy parturition, lactation and menopause. Nervous system: Structure and functions of brain, spinal cord and nerve cell. Excretory system: Structure and functions of kidney, formation of urine; functions of skin, regulation of temperature of body. Respiratory system: Structure of lungs mechanism of respiration and its regulation, O₂ and CO₂ transport in blood.

Recommended Readings

1. A.K Jain. (2017), Textbook of Physiology 7th edition Avichal Publishing Company.
2. D.K Sharma & Sameer R. (2018). Textbook of human anatomy and physiology Mackingee publishers.
3. G.K, Pal. (2019). Comprehensive Textbook of Medical Physiology Second edition, aypce Brothers Medical Publishers.
4. Santosh S, Tikoo. (2018). Health, Hygiene and Applied Science, Modern Publishers, New Delhi
5. Sweera Rehlan (2018) Hygiene, S. Dinesh Sales Corporation, Near Sitla Mandir, Circular Road, Mai Hiran Gate, Jalandhar.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.


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Practical

Internal marks: 10

External marks: 20


Time: 3 Hrs

Practical

Preparation of a leaflet on prevention of any disease (as mentioned above) for creating awareness. Immunization schedule survey in PHC or local hospital and report writing. Study of human systems through charts & models. Study of Human skeleton. Organizing activity on health & hygiene or any other related topic. Preparation of report of the workshop organized.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.


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Housing and Space Management
B-HSM-603

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1** Learn the relationships that characterize art and design practice in building a house.
- CO2** Impart knowledge and skills for making different floor plans for different income groups.
- CO3** Enable the students to explore theories and modern methods of interior space planning and management.
- CO4** Encourage learning of traditional and contemporary housing materials, technical processes and methods of modern construction.

Unit-I

House: Concept and importance of housing, needs at different stages of family life cycle, difference between house and home. Choice of site for house and factors affecting site selection. Concept of green home sustainability.

Unit-II

Self-owned and rented houses: Advantages and disadvantages. Housing schemes for urban and rural families. Building byelaws.

Unit-III


House plan- Architectural symbols, floor plan making, types of house floor plans, planning of rooms for different activities, factors affecting planning of a house orientation, roominess, grouping, circulation, privacy, flexibility, sanitation, ventilation, economy, fire protection.

Unit-IV

Brief introduction of conventional and non- conventional building material for construction of a house. Building materials: various building materials like stone, clay, steel, cement, timber etc. Low-cost building materials like hollow bricks etc. Paints and distempers: various paints and finishing materials.

Recommended Readings

1. Dr. N. Kumara Swamy & A. Kameswara Rao (2019), Building Planning And Drawing, Charotar Publishing House Pvt. Ltd.
2. Dr. Brinda Singh (2020), Grah prabandh Evam aantrik sajja (Home Management & Interior Decoration), Panchsheel Prakashan.
3. Dr. Bhargava B. (2007), Principles of art, University Book House Pvt. Ltd.
4. Goldstein, H. and Goldstein, V. (1967): Art in Everyday life; New Delhi: Oxford and IBH publishing company.
5. Lawrence M. (1987), Interior Decoration, New Jersey: Chartwell Books.
6. Adler, David. (2004), Metric Handbook planning & Design, Architectural press.
7. Kumar, Sushil (2008), Building Construction, Standard publisher.
8. Tssie, A. The house, its plan and use. Oxford and IBH Publishing Co. New Delhi
9. Deshpande R.S. modern Ideal Homes for India, Poona united Book Corporation
10. Sharma, K. Home Management shiva prakasham Indore, M.P.


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11. Deshpande, R.S. 1981 Build your own home, United Book Corporation

12. Megarh, H. 1982 About the house. Oxford University Press, New Delhi

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Preparation of graphs on space planning for different rooms: living room, dining room, bedroom and kitchen. Presentation of signs used for reading house plans for LIG, MIG and HIG through illustration. Preparation of portfolio on modern methods of house construction: Precast Cladding Panels, Twin Wall Technology, Precast Concrete Foundation and modular kitchen.

❖ **Instructions for External Practical Paper Setter/Examiner**

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions. The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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Nutritional Biochemistry

B-NBC-604

Total Credits: 4

L-T-P

3-0-

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Understand about carbohydrates and their metabolic process.
- CO2 Gain knowledge about Proteins, lipids and their metabolic process.
- CO3 Understand about structure and functions of Nucleic acids.
- CO4 Gain knowledge about Enzymes and their action, specificity and velocity of enzyme catalysed reaction.

Unit-I

Carbohydrates: Definition, classification and properties of monosaccharides, disaccharides and Polysaccharides. Metabolism of carbohydrates: Glycolysis, glycogenesis, Gluconeogenesis, Citric Acid Cycle. Proteins: Definition, classification, structure of proteins, Amino Acids-Introduction. Metabolism of Proteins: Transamination, Deamination, Urea cycle.

Unit-II

Lipids: Definition, classification of lipids, acid value, saponification value and iodine value. Metabolism of lipids: β -Oxidation of fatty acids, synthesis and utilization of ketone bodies, ketosis. Vitamins: Biochemical role of fat-soluble vitamins- A, D, E, K and water-soluble vitamins-B1, B2, B3, B12 & C. Minerals: Biochemical role of Calcium, Phosphorus, Iron, Iodine, Zinc, Magnesium.

Unit-III

Enzymes: Definition, classification of enzymes, specificity of enzymes, factors affecting velocity of enzyme catalysed reactions, Lock and key hypothesis of enzyme action, enzyme inhibition.

Unit-IV

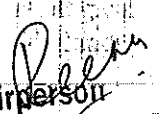
Nucleic acids: Components, structure and functions of DNA and RNA, replication, transcription, genetic code, biosynthesis of proteins (Translation). Hormones – Biological role of Insulin, Glucagon. Glands: Biological role of Pituitary, Thyroid, Parathyroid glands.

Recommended Readings

1. Satyanarayana, U., & Chakrapani, U. *Biochemistry*. Elsevier.
2. Conn, E.E., & Stumpf, P.K. *Outlines of Biochemistry*. John Wiley & Sons.
3. West, E.S., & Todd, W.R. *Textbook of Biochemistry*. Oxford Publication.
4. Murray, R.K., & Granner, D.K. *Harper's Biochemistry*. McGraw Hill.
5. Plummer, D.T. *An Introduction to Practical Biochemistry*. McGraw Hill.
6. Wilson, K., & Walker, J. *Practical Biochemistry – Principles & Techniques*. Cambridge Edition.

❖ Instructions for External Theory Paper Setter/Examiner

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.


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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Reactions of carbohydrates and their identification. Determination of acid value and saponification value. Separation of amino acid mixture by paper Chromatography. Estimation of Lactose in Milk. Estimation of ascorbic acid content of food (Titrimetric method)

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Entrepreneurial Trends & Techniques
B-ETT-605

Total Credits: 4

L-T-P

3-0-1

Internal marks: 20

External marks: 50

Time allowed: 3 Hrs

Course Outcomes: Upon successful completion of this course, the students will be able to:

- CO1 Sensitize and motivate students for entrepreneurship in the present scenario and understand the need to take up self-employment.
- CO2 Understand the types, stages, and competencies of entrepreneurs.
- CO3 Create awareness regarding SWOT analysis and financial management.
- CO4 Understand the various government schemes for the development of women entrepreneurs.

Unit-I

Concept and significance of entrepreneurship in India. Causes of slow growth of entrepreneurship in India. Functions of Entrepreneur: Entrepreneurial, promotional, managerial and commercial functions. Difference between an entrepreneur and an employee/intrapreneur.

Unit-II

Types of Entrepreneurs: on the basis of economic development, type of business, technology used, motivation, ownership, personality traits and stages of development. Competencies of an entrepreneurs. Successful Indian entrepreneurs.

Unit-III

Process of entrepreneurship. Elements of business plan. Financial management: estimation of project cost and profit assessment. SWOT analysis and matrix.

Unit-IV

Women Entrepreneur: Classification of women entrepreneur, barriers for women entrepreneur. Government programs for women entrepreneurs. Incentives given by Government for promotion of entrepreneurship.

Recommended Readings

1. Desai, V. (2011). Entrepreneurial Development Potential beyond Boundaries. Himalaya Publishing House, New Delhi.
2. Khanka S.S. (2007) Entrepreneurial Development. S. Chand & Company Ltd.
3. Neck, H. M., Neck, C. P. and Murray, E. L. (2016). Entrepreneurship: The Practice and Mindset. Sage Publishing.
4. Norman, M. S. (2016). Essentials of Entrepreneurship and Small Business Management. Pearson Education Limited.
5. Shills, M. B. (2007). Entrepreneurship and Small Business Management. Kitab Mahal Publication, Delhi.

❖ **Instructions for External Theory Paper Setter/Examiner**

The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course outcomes (COs) into consideration. The compulsory question (Question No. 1) will contain 5 parts covering entire syllabus. The examinee will be required to attempt 4 questions, selecting one question from each unit and the compulsory question.

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Practical

Internal marks: 10

External marks: 20

Time: 3 Hrs

Practical

Visit to small scale industries; interaction with successful entrepreneurs; visit to financial institutions and support agencies; preparation of project proposal for funding by different agencies.

❖ Instructions for External Practical Paper Setter/Examiner

The examiner will set two questions at the time of practical examination by taking course learning outcomes into consideration. Equal weightage will be given to both the questions.

The evaluation will be done on the bases of practical record, viva-voce, write up and execution of the practical work done in the class and at the time of the examination.

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