

College of Home Science

Bikaner

SYLLABUS

2019-20



B.Sc. (Hons.) Community Science

(4 Years Programme)

COLLEGE OF HOME SCIENCE, BIKANER

SWAMI KESHWANAND

RAJASHTHAN AGRICULTURAL UNIVERSITY

BIKANER-334006

SYLLABUS

2019-20



COLLEGE OF HOME SCIENCE

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RAJASTHAN AGRICULTURAL UNIVERSITY

BIKANER-334006

Compiled & Edited by : **Dr. SUNITA LADDHA**
Published by : **College of Home Science**
Swami Keshwanand
Rajasthan Agricultural University
Bikaner-33 4006

PREFACE

The education division of Indian Council of Agriculture Research (ICAR) felt need to make some changes in degree and syllabus as per the present need . Council (ICAR) constituted Vth Deans Committee for the quality improvement in education as well as to consider the contemporary challenges for employability of passing out graduates , lots of efforts have been made to improve the quality of education ,to make it internationally competitive . The implementation of the recommendation of Vth Deans Committee have made mandatory for all the SAUs. Therefore the nomenclature of degree has been changed from Home Science to Community Science and introduces one more new course named Food Nutrition and Dietetics has been introduced under the umbrella of Home Science . Further from the year 2017-18 college of Home Science (Community Science) will offer two degrees namely B.Sc. (Hons) Community Science and B.Sc. (Hons) Food Nutrition and Dietetics. Therefore the required modifications were incorporated in new syllabus was approved in 49 Academic Council Meeting held on 25.06.2017 as well as by the 9th Board of Studies (2017) . This syllabus is being distributed among all the concerned students with the hope that it will be of great use for all the students to achieve objective of each subject in their course curriculum.

With good wishes .

Dr. Deepali Dhawan

DEAN

PROFESSOR & DEAN

- | | |
|------------------------|------|
| 1. Dr.. Deepali Dhawan | DEAN |
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DEPTT. OF FOOD & NUTRITION

- | | |
|-----------------------------|--------------|
| 1.Dr. (Mrs) Madhu Goyal | Prof. & HEAD |
| 2. Dr.(Mrs.) Vimla Dunakwal | Prof. |
| 3. Dr. (Mrs.) Mamta Singh | Asstt. Prof. |

DEPTT. OF HUMAN DEVELOPMENT AND FAMILY STUDIES

- | | |
|------------------------------|-----------------|
| 1. Vacant | Associate Prof. |
| 2. Mrs. Manju Kanwar Rathore | Asstt. Prof. |
| 3. Vacant | Asstt.Prof. |

DEPTT.OF EXTENSION EDUCATION AND COMMUNICATION MANAGEMENT

- | | |
|--------------------------------|--------------|
| 1. Dr.(Mrs.) Neena Sareen | Prof.& Head |
| 2. Dr.(Mrs.) Deepali Dhawan | Prof.& DEAN |
| 3. Dr. (Mrs.) Prasanlata Araya | Asstt. Prof. |

DEPATT. OF TEXTILE AND APPAREL DESIGNING

- | | |
|--------------------------|------------------|
| 1 Dr.(Mrs.) Jaya Paliwal | Prof. & Incharge |
| 2 Vacant | Asstt.Prof. |

DEPTT.OF RESOURCE MANAGEMENT AND CONSUMER SCIENCE

- | | |
|-------------------------|-------------------------|
| Dr.(Mrs.) Sunita Laddha | Assoc. Prof. & Incharge |
| Dr. (Mrs.) Kirti Khatri | Asstt. Prof. |

LIBRARY

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| 1. Dr.(Mr.) C.P.Rajpurohit
(deputed to central library) | Astt. Librarian |
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COLLEGE OF HOME SCIENCE, SKRAU, BIKANER

B. Semester wise courses B.Sc. (Honours) Community Science

Academic Session 2019-20

S.No	Course Title	Course No.	Credit Hours	Page No.
I SEMESTER				
1.	General English –I*	ENG-101	2 (1+1)	12
2	Extension and Rural Development	EECM-111	2 (2+0)	13
3	Textile Science and Fabric Care	TAD-111	3 (2+1)	15
4	Food Science and Processing	FN-111	3 (2+1)	18
5	Fundamentals of Art and Design	RMCS-111	3 (2+1)	20
6	Fundamentals of Human Development	HDFS-111	2 (2+0)	22
7	Environmental Studies and Disaster Management*	ESDM-101	3 (2+1)	24
8	National Services Scheme/NCC/NSO/Games	NSS/NCC	2(0+2)	
	TOTAL		20 (13+7)	
II SEMESTER				
1	Technical Writing (English)*	TW-102	2 (1+1)	28
2	Women in Agriculture	EECM-121	2 (2+0)	29
3	Fundamentals of Clothing Construction	TAD-121	3 (1+2)	30
4	Elementary Human Physiology	PHYSIO-101	3 (2+1)	32
5	Principles of Biochemistry	BIOCHEM-121	3(2+1)	33
6	Life Span Development	HDFS-121	3 (2+1)	34
7	System Dynamics and Management of Resources	RMCS-121	2 (1+1)	36
8	Agricultural Informatics*	COMP-102	3 (1+2)	38
9	National Services Scheme/NCC/NSO/Games	NSS/NCC	2(0+2)	
	TOTAL		23 (12+11)	

- Supporting courses

S.No.	Course Title	Course No.	Credit Hours	Page No.
III SEMESTER				
1	Information and Communication Technology	EECM-211	3 (1+2)	40
2	Techniques of Fabric Construction	TAD-211	3 (1+2)	42
3	Principles of Human Nutrition	FN-211	3 (3+0)	44
4	Food and Nutrition Policy and Agriculture	FN-212	2 (2+0)	46
5	Financial Management and Consumer Education	RMCS-211	2 (1+1)	47
6	Marriage and Family Dynamics	HDFS – 211	3 (2+1)	49
7	Elementary Statistics*	STAT-201	3 (2+1)	51
8	Fundamentals of Food Microbiology	MICROBIO-201	3 (2+1)	52
9	National Services Scheme/NCC/NSO/Games	NSS/NCC	2(0+2)	
	TOTAL		24 (14 + 10)	
IV SEMESTER				
1	Housing and Space Management	RMCS-221	3 (2+1)	54
2	Ergonomics and Appropriate Technologies	RMCS-222	2 (1+1)	56
3	Textiles Finishes	TAD -221	2 (1+1)	57
4	Clinical Nutrition	FN -221	3 (2+1)	59
5	Food Standards and Quality Control	FN – 222	3 (1+2)	61
6	Developmental Challenges in Children	HDFS-221	3 (2+1)	62
7	Communication Skills and Personality Development*	CSPD – 201	3 (2+1)	64
8	Diffusion and Adoption of Homestead Technologies	EECM-221	3 (2+1)	65
9	National Services Scheme/NCC/NSO/Games	NSS/NCC	2 (0+2)	
	TOTAL		24 (13+11)	

- Supporting Course

V SEMESTER				
S. No.	Course Title	Course No.	Credit Hours	Page No.
1	Garment and Accessory Designing	TAD-311	3 (0+3)	68
2	Food Hygiene and Sanitation	FN -311	2 (1+1)	70
3	Introduction to Rural Sociology	RSOC – 301	2 (2+0)	71
4	Family Counselling and Welfare	HDFS -311	3 (2+1)	72
5	Normal and Therapeutic Nutrition	FN -312	3 (2+1)	74
6	Residential and Commercial Space Design	RMCS – 311	3 (2+1)	76
7	Dyeing and Printing	TAD – 312	2 (1+1)	78
8	Economics and Marketing*	ECOMKT-301	3 (2+1)	80
	TOTAL		21 (12+9)	
VI-SEMESTER				
1	Traditional Textiles and Costumes of India	TAD -321	3 (2+1)	82
2	Community Nutrition and Education	FN-321	3 (2+1)	84
3	Food Analysis	FN -322	3 (1+2)	85
4	Entrepreneurship Development and Business Management	RMCS – 321	3 (2+1)	87
5	Educational Psychology and Early Childhood Education	HDFS – 321	3 (2+1)	89
6	Programme Development for Rural Families OR Project Management	EECM – 321 OR EECM -322	3 (1+2)	91
7	Extension Training Management	EECM -323	3 (1+2)	93
	TOTAL		21 (11+10)	

- Supporting Course

VII SEMESTER				
S.No.	Course Title	Course No.	Credit Hours	Page No.
1	Apparel Designing Technique-Flat Pattern and Draping	TAD – 411	3 (0+3)	97
2	Principles of Textile Designing	TAD -412	3(0+3)	98
3	Fashion Illustrations	TAD – 413	3 (0+3)	100
4	Computer Aided Designing-Pattern Designing	TAD -414	2 (0+2)	102
5	Print and Electronic Journalism	EECM – 411	3 (0+3)	103
6	Instructional Video Production	EECM – 412	3 (0+3)	104
7	Web designing and Multimedia Production Marketing	EECM - 413	4 (0+4)	105
8	Public Relations and Social Marketing	EECM – 414	3 (0+3)	106
9	Event Management	RMCS – 411	3 (0+3)	107
10	Interior Design and Decoration	RMCS – 412	3 (0+3)	108
11	Computer Aided Interior Designing	RMCS – 413	4 (0+4)	109
	Seminar	Seminar – 411	1 (1+0)	
	Minimum of 20 credits to be studied	TOTAL	35(1+34)	
Module II - Community Nutrition and Welfare				
1	Print and Electronic Journalism	EECM - 411	3 (0+3)	110
2	Instructional Video Production	EECM - 412	3 (0+3)	112
3	Web designing and Multimedia Production Marketing	EECM - 413	4 (0+4)	111
4	Diet and Nutrition Counselling	FN - 411	3 (0+3)	113
5	Food Preservation and Storage	FN – 412	3 (0+3)	114
6	Food Service and Hospitality Management	FN – 413	3 (0+3)	115
7	Nutraceuticals and Health Foods	FN – 414	3 (0+3)	116
8	Methods and Materials for Teaching Young Children	HDFS – 411	4 (0+4)	117
9	Education and Counselling of Parents and Community	HDFS -412	2 (0+2)	119
10	Early Childhood Care, Education and Management	HDFS – 413	4 (0+4)	121

11	Developmental Assessment of Young Children	HDFS - 414	3 (0+3)	123
12	Seminar	Seminar – 411	1 (1+0)	
	Minimum of 20 credits to be studied	TOTAL	36(1+35)	
SEMESTER VIII				
1	In-Plant Training/Internship/RAWE		(10+10)= 20	

I SEMESTER

S.No.	Course Title	Course No.	Credit Hours	Page No.
1.	General English –I*	ENG-101	2 (1+1)	
2	Extension and Rural Development	EECM-111	2 (2+0)	
3	Textile Science and Fabric Care	TAD-111	3 (2+1)	
4	Food Science and Processing	FN-111	3 (2+1)	
5	Fundamentals of Art and Design	RMCS-111	3 (2+1)	
6	Fundamentals of Human Development	HDFS-111	2 (2+0)	
7	Environmental Studies and Disaster Management*	ESDM-101	3 (2+1)	
8	National Services Scheme/NCC/NSO/Games	NSS/NCC	2(0+2)	
TOTAL			20 (13+7)	

GENERAL ENGLISH

Theory:

Word-Formation Prepositions Idiomatic Expressions Conditional Sentences and Modal Verbs
Synthesis and Transformation Essay Writing (5 topics to be discussed) Precise writing Study of
Prose and short stories from BRIGHTER ENGLISH book of short stories, plays, poems and essays
by C.E. Eckersley, Orient Longman, New Delhi, 1984) The Bachelor of Arts by R.K. Narayan Pre-
final examination

Practical:

Based on Lectures Language work: the prescribed lessons having a bearing on the topics covered in
lectures. Identification of phonetic sounds and symbols Stress and Intonation Listening
Comprehension Conversation Practice

Objectives:

1. To understand the concept, philosophy, principles and objectives of extension education and its contribution towards rural development.
2. To develop understanding about selected rural development programmes of government and ICAR.

Theory:

S. No.	Topic	No. of classes
1.	Extension Education <ul style="list-style-type: none"> • Concept And Importance • Philosophy, Principles & Objectives • Evolution of Extension Education • Glimpses of Extension Programmes During Pre & Post-Independence Era 	1 2 1 2
2.	Community – concept & types, Community and science	1 1
3.	Community mobilization – concept & importance	1
4.	Leader & leadership – concept, types and identification of leaders	3
5.	Rural development – concept, importance and aim	2
6.	Community development programme – concept, objectives, activities, achievements & failures	3
7.	Panchayat Raj – concept, structure & functions	3
8.	Five year plans – <ul style="list-style-type: none"> • Emergence of five year plans • Objectives of various five year plans 	1 2
9.	Current rural development programs/ organizations <ul style="list-style-type: none"> • SGSY (NRLM), • MGNREGA, • IAY, • ICDS, • DRDA, • ATMA 	1 1 1 1 1 1
10.	Role of ICAR, SAUs & KVKs in rural development	2
11.	Role of NGO, SAUs & KVKs in rural development	1
Total		32

Suggested readings:

1. Ray, G. L. 2003. Extension Communication and Management. Kalyani Publisher. Fifth revised and enlarged edition.
2. Dahama, O.P. and Bhatnagar, O.P. 2003. Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd.
3. Reddy, A. 1993. Extension, Sri Laxmi press, Bapatla, Gunthur,A.P.
4. Reddy, V.K. 1988. Rural Development in India. Himalaya Publishing House, New Delhi.
5. Supe, S.V. 1986. An introduction to Extension Education, Oxford and IBH Publishing Company, New Delhi.
6. Santha, Govind, G. Tamilselvi and Menambigai, 2011 Extension Education and rural development, AGROBIOS (Indian) chopasani road, Jodhpur – 342002 (Raj.)
7. Khandai, H., Yadva, K, and Mathur, An Extension Education Published by S. B. Nangia, APH Publishing Corporation 4435-3617 Ansari Road DariyaGanj, New Delhi - 110002

Objectives:

1. To impart knowledge of processing, properties and use of different types of fibres.
2. To acquaint them with the process and materials used in the maintenance and laundering of fabric.
3. To develop abilities of stain removal, washing and finishing of different fabrics.

Theory :

S.No.	Topic	No. of classes
1	Textile: definition, forms of textile, importance of textile industry in national economy	1
2	Classification of textile fibres Properties of textile fibres; primary and secondary properties	2
3	Molecular structure of textile fibres: Monomers, polymers and their types, polymerization and its types, degree of polymerization and orientation	1
4	Cotton: Fibre production, fibre varieties and their grading ,fibre morphology, physical, chemical and biological properties and end-uses	2
5	Bastfibres: Flax, jute, hemp and ramie; Fibre production, fibre morphology, physical, chemical and biological properties and end-uses Other bastfibres (ramie, jute, hemp): Fibre production, fibre morphology and physical, chemical and biological properties and end-uses	3
6	Wool: Fibre production, classification of wool and their labeling, fibre morphology, physical, chemical and biological properties and end-uses	2
7	Silk: Fibre production and classification, fibre morphology, physical, chemical and biological properties and end-uses	2
8	Chemical spinning: Wet, melt and dry spinning and common properties of man-made fibres	1
9	Rayons: Viscose, cupramonium and High Wet Modulus rayons; fibre manufacturing, microscopic structure, physical, chemical and biological properties and end-uses	2
10	Modified cellulosic fibres: Diacetate and triacetate; fibre manufacturing, fibre microscopic structure, physical, chemical and biological properties and end-uses	2
11	Synthetic fibres: Nylon, polyester and acrylic; fibre manufacturing, fibre microscopic structure, physical, chemical and biological properties and end-uses	2
12	Mechanical spinning: Ring spinning	1
13	Classification of yarn on the basis of structure- simple and novelty yarns, twist direction, twist amount, fibre length and end-uses	2
14	Methods of fabric construction: Weaving, knitting, braiding, tufting, net, lace making, crocheting, macramé, stitch through fabrics, quilted fabrics, laminated fabrics, bonded fabrics, felt, nonwoven and films	3
15	Stain removal: Classification of stains and methods of removing different stains	1

16	Laundry: Definition, principles, equipments, laundry methods and dry cleaning	1
17	Laundry agents: Water, soap, laundry auxiliary, stiffening agents, bleaches and blues	2
18	Care of textiles: Labeling and labeling Act Labels and tags used in textiles	1
19	Storage of clothes: Requirements of short term and long term storage, folding and packaging of clothes	1
Total		32

Practical:

S.No.	Topic	No. of classes
1	Testing of textile fibres Microscopic view	2
2	Burning test	1
3	Solubility test	2
4	Visual test	1
5	Study and identification of different types of yarns in the market	1
6	Study and identification of fabric samples of different construction in the market	2
7	Thread count	2
8	Removal of different stains from fabric surface	2
9	Washing and finishing of garments made of following fibres: Cotton, Wool, Silk, Blends/ synthetic	2
10	Visit to textile industry.	1
Total		16

Suggested Readings

- 1.** Cowan, M. L. and Jungerman, M. E. 1969. Introduction to textiles. 6th ed. New York. Appleton-Century – Crofts.325 p.
- 2.** Dantyagi, S. 1959. Fundamentals of textiles and their Care. New Delhi. Orient Longman Limited.
- 3.** Deulkar, D. and Tarabai.1967. Household textiles and laundry Work. 3rd ed. Delhi.Atma Ram and Sons Ltd.
- 4.** Hall, A.J. 1969. A Students Textbook of Textile Science. London. Allman and Son Ltd
- 5.** Hollen, N. and Saddler, J. 1968. Textiles. New York. Macmillan Company.
- 6.** Joseph, M. L. 1986. Introductory textile science. 5th ed. New York. CBS College Publishing.
- 7.** Labarthe, J. 1969. Textiles: Origins to Usage. New York. McMillan Company Ltd
- 8 .** Potter, M.D. and Corbman, B.P. 1967. Textiles: Fibre to fabric. New York. Macmillan Hill Co.
- 9.** Stout, E.E. 1970. Introduction to textiles. 3rd ed. New York. John Wiley and Sons, Inc.
- 10.** Tortora, P.G. 1978. Understanding textiles. New York. Macmillan Publishing Company.
- 11.** Vilensky, L. D. and Gohl, E. P.G. Textile Science. Delhi. CBS Publishers and Distributors.
- 12.** Wingate, I. B. 1970. Textile Fabrics and their selection.6thed. New Jersey. Prentice Hall Inc.
Wynne, A. 1997.Textiles.London, Macmillan Education Ltd. 310 p.
- 13.** Vatsala, R. 2003. Textbook of Textiles and Clothing. New Delhi. Indian Council of Agriculture Research.

Objectives:

1. To impart basic knowledge of composition & physical/ chemical characteristics of different foods.
2. To impart basic knowledge of changes occurring in food processing and cooking.

Theory:

S.No.	Topics	No. of classes
1	Food groups, food guide pyramid and its importance and foods as a source of nutrients	1
2	Objectives of cooking, processing, preservation, methods of cooking with their merits and demerits. Effect of cooking and heat on nutritive value of foods.	2
3	Cereals, millets and pulses: Composition and nutritive value, types, storage, processing. Cereal cookery. Gluten and factors affecting the gluten formation, cereal starch, gelatinization and dextrinisation.	3
4	Pulse cookery. Effect of cooking, factors affecting cooking quality and toxic constituents in pulses.	2
5	Nuts and oilseeds- Composition and nutritive value, types, storage, oil extraction, processing, toxic constituents and role in cookery.	2
6	Milk and milk products: Composition and nutritive value, properties, processing and packaging, effect of heat, acid, enzymes, microbes, processed and indigenous milk products & their quality and role in cookery	3
7	Eggs- Structure, composition and nutritive value, storage, evaluation of quality of egg and role of egg in cookery	2
8	Flesh foods- Structure, composition and nutritive value, types, storage, evaluation of quality and selection of meat, fish and poultry, methods of cooking, brief description of ageing and tenderization and curing.	3
9	Vegetables and fruits. Composition and nutritive value, types, storage, selection and post-harvest changes. Effect of processing & preservation & cooking on different pigments of both fruits & vegetables.	3
10	Sugar and its products: Composition and nutritive value, type, function, properties, stages in sugar cookery and role of sugar in cookery.	2
11	Fat and oils. Composition, nutritive value, types, role in cookery and importance in daily diet.	2
12	Spices and herbs. Types and its use.	1
13	Beverages and appetizers. Classification, use in everyday lives with special reference to tea, coffee, cocoa and alcoholic drinks.	2
14	Leavening agents, classification and functions.	2
15	Processed and convenience foods. Ready to eat foods, frozen foods, dehydrated foods and instant food mixes.	2
Total		32

Practicals:

S.No.	Topics	No. of classes
1	Laboratory conduct and responsibilities; knowledge of different food stuffs in English, Hindi and local language.	1
2	Terms used in cookery, weights and measures; identification and use of different kitchen items and equipments.	1
3	Identification and listing of various food groups; market survey of processed and preserved foods.	1
4	Cereal cookery. Preparation of plain rice (open and pressure cook), lime-rice, pulao, parantha, chapatti, upma and halwa.	1
5	Pulse cookery. Preparation of plain dal, dal with green, pakoras and sambar. Preparation of cereal and pulse combined recipes- Idlis, adai etc.	1
6	Nuts and oilseeds. Preparation of chikki, til ladoos, thandai and dish in mustard paste	1
7	Milk cookery. Preparation of curd and paneer.	1
8	Egg cookery. Selection of egg, preparation of boiled egg, scrambled egg and poached egg.	1
9	Meat and fish cookery. Preparation of meat and fish based items.	1
10	Fruits and vegetables cookery: Preparation of sauces, pickles, squash, chips. Sabjis and salad	3
11	Sugar cookery preparation of fudge and fondent. Process of caramalization; demonstration of 1-thread and 2-thread consistency.	1
12	Fats and oils. Preparation of syrups puris, purees cakes and biscuits.	1
	Appetizers. Preparation of red tea, white tea, coffee and egg nog.	1
13	Visit of food industries.	1
	Total	16

Suggested Readings:

- 1 Potter, N.N. (1996). Food Science. The AVI Publishing Company, Inc., Westport, Connecticut.
- 2 Sehgal, S., Grewal, R.B., Kawatra, A. and Kaur, Y. (1997). Practical Aspects of Food Preservation. Directorate of Publications. Haryana Agricultural University, Hisar.
- 3 Khadder V., (1999), Text book of Food, Storage and Preservation. Kalyani Publishers, New Dehi.
- 4 Kalia, M. and Sood, S. (2010). Food Preservation and Processing. Revised Edition, Kalyani Publishers, New Delhi.
- 5 Jood, S. and Khetarpaul, N. (2002). Food Preservation. Geeta Somani Agrotech Publishing Academy, Udaipur.
- 6 Sivasankar, B. (2002). Food Processing and Preservation. PHI Learning Pvt. Ltd. Delhi.

Objectives:

1. To learn about elements and principles of art and their application in interior designing.
2. To gain better understanding of interior enrichment.

Theory:

S. No.	Topic	No. of classes
1.	Introduction and objectives of interior decoration. Elements of art and their importance in interior decoration. Principles of design and their application to enrich the interiors.	3
2.	Colour: <ul style="list-style-type: none"> • Sources of colour • Properties of colour • Emotional effect of colour • Colour schemes • Colour theories, Colour plans for interiors 	1 1 1 1 1
3.	Furniture: <ul style="list-style-type: none"> • Types of furniture, materials and finishes of furniture • Factors affecting the selection of furniture • Care and maintenance of furniture • Furniture arrangement • Points to be considered while selecting the furniture 	2 1 1 1 1
4.	Wall: <ul style="list-style-type: none"> • Classification, types of building wall, functional characteristics of wall • Types of wall treatments • Exterior and interior wall finishes 	2 1 1
5.	Floor <ul style="list-style-type: none"> • Types of floor covering, care and maintenance • Selection of floor covering 	1 1
6.	Windows: <ul style="list-style-type: none"> • Importance, its functional • Decorative treatments 	1 1
7.	Accessories: <ul style="list-style-type: none"> • Classification, application of principles of design • Decoration in the selection/development of accessories and their placement. 	2 1
8.	Lighting: <ul style="list-style-type: none"> • Importance • Types of lighting and its application. 	1 1
9.	Flower arrangement: <ul style="list-style-type: none"> • Materials used, principles involved • Types & Care of flower management 	1 2
10.	Table setting: <ul style="list-style-type: none"> • Linens, tableware etc. required for table setting, table etiquettes. 	2
Total		32

Practical:

S. No.	Topic	No. of classes
1.	Learning elements of art.	1
2.	Principles of design	2
3.	Development of motif and design through art principles.	1
4.	Colour – Colour schemes, values and intensity scale, Colour wheel.	2
5.	Furniture – care and arrangement of furniture.	1
6.	Accessories – preparation and placements of accessories.	1
7.	Flower arrangement.	1
8.	Learning different types of table setting and napkin folding.	2
9.	Window treatment.	2
10.	Lighting, fixtures and their utility.	1
11.	Market survey – different types of wall and floor coverings.	2
Total		16

Suggested Readings:

1. Dorothi, *et al.*, (1980). Introduction to Interior Design. New York: Mc Millan.
2. Faulkner and Faulkner.(1975). Inside Today's Home. New York: Holt, Rinehart and Winston.
3. Gewther, M. (1970).The Home, its Furnishings and Equipment U.S.A. Mc. Graw Hill.
4. Mike, L. (1986). The Complete Interior Decoration. United Kingdom: Mc Donald.
5. Ruth, M. (1975). The Home and its Furnishings, U.S.A.: Mc. Graw Hill.
6. Seetharaman P. and Sethi M. (2002).Interior Design and Decoration.CBS Publishers and Distributors. New Delhi.
7. Vargeese, M.N. Ogale, N.N. and Srinivasan, K. (1992). Home Management, Wiley Eastern, New Delhi.
8. Bhargava, Bela. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.

Objectives:

1. To orient the students regarding basic concepts, issues and theories of human development.
2. To give brief orientation regarding research with human beings.

Theory:

Sr.No	Course title	Credit hours
1.	Human development as a field of study, History of study of Human Development	2
2.	Scope and importance of study of human development from a life-span perspective	2
3.	Relationship of the discipline of human development with other disciplines of study	1
4.	Definition of growth and , difference between growth and development, determinants of human growth and development; principles of human growth and development	2
5.	Genetic basis and concepts associated with human life	2
6.	Stages of human development	2
7.	Domains of human development and its , Latest issues in human development	3
8.	Brief orientation to Theories of human development: Naturalism. Environmentalism, Maturation, Need, Ecological, Ethological, Cognitive, Social, Psychoanalytical, Language and Moral	6
9.	Origins of scientific inquiry	1
10.	Research involving humans: Definition of ethics and research, practical and ethical principles and concerns in research with human subjects. Ethical trends and challenges.	2
11.	Basic concepts of Research :Variables, Hypothesis, Sampling, Operational definitions	3
12.	Research designs	3
13.	Methods of data collection- Their merits and demerits,	3
Total		32

Suggested Readings:

1. Berk, E. L. (2013). Exploring life span development. 3rded. McGraw Hill, New York.
2. Santrock, J. (2012). Life span development. 14thed. McGraw Hill, New York.
3. David, M.T., [Garavan, L. and Dooley, M.](#) 2012. Fundamentals of human resource development. *SAGE Publications Ltd*
4. James, M. and Nelson. (2009). Fundamentals of human development, religion, and spirituality. Oxford Higher Education.
5. Papalia, D.E. and Olds, S.W. (2008). Human development. 11thed. McGraw Hill. New York.
6. Harris, J.R. and Liebert, R.M. (1987). The child. Prentice Hall, Inc.
7. Parke, R.D. (Ed). (1984). Review of child development research. Volume 7: The family. University of Chicago Press, Chicago.
8. Garbarino, J. (1982). Children and families in the Social Environment. Aldine, New York.
9. Bronfenbrenner, V. (1979). The ecology of human development. Cambridge, Harvard Univ. Press.
10. Hall, Calvin S and Lindzey. G. (1978). Theories of personality. John Wiley and Sons.
11. Munsinger, H. (1971). Fundamentals of child development. Holt, Reinhart and Winston, Inc.
12. Moorjani J; Narang D&Manika (2009). Bal Vikas Ka Manovigyan, ShriKavitaPrakashan, Jaipur
13. Bhatt, N. (2007). Human Development- A Lifespan Perspective. Aavishkar Publishers. Jaipur
- 13 Kuppuswami. 1974. Child Behaviour and Development. New Delhi. Vikas Publishing House.

Theory :

S. No.	Topic	No. of classes
1	Multidisciplinary nature of environmental studies- Definition, scope and importance	2
2	<p>1 Natural resources- Renewable and non-renewable resources and their associated problems-</p> <p>a) Forest resources: Use and over-exploitation, deforestation. Timber extraction. Mining. Dams and their effects on forests and tribal people.</p> <p>b) Water resources: Use and over utilization of surface and ground water. Floods, drought, conflicts over water, dams-benefits and problems.</p> <p>c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.</p> <p>d) Food resources: World food problems, changes caused by agriculture and overgrazing effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.</p> <p>e) Energy resources: Growing energy need, renewable and non-renewable energy sources use of alternate energy sources.</p> <p>f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.</p> <p>2 Role of an individual in conservation of natural resources.</p> <p>3 Equitable use of resources for sustainable lifestyles</p>	6
3	<p>Ecosystem:</p> <ul style="list-style-type: none"> ❖ Concept of an ecosystem ❖ Structure and function of an ecosystem ❖ Producers, consumers and decomposers. ❖ Energy flow in the ecosystem ❖ Ecological succession ❖ Food chains, food webs and ecological pyramids ❖ Introduction, types, characteristics, features, structure and function of the following ecosystem: <ul style="list-style-type: none"> ○ Forest ecosystem ○ Grassland ecosystem ○ Desert ecosystem ○ Aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries) 	4
4	<p>Biodiversity and its conservation-</p> <ul style="list-style-type: none"> ❖ Introduction – definition, genetic, species and ecosystem diversity. ❖ Biogeographical classification of India ❖ Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. ❖ Biodiversity at global, national and local levels. ❖ India as a mega-diversity nation ❖ Hot-spots of biodiversity ❖ Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. ❖ Endangered and endemic species of India ❖ In-situ and Ex-situ conservation of biodiversity. 	5

5	<p>Environmental Pollution</p> <ul style="list-style-type: none"> ❖ Definition: Cause, effects and control measures of- <ul style="list-style-type: none"> ○ Air pollution ○ Water pollution ○ Soil pollution ○ Marine pollution ○ Noise pollution ○ Thermal pollution ○ Nuclear hazards ❖ Solid waste management: causes, effects and control measures of urban and industrial wastes. ❖ Role of an individual in prevention of pollution 	5
6	<p>Social issues and the environment</p> <ul style="list-style-type: none"> ❖ Unsustainable to Sustainable development ❖ Urban problems related to energy ❖ Water conservation, rain water harvesting. Watershed management ❖ Environmental ethics: Issues and possible solutions. ❖ Climate change. Global warming. Acid rain, ozone layer depletion, nuclear accidents and holocaust. ❖ Environment Protection Act- <ul style="list-style-type: none"> • Air (Prevention and control of pollution) Act • Water (Prevention and control of pollution) Act • Wildlife Protection Act • Forest Conservation Act ❖ Issues involved in enforcement of environmental legislation ❖ Public awareness. 	4
7	<p>Human population and the Environment</p> <ul style="list-style-type: none"> ❖ Population growth, variation among nations. ❖ Population explosion ❖ Role of information technology in environment and human health 	2
8	<p>Natural disasters-</p> <ul style="list-style-type: none"> ❖ Meaning and nature, types (floods, drought, cyclone, earthquakes, landslides, avalanches, volcanic eruptions, heat and cold waves, global warming, sea level rise, ozone depletion) and their effects. ❖ Man-made disasters- Nuclear, chemical, and biological disasters, building fire, coal fire, forest fire, oil fire, road accidents, rail accidents, air accidents, sea accidents. ❖ Disaster management- International strategy for disaster reduction at national and global levels; ❖ National disaster management framework- Financial arrangements, role of NGOs, community-based organizations and media, central, state, district and local administration, armed forces in disaster response, police and other organizations. ❖ Feeding the people struck by the disaster, managing house and dress need during disaster. 	4
Total		32

Practical:

S. No.	Topic	No. of classes
1.	Visit to a local area to document environmental assets river/forest/grassland/hill/mountain,	5
2.	Visit to a local polluted site-Urban/rural/industrial/agricultural.	5
3.	Study of common plants, insects, birds and study of simple ecosystems i.e. pond, river, hill slopes, etc. Case-studies.	6
Total		16

Suggested Readings:

1 Bharucha, E. (2005). Text book of environmental studies. University Grants Commission, University Press, New Delhi.

2 Kapur, A. (2005). Disasters in India: Studies of grim reality. Rawat publication, Jaipur.

3 Chauhan, B.C. (2008). Environmental studies. University Science Press, New Delhi. De, A.K. (2010). Environmental chemistry. Willey Eastern ltd. New Delhi.

4 Singh, S. and Singh, J. (2013). Disaster Management. Pravilika Publication Allahabad

II SEMESTER

S .No.	Course Title	Course No.	Credit Hours	Page No.
1	Technical Writing (English)*	TW-102	2 (1+1)	
2	Women in Agriculture	EECM-121	2 (2+0)	
3	Fundamentals of Clothing Construction	TAD-121	3 (1+2)	
4	Elementary Human Physiology	PHYSIO-101	3 (2+1)	
5	Principles of Biochemistry	BIOCHEM-121	3(2+1)	
6	Life Span Development	HDFS-121	3 (2+1)	
7	System Dynamics and Management of Resources	RMCS-121	2 (1+1)	
8	Agricultural Informatics*	COMP-102	3 (1+2)	
9	National Services Scheme/NCC/NSO	NSS/NCC	-	
TOTAL			21 (12+9)	

- Supporting Course

Technical Writing and Communication Skills

3(1+2)

Theory:

Nature of technical versus general style. Reading comprehension of general articles. Writing process (prewriting, drafting, rewriting and editing). Paragraph writing-definition, requirements of a good paragraph (unity, coherence & emphasis). Various orders to develop a paragraph (inductive, deductive, questions to answers, exposition, time order, comparison and contrast, enumeration and space order). Report writing definition and cardinal characteristics of Report, analysing the Report, Report formats-blank form, letter form, memorandum form & general survey Report. Technical correspondence (general principles of Technical correspondence, parts of a letter (Heading, address, salutation, body, complimentary closing, signature) Types of letters (letters giving instructions, inquiries, answers to inquiries, complaints and adjustments, letter urging action, applications and resumes) Vocabulary (synonyms, antonyms, homonyms) Grammar (Error analysis, concord , collocation and one word substitution & sentence construction)

Practical:

Exercise on identification of phonetic sounds, symbols, consonants, pure vowels, diphthongs, organs of speech, place of articulation and manner of articulation (voiceless and voiced sounds). Group Discussion, Public Speech, Impromptu presentation, Listening and note taking, Individual and Group Presentation.

Objectives:

1. To develop an understanding about agriculture scenario in India
2. To develop an understanding of the status of rural women
3. To develop an understanding about women empowerment

Theory :

S. No.	Topic	No. of classes
1.	Present scenario of agriculture in India- Land use pattern, Major crops and yield	2 3
2.	Role of agriculture and allied sectors (animal husbandry, fisheries, sericulture, forestry) in Indian economy	3
3.	Role of women in agriculture & allied activities	3
4.	Status of rural women – <ul style="list-style-type: none"> • Social • Economic • Health 	3
5.	Women friendly tools & implements	4
6.	Gender issues	3
7.	Occupational health hazards of women in agriculture	3
8.	Policy for Women in Agriculture	2
9.	Women empowerment – <ul style="list-style-type: none"> • Concept & need • Ways of empowerment 	1 2
10.	Agri-preneurship <ul style="list-style-type: none"> • Concept • Process 	1 2
Total		32

Suggested readings:

1. Bhaduria, M. 1997. Women in India: Some Issues. APH Publishing Corporation, New Delhi. 110002
2. Grover, I and Grover, D. 2002. Empowerment of Women. Although Publishing Academy. Udaipur.
3. Punia, R.K. 1992. Women in Agriculture. Northern Book Centre, New Delhi.
4. Upadhyay, H.C. 1991. Status of Women in India, Anmol Publications. New Delhi.

Objectives:

1. To understand basic sewing concepts and sewing equipments.
2. To develop skill in basic sewing techniques.
3. To develop skill in mending and patching of garments.
4. To acquaint them with principles of art.

Theory:

S.No.	Topic	No. of classes
1	Terminology related to clothing construction	1
2	Sewing tools and equipments required for measuring, drafting, cutting and stitching	2
3	Selection and preparation of fabric for garment construction	1
4	Layout of paper pattern, marking, cutting and stay stitching	1
5	Unit construction method Importance and function of clothes	1
6	Socio- economic and psychological factors affecting clothing choices	1
7	Consumer behaviour and motivation	1
8	Clothing requirements of different age groups: <ul style="list-style-type: none"> ➤ Infant and toddler ➤ Pre-schooler, ➤ School age children ➤ Teenager ➤ Adolescent ➤ Adult and senior citizen 	1 1 1 1 1 1
9	Application of elements and principles of art in apparel designing	2
Total		16

Practical:

S.No.	Topic	No. of classes
1	Demonstration on <ul style="list-style-type: none"> • Sewing equipments and tools • sewing machine and its care 	1 1
2	Preparation of samples <ul style="list-style-type: none"> • Hand stitches; basting, slip-stitching, hemming, smocking, over casting, attaching fastener and button holing, mending and patching sewing machine and its care • Machine stitches; seam and seam finishes, pleats, gathers and tucks, stay 	8

	stitch, under stitching, placket opening	8
3	Demonstration on taking body measurement	2
4	Preparation of fabric for cutting, and layout of paper pattern on different fabrics patterns including plain, print, lines, plaid and check.	3
5	Drafting, cutting and stitching of different garments: i. Baby frock ii. Panty iii. Bloomer iv. Blouse	2 2 2 3
Total		32

Suggested Readings:

- 1 Carson, B. 1969. How You Look and Dress. 4th ed. New York. Webster Division, McGraw-Hill Book Company.
- 2 Doongaji, S. and Deshpande, R. Basic Processes and Clothing Construction. 2nd ed. New Delhi. New Raj Book Depot.
- 3 Erwin, M.D. *et.al.* 1979. Clothing for Moderns. 6th ed. New York. Macmillan Publishing Co.
- 4 Gawna, E.J. and Querke, B.V. 1969. Dress 3rd ed. Illinois. Peoria Chas Bennett Co. Inc.
- 5 Kefgen, M. and Phyllis, T.S. 1971. Individuality in Clothing Selection and Personal Appearance. New York. The Macmillan Company.
- 6 Lewis, V.S. 1979. Comparative Clothing Construction Techniques. Minnesota. Burgess Publishing Company.
- 7 Mansfield, E.A. and Lucas, E.L. 1974. Clothing Construction. 2nd ed. London. Houghton Mifflin Company.
- 8 Sodhia, M. 2004. Advanced drafting and draping. New Delhi. Kalyani Publisher.
- 9 Rosencranz, M.I. 1972. Clothing Concepts- A Social and Psychological Approach. New York. The Macmillan Company Ltd.
- 10 Tate, M.T. and Glisson, O. 1961. Family Clothing. New York. John Wiley and Sons.
- 11 Sannapamma, K.J. and Jahan, S. TXAD111-Fundamentals of Clothing Construction. ecourse.iasri.res.in.

Objectives:

1. To enable the students to understand the anatomy and function of human body.
2. To make the students aware of the importance of various system of body in relation to health.

Theory:

S.No.	Topics	No. of classes
1	Physiological process, structural and functional basis of human body, skeletal system, joints and muscular system	3
2	Functions of brain and spinal cord. nerve impulse reflex action and sense organs	3
3	Composition and functions of blood and lymph.	2
4	Heart and course of blood circulation, blood pressure, pulse and heart sounds.	3
5	Respiratory apparatus, mechanism of respiration, respiratory rates, volume and transport of gases	3
6	Physiology of kidney and skin	3
7	Physiology of digestion, digestive enzymes and their functions.	3
8	Absorption from the intestine and function of liver	3
9	The location, secretions and function of various endocrine glands	3
10	Male reproductive organs and their functions Female reproductive organs and their functions	3
11	Pregnancy, parturition and milk secretion	3
Total		32

Practicals:

S.No.	Topics	No. of classes
1	Slide show on Skeletal system of mammal	2
2	Hematology- R.B.C., W.B.C., T.L.C., D.L.C. and estimation of hemoglobin in mammalian blood	6
3	Heart beat ,heart sound and blood pressure measurement	3
4	Respiratory quotient, inspiration, expiration and measurement of O ₂ and CO ₂ at various partial pressures in lungs.	3
5	Slide show on menstruation and estrous cycle and fertility test	2
Total		16

Suggested Readings:

- 1 Arthur J. Vanders. Human Physiology- The mechanisms of body function, Tata McGraw Hill Publishing Company, New Delhi.
- 2 Samson Wright. Applied Physiology. 10th edn. Revised by Keele, C.A. and Neil, B. Oxford University Press, New York.
- 3 C. Guyton. Text Book of Medical Physiology. 5th ed. W.B. Saunders Company- Philadelphia, London.

Objectives:

1. To understand the biochemical aspects of nutrients.
2. To know the process of utilization of nutrients in the body.

Theory:

S.No.	Topics	No. of classes
1	Recapitulation of basic chemistry and biology	2
	Water, pH and buffers, Acid-base balance and Cellular constituents	3
2	Structure and function : Amino acid and proteins, Carbohydrates, Lipids and bio membranes	3
3	Nucleic acids Dissolved molecules	2
4	Vitamins and minerals	3
5	Enzymes: function, properties and mechanism	3
6	Metabolism of cellular constituents. Basic concepts of Bioenergetics	3
7	Carbohydrates metabolism Glycolysis, glycogenolysis, HMP pathway, TCA Cycle, Electron transport chain, Photosynthesis and Gluconeogenesis	4
8	Lipids metabolism, Beta-oxidation, Ketone bodies and Fatty acid synthesis	3
9	Amino acid metabolism, General reactions of nitrogen assimilation and excretion	3
10	Biosynthesis of DNA, RNA and Protein Replication, Transcription, Translation and genetic code Regulation of gene expression	3
Total		32

Practicals:

S.No.	Topics	No. of classes
1	Preparation of buffers and pH determination	2
2	Preparation of colloids	1
3	Qualitative and quantitative tests of carbohydrates, lipids and proteins	4
4	Tests of enzyme action; Experiments on potato oxidase, urease & salivary amylase	3
5	Paper chromatography of amino acids or carbohydrates ascending and descending	2
6	Determination of starch, sugar and analysis of proximate constituents in food.	4
Total		16

Suggested Readings:

- 1 Conn, EE and Stumpf, PK. 1987. Outlines of Biochemistry. John Wiley.
- 2 Nelson, DL and Cox, MM. 2004. Lehninger Principles of Biochemistry. 4th Edn. MacMillan.
- 3 Voet D, Voet JG and Pratt, CW. 2007. Fundamentals of Biochemistry. John Wiley
- 4 Jayaram. T. 1981. Laboratory manual in biochemistry, New Delhi: Wiley Estern Ltd.
- 5 Plummer D. 1988. An Introduction to Practical Biochemistry. 3rd ed. Tata McGraw Hill, New Delhi.
- 6 Hames B.D., Hooper N.M. and Houghton J.D. 1997. Instant Notes in Biochemistry. BIOS Scientific Publishers.

Objectives:

1. To develop in the students insight regarding human development in a life span perspective.
2. To promote the learning of basic concepts of Human Development and their implication in understanding life- span development.
3. To orient the students regarding the salient factors influencing Human Development.
4. To equip the students with skills to study developmental aspect in a life span context.

Theory:

Sr.No	Course Title	Credit hours
1.	Life span development, stages of development-Prenatal, Infancy and Early Childhood, middle childhood and adolescence, Adulthood and old age	3
2.	Prenatal, perinatal and postnatal stages- <ol style="list-style-type: none"> a. Issues and scientific concepts associated with conception b. Pregnancy c. Prenatal development d. Labor/ birth e. Postnatal 	2 2 2 2 2
3.	Infancy and Early childhood- <ol style="list-style-type: none"> a. Physical, Motor, social, emotional, cognitive and language characteristics b. Antecedent influences on early growth and development c. Stimulating approaches for optimizing development 	4 1 1
4.	Middle childhood and Adolescence <ol style="list-style-type: none"> a. Physical, Motor, social, emotional, cognitive and language characteristics b. Antecedent influences on growth and development 	4 1
5.	Adulthood and Old age- <ol style="list-style-type: none"> a. Physical, motor, social, emotional, cognitive and language characteristics. b. Antecedent influences for growth and development during adulthood c. Stimulating approaches for optimizing development 	4 1 1
6.	Recent issues in growth and development from infancy to old age	2
Total		32

PRACTICAL		
1.	Observational visits to well baby clinic to observe full term and preterm babies	2
2.	Case study of individuals in different stages of development(Any three)- Infancy/Early Childhood, School age/adolescence, Adulthood / old age	3+3+3
3.	Critical analysis of case study and report presentation	2
4.	Preparation of resource file related to any one stage of life span	3
Total		16

Suggested Readings:

1. Laura, B.E. (2013). Exploring life span development. 3rded. McGraw Hill, New York.
2. Santrock, J. (2012). Life span development. 14thed. McGraw Hill, New York.
3. Papalia, D.E. and Olds, S. W. (2008). Human development. 11thed. McGraw Hill, New York.
4. Grinder, R.E. (1993). Adolescence. John Wiley and Sons, New York.
5. Schaimberg, L.B. (1988). Child and adolescent development. Macmillan publishing company, New York.
6. Papalia, D.E. and Olds, S.W. (1978). Human Development. McGraw-Hill, New York.
7. Bhatt, N. (2007). Human Development- A Lifespan Perspective. Aavishkar Publishers. Jaipur
8. Purohit S. , Tandon S.P. and Kordia K. (1996). MaanavVikaas k Sopan. Ajmera book company Jaipur.

System Dynamics and Management of Resources

RMCS -121

2(1+1)

Objectives:

- To give insight about management principle and ability to apply the knowledge for problem solving.
- To become good managers and understand the importance of managing resources to achieve goals.

Theory :

S. No.	Topic	No. of classes
1.	Systems approach to management.	2
2.	Motivating factors of management- values, goals and standards, their origin, classification and role	3
3.	Resources – definition, types, guidelines for use of resources and factors affecting, management of household resources and situation	2
4.	Management process- planning - importance, types, characteristics and techniques, organizing; controlling- definition, phases and factors, evaluating- definition and types of evaluating.	3
5.	Time - tools of time management, and process of time management.	1
6.	Decision making process - types, steps in decision making and factors affecting decision making.	2
7.	Money - management process, types and sources of income, steps in making budget, Engle's law of consumption, controlling budget and evaluation of budget and standard of living.	3
Total		16

Practical :

S. No.	Topic	No. of classes
1.	Identification of individual and family values, identification of immediate, short term and long term goals of individual and family.	4
2.	Standards for individual and family goals.	3
3.	Decision making by individuals and families. Applying decision making process, group work presentation on types of decision and decision making process.	2
4.	Listing out human and non – human resources, listing community resources. Application of management process to organize an event – planning, organization, evaluation.	3
5.	Management of personal time record for a week. Presentation of personal time record.	4
Total		16

Suggested Readings:

1. Mann, M.K. (2004). Home Management for Indian Families, Kalyani Publisher Ludhiana
2. Nickell, P. and Dorsey, J.M. (1970). Management of Family Living. Wiley Eastern, New Delhi
3. Vargeese, M.N. Ogale, N.N. and Srinivasan, K. (1992). Home Management, Wiley Eastern, New Delhi.
4. Krishna Oberoi (2006). Resource Management for Better Homes. R.K. Offset, Delhi.
5. Bhargava, Bela. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.

Theory:

Introduction to computers, anatomy of computers, memory concepts, units of memory, operating system, definition and types. Application of MS-Office for creating, editing and formatting a document, data presentation, tabulation and graph creation, statistical analysis, mathematical expressions. Database- Concepts and types, creating database, uses of DBMS in health and nutrition. Internet and World Wide Web (WWW)- Concepts, components and creation of web, HTML, XML coding.

Practical:

Study of computer components, accessories, practice of important DOS commands. Introduction of different operating systems such as windows, Unix, Linux, creating files and folders, file management. Use of MS-WORD and MS Powerpoint for creating, editing and presenting a scientific document, handling of tabular data, animation, video tools, art tool, graphics, template and designs. MS-EXCEL - Creating a spreadsheet, use of statistical tools, writing expressions, creating graphs, analysis of scientific data, handling macros. MS-ACCESS: Creating database, preparing queries and reports. Introduction to World Wide Web (WWW) and its components, creation of scientific website, presentation and management of health information through web. Use of smart phones and other devices for health warning signs and dietary management. Hands on practice on preparation of decision support system.

III SEMESTER

S.No.	Course Title	Course No.	Credit Hours	Page No.
1	Information and Communication Technology	EECM-211	3 (1+2)	
2	Techniques of Fabric Construction	TAD-211	3 (1+2)	
3	Principles of Human Nutrition	FN-211	3 (3+0)	
4	Food and Nutrition Policy and Agriculture	FN-212	2 (1+0)	
5	Financial Management and Consumer Education	RMCS-211	2 (2+1)	
6	Marriage and Family Dynamics	HDFS – 211	3 (2+1)	
7	Elementary Statistics*	STAT-201	3 (2+1)	
8	Fundamentals of Food Microbiology	MICROBIO-201	3 (2+1)	
9	National Services Scheme/NCC/NSO	NSS/NCC	-	
TOTAL			22 (13 + 9)	

- Supporting Course

Objectives:

1. To develop understanding of communication process.
2. To develop understanding about different types of information technologies, audio visual aids and extension teaching methods.
3. To develop competence in use of information technologies, audio visual aids and extension teaching methods.

Theory:

S. No.	Topic	No. of classes
1.	Information technology – concept & importance	1
2.	IT tools – concept & importance <ul style="list-style-type: none"> • Radio • TV • Teleconferencing • Internet, e-mail • Telephone • Fax 	3
3.	Communication – <ul style="list-style-type: none"> • Concept, importance & elements • Models of communication • Barriers in communication 	2
4.	Audio visual aids – meaning, importance & classification	1
5.	Cone of experience	1
6.	Criteria for selection of audio visual aids	2
7.	Criteria & principles of preparing following aids: <ul style="list-style-type: none"> • Charts & posters • Flip book • Leaflet, folder, pamphlet 	1
8.	Three dimensional aids – specimen, objects & models	1
9.	Communication approaches – individuals, group & mass	1
10.	Concept and principles of teaching & learning in Extension	2
11.	Concept, importance and use of following extension teaching methods- <ul style="list-style-type: none"> • Farm & home visit • Discussion & meetings • Field trip • Exhibition • Demonstration • Role play 	1
Total		16

Practical :

S. No.	Topic	No. of classes
1.	Use of following IT tools – <ul style="list-style-type: none">• Internet & E-mails• Fax• Teleconferencing	2 1 3
2.	Planning and designing of following aids using computer – <ul style="list-style-type: none">• Chart• Poster• Flip book• Leaflet/folder/pamphlet	3 3 3 3
3.	Handling of audio-visual programme	1
4.	Organization of an audio-visual programme	2
5.	Planning & use of selected extension teaching methods – <ul style="list-style-type: none">• Farm and home visit• Demonstration• Group discussion• Role play• Exhibition	2 2 2 2 3
Total		32

Suggested readings:

1. Ray, G. L. 1996. Extension Communication and Management, NayaPakash, BidhanSarani, Calcutta.
2. Reddy. A. 1993. Extension Education, Sri Laxmi press, Bapatla, Guntur, A.P.
3. Waghmare, S.K. 1980. Teaching Extension Education, Prashant, VallabhVidhyanagar – 388120
4. Grover, I. Sethi, N. and Grovr, D. 2004 Handbook of Comunication and Media Agrotech Publishing Academy, Udaipur.
5. Khan, M. and Sharma, S.R..1998.Education and Communication for development. Oxford IBH,New Delhi.
6. Grover, I., Kaushik, S. and Yadav, L. 2002. Communication and Instructional Technology, Agrotech publishing Academy, Udaipur (Raj.)
7. Govind S., Tamilselvi g. &Meenambigai J. 2011. Extension Education and Rural Development, AGROBIOS (India)

Objectives:

1. To acquire an understanding of loom and knitting machine.
2. To develop skill in making different types of weaving and knitting.
3. To acquaint with various fabric construction methods.

Theory:

S.No.	Topic	No. of classes
1	History of weaving and looms	1
2	Woven fabrics; simple woven structures and compound woven structures and characteristics of woven fabric	1
3	Classification of looms on basis of mechanics, means of running loom, structure and means of weft insertion	2
4	Parts of loom and loom accessories and their function Mechanism of weaving: primary, secondary and tertiary motions	2
5	Basic weaves: Plain, twill and satin and their variations	2
6	Complex weaves: extra yarn fabrics, pile fabrics, leno, damask and jacquard	2
7	Knitting: Terminology and principle of knitting	2
8	Knitting machine: Parts and their function and types of knitting machine	1
9	Knitting stitches: plain, rib and purl and types of knit fabrics	1
10	Macrame and crochet: Tools and materials.	1
11	Manufacturing process of felt, properties and end uses	1
Total		16

Practical:

S.No.	Topic	No. of classes
1	Observation of fabric structures under magnifying glass	1
2	Graphical representation of woven design	4
3	Handloom and its parts	1
4	Weaving calculations	2
5	yarn preparation for plain weave	2
6	Setting of loom and weaving of plain weave fabric	2
7	Knitting machine and its parts	2
8	Sample preparation of different fabric constructions <ul style="list-style-type: none"> • Hand knitting; plain, rib, purl 	6
9	<ul style="list-style-type: none"> • knots of macramé 	3
10	<ul style="list-style-type: none"> • macramé stitches of crochet 	5

11	• manual felting	4
Total		32

Suggested Readings

1. Hollen, N. and Saddler, J. 1968. Textiles. New York. Macmillan Company.
2. Joseph, M. L. 1986. Introductory Textile Science. 5th ed. New York. CBS College Publishing.
3. Labarthe, J. 1969. Textiles: Origins to Usage. New York. Macmillan Company Ltd
4. Potter, M.D. and Corbman, B.P. 1967. Textiles: Fibre to fabric. New York. Macmillan Hill Co.
5. Stout, E.E. 1970. Introduction to textiles. 3rd ed. New York. John Wiley and Sons, Inc.
6. Tortora, P.G. 1978. Understanding textiles. New York. Macmillan Publishing Company.
7. Vilensky, L. D. and Gohl, E. P.G. Textile Science. Delhi. CBS Publishers and Distributors.
8. Wynne, A. 1997. Textiles. London. Macmillan Education Ltd. 310 p.
9. Vatsala, R. (2003), Textbook of Textiles and Clothing. New Delhi. Indian Council of Agriculture Research.

OBJECTIVES:

1. To impart knowledge of nutrients, their sources, functions, requirements, deficiencies and toxicities.
2. To impart knowledge of digestion, absorption and utilization of nutrients in the human body.

Theory:

S.No	Topics	No. of classes
1	Historical development of nutrition. Relationship of nutrition to health, growth and human welfare	2
2	Definitions of terms used in nutrition- Recommended dietary allowances & balanced diet	3
3	Health, functional food, phytochemicals, nutraceuticals & dietary supplements.	3
4	Energy- Units, sources and requirements, fuel value of foods, methods of measuring energy value of food, energy requirement of body, physical activity and thermogenic effect of food	3
5	BMR- methods of measurement, factors affecting BMR	2
6	Digestion and absorption of carbohydrates, fats and proteins	2
7	Carbohydrates- Types, functions, sources, requirement, health conditions affected by carbohydrates & significance of dietary fiber.	2
8	Lipids- Types, functions, sources, requirement and health problems associated lipids	3
9	Proteins- types, functions, sources, requirement, quality evaluation, improvement, deficiency disorders and protein energy malnutrition.	3
10	Vitamins- Classification, functions, sources, requirement, deficiency and toxicity of the following- (i) Fat soluble vitamins-A, D, E, K)	4
11	(ii) Water soluble vitamins – C & B Complex (thiamine, riboflavin, niacin, B ₆ , B ₁₂ and folic acid.	7
12	Minerals- Classification, functions, sources, requirements, deficiency and toxicity of macro & micro minerals (calcium, phosphorus, iodine, fluorine, iron, sodium, potassium, chloride, copper and zinc)	10
13	Bioavailability and factors affecting calcium and iron status	2
14	Water, Functions, sources, distribution in body, water and electrolyte balance.	2
Total		48

Suggested Readings:

1. Agarwal, A and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication, Delhi.
2. Sehgal, S. and Raghuvanshi, R.S. (2007). Text Book of Community Nutrition. ICAR Publication.

Objectives:

1. To enable the students to know about food production & its situation in the country.
2. To make the students aware of food security & factor influencing it & the health.

Theory:

S.No	Topics	No. of classes
1	Food situation in India and in the world. Food production & consumption trends and food balance sheets.	2
2	Role of nutrition in agricultural planning and national development.	2
3	Linkages between agricultural practices, Food production, food distribution and nutritional status.	3
4	Food crop failure and malnutrition, poverty and vicious cycle of low food production.	3
5	Agricultural development and its effect on food availability.	2
6	Effect of food production and economic policies on food availability	2
7	Impact of physical resources, farming systems, cropping system, inputs and manipulation, agricultural marketing system, post harvest processing of foods on food and nutrition situation.	3
8	Food distribution systems. Food security. Concepts and definitions- agriculture and food security; nutrition and health; urbanization and food security; food systems and food security as well as macroeconomic policies	4
9	Employment and cash income, markets and food prices. Effect of urban agriculture on the nutritional status of vulnerable groups. Innovative approaches to enhance local food production and improve food distribution systems.	4
10	Innovative and effective approaches to manage health risks of urban agriculture. Implications for urban policies and programmes.	3
11	Food and nutrition security at national and household level, nutrition policy implementation and nutritional impact of agricultural programmes	2
12	Food price control and consumer subsidy Contribution of national and international organization for agricultural development.	2
Total		32

Suggested Readings:

1. Bhatia MS. (1991). Agricultural Statistics at a Glance. Ministry of Agriculture, Govt. of India, New Delhi.
2. Census (1981, 1991, 2001).
3. India (2001). A Reference Annual. Publication Division, Ministry of Information about Broad casting, Govt. of India.
4. UNICEF (1999). The State of World's Children. Oxford University Press.

Financial Management and Consumer Education

RMCS - 211

2(1+1)

Objectives:

1. To learn the basic of financial management which have an impact on family consumption pattern.
2. To educate the students to become good consumers.

Theory:

S. No.	Topic	No. of classes
1.	Concepts, importance, objectives and major aspects of family finance	1
2.	Income concepts: productive income, hidden income, money income, real income, psychic income	1
3.	Family – as income producing and utilizing unit, factors affecting in the use of family income	2
4.	Analyzing income: income profile, methods of handling income, account keeping	1
5.	Credit- needs types, use and source, planning for financial security of families, credit institution	2
6.	Savings and Investment- types of savings / investment, Saving institution and its importance, criteria for judging family investments	2
7.	Taxation- objectives, characteristics and classification.	1
8.	Consumer – definition and role, concept of consumer and consumer economics	1
9.	Consumer problems in rural and urban areas: unfair trade practices, adulteration, faulty weights and measures.	1
10.	Consumer rights and responsibilities	1
11.	Consumerism and consumer protection consumer protection Act, NGO's for consumer protection and welfare	1
12.	Standardization.	1
13.	Sources of consumer information – advertisements, labels, packaging etc.	1
Total		16

Practical:

S. No.	Topic	No. of classes
1.	Making personal and family budget	2
2.	Family financial record keeping	2
3.	Survey to identify consumer problems	3
4.	Adulteration detection	2
5.	To learn standardized marks, weights and measures etc.	3
6.	Critical analysis of labels and brands of consumer products	4
Total		16

Suggested Readings:

1. Khetarpaul, N and Grover, I. (2004). Consumer Guide for Home Maker – Udaipur: Agratech Pub Academy.
2. Maneesha Shukul and Veena Gandotra. (2006). Home Management and Family Finance. Dominant Publishers and Distributors, New Delhi.
3. Mann, M.K. (2004) Home Management for Indian Families. Kalyani Publishers, New Delhi.
4. Rice, Nickel and Tucker. (1976). Management in Family Finance. John Wiley and Sons., New York
5. Seetharaman P. Sethi M. (2002). Consumerism Strategies and Tactics. CBS Publishers and Distributors. New Delhi.
6. Tiwari, O.P. (2000). Consumer Protection Act Allahabad: Allahabad Law Agency.
7. Verghese, M.N. Ugale, W. N. and Srinivasan, K. (1997). Home Management, New Delhi: New Age International.

Objectives:

1. To develop analytical and critical thinking towards the institution of marriage in different cultural context.
2. To develop conceptual understanding for harmonious and wholesome family living.

Theory:

Sr.No	Course title	Credit hours
1.	Marriage- Definition, goals/functions, types/forms of marriage in India	2
2.	Readiness for marriage– Definition, importance, areas of readiness for marriage	2
3.	Mate selection- meaning, mode/methods of mate selection, Theories of mate selection ,Guidelines for mate selection	2
4.	Engagement and it's importance	1
5.	Rituals and ceremonies of marriage in different religions of India	2
6.	Marital roles and behaviors- Definition and importance of marital roles, determinants of marital role behaviour	2
7.	Concept related to gender roles, changing gender roles, factors responsible for changing gender roles	2
8.	Marital adjustment- definition a. Areas of marital adjustment b. Factors influencing marital adjustment c. Obstacles in marital adjustment d. Marital adjustment techniques e. Marital success	3
9.	Family: Definition a. Functions b. Forms/types of family c. Family structure d. Pattern of changes in family structure and relationships in India e. Factors responsible for changes in family - familial and extra familial and its consequences on family life and society	3
10.	Family life cycle- Definition, importance of studying family life cycle, types of marital relation and adjustments over family life cycle	2
11.	Marital dissolution: definition a. Types-Voluntary and Involuntary b. Factors responsible for an increase in the rate of legal marital dissolution c. Consequences of divorce d. Adjustment to divorce family	2
12.	Typical and alternative forms of families- Characteristics of Single parent families, female headed families, childless families, adoptive families, dual earner families, reasons behind alternative form of family and its merits and demerits	2
13.	Alternatives to marriage- singlehood, heterosexual cohabitation/ consensual union, homosexual union, reasons behind it and its merits and demerits	2

14.	Family Disorganization: a. Family stress-Types, Factors affecting, impact and coping strategies b. Family crisis-Theory of family crisis (Hill's ABCX model and Check mark model) c. Conditions for crisis d. Stages of a crisis e. Characteristics of crisis events f. Effects of crises g. Factors which affect meeting the crises h. Adjustment to crises, general things to do in times of crises.	3
15.	Laws and acts regarding marriage, adoption, divorce and inheritance in India	1
16.	Counseling (premarital, marital and family)- objectives, importance, areas of counseling, types, process and effects	1
Total		32

	PRACTICAL	
1.	Study on motives of marriage, selection of partner	4
2	visit to marriage bureau and family counseling center	4
3	Comparative study on nuclear and joint families, atypical families and alternative forms of families	4
4	Marital roles and adjustments, family crisis and coping; Roles across family life cycle.	4
Total		16

Suggested Readings:

1. Benokraitis.V.N. (2014). Marriage and families. 8th ed. Pearson publication.
2. Ahuja, R. (2005). Indian social system. Rawat publication. New Delhi.
3. Kumar, R. (2000). Violence against women. Anmol publication pvt ltd., New Delhi.
4. Goode, W.J. (1989). The family. New Delhi: Prentice Hall of India Private Limited.
5. Adams B.N. (1980). The family: A sociological interpretation. 3rded. Rand McNally College Publishing Company, Chicago.
6. Nye, I. (1973). The family: Its structure and interaction. MacMillan Publishing Company, New York.
7. Kenkel, W.F. (1973). The family in perspective. Meredith Corporation, New York.
8. Gordon Michael (ed). (1972). The nuclear family in crises. The search for an alternative. New York: Harper and Row Publishers.
9. Hate, C.A. (1969). Changing status of woman. Allied publishers, New Delhi.
10. Kapadia. K.M. (1966). Marriage and family in India. 3rded. Oxford university press, Kolkata.
11. Lantz and Snyder 1999. Marriage. John Wiley and Sons. New York.
12. Tiwari G. 2015 Dynamics of Marriage and Family Agrotech publishing Academy.

Theory:

Introduction to statistics; definitions, functions, uses and limitations Classification and tabulation of data; qualitative and quantitative classification, discrete and continuous variables, frequency tables, grouped and ungrouped data. Diagrammatic representation of data; One, Two and Three dimensional diagrams with applications. Graphical representation of data; Histogram, frequency polygon, frequency curve, ogives. Measures of central tendency; Introduction to basic concepts of logarithms, AM, GM, HM, median. mode with merits, demerits and uses, relationship between AM, GM and HM, quartile deviation, mean deviation from AM, median and mode, variance, standard deviation, coefficient of variation. Measures of dispersion; range coefficients, inter quartile range, quartile deviation, coefficient of quartile deviation, mean deviation from AM, median and mode, variance, standard deviation, coefficient variation. Moments; Raw moments, Central moments for grouped and ungrouped data, relationship between raw moments and central moments. Measures of skewness and kurtosis; definitions of symmetrical distribution, skewness and kurtosis, relationship between mean, median and mode and between quartiles for symmetrical and skewed distributions. Probability theory; introduction to simple problems of permutations and combinations, definition of random experiment sample space, events, mutually exclusive and equally likely events. Definition of probability, simple problems based on probability, addition and multiplication theorem of probability, conditional events and independent events, Correlation and linear regression analysis; definition of correlation its types, scatter diagrams, Karl Pearson's formula of correlation coefficients, properties of correlation coefficient, definition of regression, regression equations of Y on X and of X on Y, relationship between correlation coefficient and regression coefficients. Problems based on correlation and regression. Tests of significance; basic definitions, hypothesis, null and alternative hypothesis, tests statistic, testing of hypothesis, one sample

t-test and two sample fisher's t-test. Chi-square test of goodness of fit and Chi-square test of independence of attributes. Discrete and continuous probability distributions; definition of random variable, discrete and continuous random variables probability distribution of random variable, concepts of discrete and continuous probability distribution, basic concept of binomial theorem, binomial distribution, Poisson distribution, normal distribution and applications. Analysis of variance; definition of analysis of variance, assignable and non assignable factors, analysis of one way classified data. Introduction to sampling methods; definition of population, random sample, sampling versus complete enumeration, use of random number table for selecting a simple random sample, simple random sampling with and without replacements.

Practical:

Graphical representation of data Diagrammatic representation of data Measures of central tendency (Ungrouped data) with calculation of quartiles, deciles and percentiles Measures of central tendency (Grouped data) with calculation of quartiles, deciles and percentiles Measures of dispersion (Ungrouped data) Measures of dispersion (Grouped data) Moments, measures of skewness and kurtosis (Ungrouped data) Moments, measures of skewness and kurtosis (Grouped data) Correlation and regression analysis Application of one sample t-test Application of two sample Fisher's t-test Chi-square test of goodness of fit Chi-square test of independence of attributes Analysis of variance one way classification Selection of random sample using simple random sampling

7. Fundamentals of Food Microbiology

3(2+1)

Theory :

Major groups of microorganisms associated with food . Sources of microbial contamination in food factors effecting growth and survival of microorganism in foods. Physical methods to control microorganisms. Chemical methods to control microorganisms Food Fermentations Traditional fermented foods of India and other Asian countries Probiotics, prebiotics and synbiotics Fermented foods based on milk, Fermented foods based on meat. Fermented foods based on grains Fermented foods based on fruits and vegetables Fermented beverages Role of microorganisms in food spoilage. Spoilage organisms of milk Spoilage in organisms of meat Spoilage organisms of grains Spoilage and organisms of fruits and vegetables Principles of food preservation. Food poisoning and food borne infections. Microbial toxins Indicator of organisms. Rapid methods for detection of microorganisms.

Practical:

Microscopic examination of bacteria, yeast and molds. Preparation of media. Methods of sterilization Isolation of microorganisms. Purification of microorganisms. Maintenance of microorganisms. Detection of faecal coliform & MPN of coli forms. Microbiological examination of milk, Microbiological examination of grains and Microbiological examination of fruit & vegetables.

Suggested Readings:

1. Stanier Ingraham and Wheels and Painter. 1992. General Microbiology. 5th ed.
2. Kapoor, T. and Yadav. 1991. An Introduction to Microbiology.
3. Pelczar, *et al.* 1996. Microbiology, 5th edn.

IV SEMESTER

S.No.	Course Title	Course No.	Credit hours	Page No.
1	Housing and Space Management	RMCS-221	3 (2+1)	
2	Ergonomics and Appropriate Technologies	RMCS-222	2 (1+1)	
3	Textiles Finishes	TAD -221	2 (1+1)	
4	Clinical Nutrition	FN -221	3 (2+1)	
5	Food Standards and Quality Control	FN – 222	3 (2+1)	
6	Developmental Challenges in Children	HDFS-221	3 (2+1)	
7	Communication Skills and Personality Development	CSPD – 201	3 (2+1)	
8	Diffusion and Adoption of Homestead Technologies	EECM-221	3 (2+1)	
9	National Services Scheme/NCC/NSO	NSS/NCC	2 (0+2)	
TOTAL			24 (14+10)	

Housing and Space Management

RMCS - 221

3 (2+1)

Objectives:

1. To apply basic knowledge of principles involved in planning in a residential place.
2. To make students aware of the trends and functional designing of residential building

Theory:

S. No.	Topic	No. of classes
1.	Housing and its importance, characteristics and effect of insufficient housing. Factors to be considered in selection of family housing, selection of site, housing needs at different stages of family life cycle.	4
2.	Housing problems – rural and urban housing problems in India. Housing legislation and regulation – Building Bye Laws Building Act 1984, Defective Premises Act 1972, Disability Discrimination Act 1995, Environment Protection Act etc.	4
3.	Housing policies - government and non- government housing policies and housing schemes.	3
4.	Housing standards – sanitary facility, food preparation and refuse disposal, space and security, thermal environment, illumination and electricity, structure and material, interior air quality, water supply, lead based paints, access site and neighborhood, sanitary condition and smoke detectors.	4
5.	Types of house planning – floor plan, site plan, cross sectional plan, perspective plan, elevation plan and landscape plan.	3
6.	Housing finance - government and non- government finance institutes. Advantages and disadvantages of renting and owning a house.	3
7.	Technology in housing – advance technology in housing construction, low cost building technology, low cost building materials.	3
8.	Economy in housing construction – principles of house planning (orientation, privacy, grouping, roominess, sanitation, ventilation, flexibility, circulation, economy, furniture requirement).	4
9.	Ergonomics and housing - space management and Interior types based on functional needs – interior for youth, elderly and other special needs, functional design of areas in interior .	4
Total		32

Practical :

S. No.	Topic	No. of classes
1.	Learning architectural symbols.	3
2.	Drawing of house plans for different income levels and activity groups.	3
3.	House plan for renovation according to needs of residents.	3
4.	Designing of kitchen, bathroom etc. for special needs.	3
5.	Market survey to study the available building materials in the local market	4
Total		16

Suggested Readings:

1. Agan, T. 1970. The House Plan and Use. J.B. Lippincott and Company, New York.
2. Bhargava, B. 2001. Family Resource Management and Interior Decoration. University Book House Ltd. Jaipur.
3. Bhargava, B. 2001. Housing and Space Management, University Book House Ltd. Jaipur.
4. Cherunilam, F. and Heggade, O. (1987). Housing in India. Mumbai: Himalaya Publishing.
5. Deshpande, R.S. 2000. Build Your Own House. United book Cooperation, Pune.
6. Dorothy Stepat – Devan, Kathryn Camp Logan, Darlene M. Kness, Laura Szekely. Macmillan Publishing Co., Inc, New York.
7. Faulkner, R. and Faulkner, S. (1975). Inside Today's Home. New York: Rinehart and Winston.
8. Mathur, G.C. (1993). Low Cost Housing in Developing Countries. New Delhi: Mohan Pramlani, Oxford and IBH.
9. Mohanty, A.B. 1985. Guide to House Buildings. Inter India Publications, New Delhi.
10. Singh, G. 1985. Bhavan Nirman Samagri, Standard Publishers Distributors, Delhi.
11. Varghese, M.A. Ogale, N. and Shrinivasan, K, 2000. Home Management First Ed. New Age International, Ltd., New Delhi.

Ergonomics and Appropriate Technologies

RMCS - 222

2(1+1)

Objectives:

1. To acquaint students with anthropometry studies related to man machine and environment system interactions.
2. To study about the drudgery reduction of farm women through appropriate technologies.

Theory:

S. No.	Topic	No. of classes
1.	Definition of ergonomics and its application	2
2.	Work-worker and workplace relationship	1
3.	Drudgery definition, drudgery prone areas in home, farm and allied activities	2
4.	Work simplification techniques	1
5.	Appropriate technologies for drudgery reduction of women in various areas	2
6.	Impact of household equipments on work, worker and environment	2
7.	Equipment design and its effect on body posture	2
8.	Renewable and non renewable energy saving technologies	2
9.	Ways and methods in the reduction of energy consumption in household farm and community	2
Total		16

Practical:

S. No.	Topic	No. of classes
1.	Demonstration of appropriate technologies for women	6
2.	Motion Studies – process chart, operational chart etc	5
3.	Maximum and minimum height of working area	5
Total		16

Suggested Readings:

1. Grandjean, E. (1981). Ergonomics of the Home Taylor and Francis Ltd. New York.
2. Grandjean, E. and Kroemer, K.H.E. (1999). Fitting the Task to the Human a Text Book of Occupational Ergonomics. Taylor and Francis, New York.
3. Peet, I.J and Arnold, M.G. (1993). Household Equipment. John Wiley, New York.
4. Science and Technology for Women. (1993). Compiled by Center of Science for Village. Waradha. Department of Science and Technology, New Delhi.
5. Singh, S. (2007). Ergonomics Integration for Health and Productivity. Himanshu Publication, Udaipur, New Delhi.
6. Steidle, Roze and Bratton. (1968). Work in the Home. John Wiley and Sons Inc. New York.
7. Swanson, Bettye. (1983). Introduction to Home Management Macmillan Publishing Co. Inc. New York.
8. Varghese, M.N., Ogale, N.N. and Srinivasan, K. (1992). Home Management. Wiley Eastern, New Delhi.
9. Gandotra, G., Oberoi, K. and Sharma, P. (2008). Appropriate technology for rural women.

TAD 221:

Textile Finishes

2(1+1)

Objectives:

1. To impart the knowledge of textile finishing used on different fabrics.
2. To develop the aesthetic sense in decorating the textiles.

Theory:

S.No.	Topic	No. of Classes
1	Textile finishing: Definition and its importance	1
2	Classification of textile finishes: Chemical, mechanical, temporary, permanent, durable, renewable, semi permanent, reactive and additive finishes	2
3	Processes of removing impurities from fabrics: Scouring, desizing, degumming, carbonizing, scouring	2
4	Basic finishes that alter hand or texture: Fulling /milling, felting, singeing, stiffening, decatizing	3
5	Surface finishes: Bleaching, delustering, calendering, beetling, napping, flocking, burnt out design, acid design, plisse design, tentering, shearing and brushing	4
6	Functional finishes: Water proof and water repellent finish, shrinkage control, wrinkle resistance, anti-static finish, anti-microbial finish, durable press and flame retardant finish	4
Total		16

Practical:

S.No.	Topic	No. of Classes
1	Desizing and scouring of yarn and fabric.	2
2	Bleaching of cotton	2
3	Mercerization of cotton	2
4	Study of labels pertaining to finishes.	2
5	Identification of finishes.	6
6	Visit to processing/ finishing unit and report writing.	2
Total		16

Suggested Readings:

1. Joseph, M. L. 1986. Introductory textile science. 5th ed. New York. CBS College Publishing.
2. Potter, M.D. and Corbman, B.P. 1967. Textiles: Fibre to fabric. New York. Macmillan Hill Co.
3. Shenai, V.A. (2000) Chemistry of dyes and principles of dyeing. Mumbai Sevak Publications.
4. Stout, E.E. 1970. Introduction to textiles. 3rd ed. New York. John Wiley and Sons, Inc.
5. Tortora, P.G. 1978. Understanding textiles. New York. Macmillan Publishing Company.
6. Vilensky, L. D. and Gohl, E. P.G. Textile Science. Delhi. CBS Publishers and Distributors.
7. Wingate, I. B. 1970. Textile Fabrics and their selection. 6th ed. New Jersey. Prentice Hall Inc.

Objectives:

1. To familiarize students about causes & prevention of different nutritional & non nutritional diseases.

Theory:

S.No.	Topics	No. of classes
1	Clinical Nutrition- Introduction, nutritional status and disease, common deficiency diseases, pathogenesis of nutritional deficiency diseases	3
2	Macronutrients & Micronutrients, protein calorie malnutrition, vitamin A deficiency, anemia, iodine deficiency disorders & gastro intestinal tract diseases-	4
3	Introduction of different organs & diseases, diagnostic procedure, diseases of mouth & oesophagus and diseases of stomach & duodenum	4
4	Diseases of small and large intestine: diverticulitis, malabsorptive syndrome tropical sprue & Diarrhoea- Symptoms of diarrhea, pathogenesis and diagnosis of constipation.	2
5	Diseases of liver & pancreatitis	3
6	Chronic obstructive pulmonary disease, diabetes mellitus & cardio vascular disease:	3
7	Risk factors, lipo and apo proteins, role of nutrients in preventing atherosclerosis, major enzymes used for diagnosis, congestive heart failure and hypertension.	4
8	Functions of the kidney, Renal diseases: nephritis, urinary calculi and types of renal failure.	3
9	Cancer, Causes of cancer cell development, impact of tumor on host metabolism & systematic effects of cancer.	3
10	Burns, Physical destruction of skin, metabolic aberrations, alteration in nutritional requirement and interaction between nutrients, infection and drugs.	3
Total		32

Practical:

S.No.	Topics	No. of classes
1	Estimation of albumin, glucose, ketone bodies, creatinine and creatine in urin.	3
2	Determination of bile pigments in urine	1
4	Analysis of bile salts in urine. Analysis of blood glucose level	2
5	Estimation of total protein, albumin and haemoglobin.	3
7	Estimation of blood urea.	2
8	Estimation of total cholesterol, HDL, LDL and TG in blood.	3
9	Assignment and presentations.	2
Total		16

Suggested Readings:

1. ICCIDD/UNICEF/WHO. (2001). Assessment of IDD and monitoring their elimination. A guide for programme managers.
2. Bamji, S.M., Rao, P.N., and Reddy, V. (2003). Textbook of Human Nutrition. Oxford and IBH Publishing Co Pvt Ltd.
3. Bhavana, S. (1999). Nutrition and clinical care. New Delhi Commonwealth Publishers.
4. Gibney M.J, Margetts BM, Kearney J.M and Arab L. (2004). Public Health Nutrition. Publishers Blackwell Science.
5. Jean-FZ. (2005). Clinical Nutrition. UK Blackwell Publishing Company.
6. Jim M. and Stewart TA (2007). Essentials of Human Nutrition. 3rd edn. New York, Oxford University Press.
7. Miguel, A.G. and Eduard, C. (2005). Clinical Nutrition. UK, Blackwell Publishing Company.
8. Weinsier and Butterworth (1981). Hand Book of Clinical Nutrition. London, C V Mosby Company.

Objectives:

1. To develop understanding about different food laws & standards.
2. To teach the students about different ways of quality control.

Theory:

S.No.	Topics	No. of classes
1	Importance of quality control & assurance. Food laws and regulations.	2
2	Prevention of Food Adulteration Act, Fruit Product Order, Agmark, Essential Commodity Act, Consumer Protection Act, Bureau of Indian Standards, FSSAI, Codex Standards. Specifications and application of food standards for raw materials and food products	4
3	Food additives. Preservatives, coloring agents, antioxidants, emulsifying agents, leavening agents and stabilizing agents	3
4	Various methods for the assessment of quality of different foods. Selection of sensory panel and sensory evaluation of food products.	3
5	Food safety risks and hazards. Assessment and prevention of food adulteration.	2
6	Food packaging and packaging material.	2
Total		16

Practicals:

S.No.	Topics	No. of classes
1	Sensory and nutritional evaluation of some finished products.	16
2	Detection of adulterants and preservatives in products.	16
Total		32

Suggested Readings:

1. Potter, N.N. (1996). Food Science. The AVI Publishing Company Inc., Westport, Connecticut.
2. Jellinek, G. (1985). Sensory Evaluation of Foods: Theory and Practice. Ellis Horwood Ltd. Chichester, England.
3. Manual of Food Standards and Quality Control. (2014). Dept. of Foods and Nutrition, CCS HAU, Hisar.
4. Swaminathan, M. (1999). Food Science, Chemistry and Experimental Foods. 2nd ed. The Bangalore Printing and Publishing Co., Bangalore.
5. Many, N.S. and Shadaksharswamy, M. (1996). Food Facts and Principles. 2nd ed. New Age International Pvt. Limited, New Delhi.
6. Kalia, M. and Sood, S. (2010). Food Preservation and Processing. Revised edn. Kalyani Publishers, New Delh

Objectives:

1. To orient the students to the etiology and developmental characteristics of children with developmental challenges.
2. To develop in the students the sensitivity for working with the developmentally challenged children.

Theory:

Sr.No	Course title	Credit hours
1.	Definition of special needs children and special education, terminologies, history of special education	2
2.	current trends and issues in special education,	2
3.	Legislation and litigations of special education labelling- definition and its effects.	2
4.	Mainstreaming- definition, models, problems in implementation, effect of mainstreaming on children with special needs	2
5.	Definition, classification, prevalence, causes, measurement, psychological and behavioral characteristics and educational considerations, management for : a. Mental retardation b. Learning disabled children c. Emotional disorders d. Speech/communication disorders e. Visual disorders f. Physical and neurological impairment g. Multiple disorders	2 2 2 2 2 2 2
6.	Giftedness: definition, prevalence, origin, screening and identification, Psychological and behavioral characteristics of gifted children, attitudes towards gifted children, educational considerations for gifted children, managing child in school.	3
7.	Rights and provisions for children with special needs in India	2
8.	Early detection of deformities, Intervention- concept, methods, steps and process, intervention strategies for children with developmental challenges	3
9.	Role of professionals, need and importance of family centered intervention.	2
Total		32

Practical:

1.	Observational visits to institutes for children with special needs	3
2.	Survey on early detection of deformities in local communities	2
3.	Developing educational material on identification of children with special needs	4
4.	Organizing education programmes for families of children with special needs	3
5.	planning, recreational and vocational activities for children with special needs	3
6.	Presentation of case study reports.	1
Total		16

Suggested Readings:

1. Berdine, W.H. and Blackhurst, A.E. (1985). An introduction to special education. 2nd ed. Harper Collins, Lexington.
2. Hallahan, D.P. and Kauffman, J.M. (1991). Introduction to exceptional children. 5th ed. Allyn and Bacon, Boston.
3. Loring, J. and Burn, G. (Eds.). (1978). Integration of handicapped children in society. Routledge and Kegan Paul, London.
4. Werner, D. (1994). Disabled Village Children (Indian edition). Voluntary Health Association of India, New Delhi.
5. Philip, M. and Duckworth, D. (1985). Children with disabilities and their families: A review of research. Berks: NFER-NELSON Publishing Co., Windsor.
6. Achenbach, T.M. (1982). Developmental psychopathology. 2nd ed. John Wiley, New York.
7. Tinberger, N. and Tinberger, E.A. (1983). Autistic children: New hope for a cure. Allen and Unwin, London.
8. Hegarty, S. (2002). Education and children with special need. Sage publication. New Delhi.
9. Rozario, J. and Karanth, P. (2003). Learning disability in India. Sage publication. New Delhi.
10. Prasad, J. and Prakash, R. (1996). Education of handicapped children, problems and solution. Kanishka publication distribution. New Delhi.

Theory:

Communication skills- Process of communication, verbal and nonverbal communication; listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures. Reading and comprehension of general and technical articles, precise writing, summarizing, abstracting; individual and group presentations, impromptu presentation, public speaking; Group discussion. Role of ICT in communication. Recent advances in communication- Print and electronic, internet, e-mail, fax, mobile, interactive video and teleconferencing, computer, e-governance.

Meaning and definition of personality; Theoretical perspectives on personality- Behavioural trait and humanistic personality pattern; moulding the personality patterns. Personality development- Self perception, self concept, self esteem and gender stereotyping, persistence and changes in personality determinants (physical, intellectual, emotional, social, educational and family). Aspirations, achievements and fulfillment. Dressing for formal and informal occasions.

Practical:

Listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures. Reading and comprehension of general and technical articles, precise writing, summarizing, abstracting; individual and group presentations. Developing questionnaire to study impact of physique, educational institutions, aspirations on personality; developing questionnaire to study social prescriptions, gender and family on personality, aspirations and achievements. Collecting data through the questionnaires on small samples. Report writing and presentation. Case study of an individual suffering with personality disorders.

Objectives:

1. To develop understanding regarding concept of diffusion, innovation and adoption process.
2. To develop understanding about utility of homestead technologies
3. To develop competence in diffusion of need based homestead technologies among rural families

Theory :

S. No.	Topic	No. of classes
1.	Concept and elements of diffusion process	3
2.	Adoption – definition, adoption process, Innovation – decision process	3
3.	Types of innovation – decision	1
4.	Consequences of innovation	2
5.	Factor affecting adoption of an innovation	3
6.	Different terms used in diffusion of innovation and adoption process: Rate of adoption, over adoption, innovativeness, dissonance, rejection, discontinuance	3
7.	Adopter categories – concept and types	3
8.	Homestead technology – concept and its relevance to innovation – decision process	3
9.	Different channels and communication and their characteristics	3
10.	Change agents and opinions leader; change proneness – acceptance and resistance to social change	3
11.	Different homestead technologies with special reference to Home science	3
12.	Constrains in adoption of technology	2
Total		32

Practical :

S. No.	Topic	No. of classes
1.	Collection of homestead technologies	3
2.	Survey on adoption of homestead technologies in community	3
3.	Diffusion of need based homestead technologies among rural families.	5
4.	Identification of change agents in locality	2
5.	Preparation and presentation of report	3
Total		16

Suggested readings:

1. Dasgupta, S. 1989. Diffusion of Agriculture Innovations in villages India, Why Eastern Ltd. New Delhi
2. Environmentally Sound Technologies for Women in Agriculture, 1996. Published by International Federation of women in Agriculture, New Delhi, India and International Institute of Rural Reconstruction, Silang Caviote, Philippines, Printed in India, ISBN 942717-69-4
3. Reddy, A. A. 1993. Extension Education. Shri Laxmi Press, Bapatla, Guntur, AP.
4. Rogers, E. M. 1985. Diffusion of Innovations. The free press, New York.
5. Roy, S., Verma, T. and Gupta, P. Extension Programme Management Published by Kuldeep Sharma Incharge (DIPA), ICAR 2579, Mandir Lane Shadipur, New Delhi – 110008

V SEMESTER

S. No.	Course Title	Course No.	Credit Hours	Page No.
1	Garment and Accessory Designing	TAD-311	3 (0+3)	
2	Food Hygiene and Sanitation	FN -311	2 (1+1)	
3	Introduction to Rural Sociology	RSOC – 301	2 (2+0)	
4	Family Counselling and Welfare	HDFS -311	3 (2+1)	
5	Normal and Therapeutic Nutrition	FN -312	3 (2+1)	
6	Residential and Commercial Space Design	RMCS – 311	3 (2+1)	
7	Dyeing and Printing	TAD – 312	2 (1+1)	
8	Economics and Marketing*	ECOMKT-301	3 (2+1)	
TOTAL			21 (12+9)	

- Supporting Course

TAD 311: Garment and Accessory Designing**3(0+3)****Objectives:**

1. To develop awareness among students about garment designing.
2. To develop skills in various fabric construction techniques.
3. To develop awareness among students about fashion accessories.
4. To impart skill in designing various fashion accessories.

Practical:

S.No.	Topic	No. of Classes
1	Selection of figure template for men, women and children	1
2	Designing of garments for women using different construction features: collar, sleeve, neckline	3
3	Designing garments for men using different construction features: shoulder yoke, collar, sleeve, cuff	4
4	Designing of garment for children using different construction features: Yoke, gather, pleats, tucks, shirring, smocking, trimmings	4
5	Drafting and construction of following garments for women, men and children <ul style="list-style-type: none">• fancy frock• salwar/ pyjama• pyjama kurta (gents)/kameez (ladies)• night dress/ gown	4 4 4 4
6	Accessories: introduction and classification; footwear, hand bags, belt, jewellery, gloves, hats, scarves and umbrella	3
7	Designing of accessories for women, men and children	3
8	Selection of designs for construction of accessories	2
9	Accessories construction of one accessory each for <ul style="list-style-type: none">• women• men and• children	4 4 4
Total		48

Suggested Readings:

1. Goldstein, H. and Goldstein, V. 1954. Art in Everyday life. 4thed. New York. Macmillan Publishing Co., Inc. pp – 515.
2. Bhatnagar, P. 2005. Decorative Design History in Indian Textiles and Costumes. Chandigarh. India. Abhishek Publications. 41-43 pp.
3. Graves, M. 1951. Art of Colour and design. 2nded. New York. McGraw- Hill Company. pp – 438.
4. Beitler, E. J. and Lockhart, B. 1961. Design for you. 2nded.
5. Peacock, J. 2000. Fashion accessories- The complete 20th century source book. London. Thames and Hudson.
6. Meadows, C. S. 2003. Know your fashion accessories. New York. Fairchild books.

Objectives:

1. To develop understanding about importance of hygiene and sanitation.
2. To teach about different elements of hygiene & sanitation.

Theory:

S.No.	Topics	No. of classes
1	Meaning and principles of food hygiene.	1
2	Water Requirement and uses, sources of water supply, water pollution, purification of water, water and its quality-Criteria and standards, hardness water & its treatment and defluoridation of water	3
3	Food hygiene: Contamination of foods from various sources- Green plants fruits, animals, sewage, soil, air & water and their health hazards.	3
4	Food spoilage. Perishable, semi perishable and non perishable foods.	1
5	Sanitary procedures for preparation, handling and storage of foods.	1
6	Food poisoning caused by bacteria: <i>Salmonella</i> , <i>Staphylococcal poisoning</i> , <i>Botulinum</i> , <i>Clostridium perfringens</i> and <i>B.cerus</i> . Sources, incubation period and mechanism of action.	2
7	Investigation of Food Poisoning, prevention and control	2
8	Food Poisoning caused by agents other than microorganism. Poisonous plants, animals, chemicals, metals and pesticides .	3
Total		16

Practicals:

S.No.	Topics	No. of classes
1	Identification of micro organisms, preparation of slides & preparation of media.	5
2	Collection of water samples. Testing of water for: (i) Physical quality (ii) Bacteriological quality.	6
3	Survey of hygienic and sanitary condition in food shops/food vendors. Report writing.	5
Total		16

Suggested Readings:

1. Adams M.K. and Moss M.O. (2000). Food Microbiology, New Delhi: Panima Corp.
2. Longree K.L. and Blaker G.C. (1982). Sanitary Techniques in Food Service. New York: John Wiley and Sons.
3. Park, K. (1997). Textbook of Preventive and Social Medicine. 1st Ed. Jabalpur: Banarsidas Bhanot.

Objectives:-

- To develop understanding about sociological concepts with special reference to rural community
- To understand factors of social transformation and planned social change

Theory:-

S. No.	Topic	No. Of Classes
1	Sociology and rural sociology :-meaning & significance	2
2	Difference between rural, urban and tribal community	3
3	Indian rural social stratification <ul style="list-style-type: none"> • Caste and class – concept, characteristics and difference • Changes in social stratification and its role in economy & policy • Backward classes and implementation of constitutional provisions 	3 3 2
4	Indian rural institution <ul style="list-style-type: none"> • Social- family & marriage • Economics • Political 	3 3 3
5	Rural poverty – meaning & causes	2
6	Religion – concept, beliefs, traditions and customs	3
7	Rural social change:- <ul style="list-style-type: none"> • Concept, process and factors of transformation • Planned social change 	3 2
Total		32

Suggested Readings:

1. Chitamber, J.B. (1973). Introductory Rural Sociology. New York, John Wiley & Sons.
2. Desai, A.R. (1978). Rural Sociology in India. Bombay, Popular Prakashan, 5th Rev. Ed.
3. Doshi, S.L. (2007). Rural Sociology. Delhi Rawat Publishers.
4. Jayapalan, N. (2002). Rural Sociology. New Delhi, Altanic Publishers.
5. Sharma, K.L. (1997). Rural Society in India. Delhi, Rawat Publishers.
6. Sachdeva, D.R. and Bhushan, V. (2007). An Introduction to Sociology. KitabMahal Agency.

Objective:

1. To orient the students regarding significance, scope and methods of family counseling
2. To orient the students regarding various welfare services and legal provisions

Theory:

Sr.No	Course title	Credit hours
1.	Concept, nature, scope, principles and need of family counselling	2
2.	Types of family counseling: Educational, Vocational, Social, Personal, Premarital and Marital	3
3.	Methods of Family counseling, Problems encountered during the process of family counseling.	3
4.	Qualities of a good counselor	1
5.	Situational analysis of child, women, youth, elderly, disabled and reserved category in India-Issues and challenges	3
6.	Determining factors for the present status, impact of present status on the family and society at large.	2
7.	Definition, need, constitutional, provisions, legislations, schemes/projects and policies and other activities pertaining to: <ol style="list-style-type: none"> a. Child Welfare b. Women Welfare c. Youth Welfare d. Elderly Welfare e. Disabled/Exceptional Pupil Welfare 	3 2 2 2 3
8.	Legislations pertaining to reserved category, schemes/projects and policies for reserved category	2
9.	National and international organizations and agencies working for child, women, youth, elderly and disabled welfare: UNICEF, WHO, CARE, DWACRA, NIPCCD, CIF etc.	4
Total		32

Practicals:

S.No.	Topic	No.of Classes
1.	Visits to organizations offering counseling to families	4
2.	Studying the areas of family counseling,	2
3.	identifying the families which are in need of counseling,	2
4.	Observing counseling sessions to families, presentation of reports.	4
5.	Visits to various government and non government organizations working for the welfare of the children, Presentation of reports.	4
Total		16

Suggested Readings:

1. NIPCCD. (1994). Child in India: A statistical profile. NIPCCD, New Delhi.
2. Randhawa, M.S. (1991). The Rural and urban aged. National Book Organization, Unit IX, New Delhi.
3. Saraswathi, S. (1991). Youth in India. ICSSR, Govt. of India, New Delhi.
4. TISS (1994). Enhancing the role of family as agency for social and economic development. TISS Bombay. Vol. II, Part II.
5. UNICEF. (1990). Children and women in India: A situation analysis. Unit VI, VII.
6. Marasimhan, S. (2001). Employment of women. Sage publication. New Delhi.
7. Boraian, P.M (2008). Employment of rural women. Concept publishing company. New Delhi.
8. Mehta, L.P and Jaiswal, S.S. (2001). Child labour and the laws. Deep and Deep publication. New Delhi.
9. Devi, L. (1998). Child and family welfare. Anmol publication. New Delhi.
10. Devaisia, L. (1991). Girl child in India. Ashish publishing house. New Delhi.
11. Down, W.S. (2006). Child welfare and family services. 8thedi. Pearson education publishers.
12. Pecora, J.P. (2009). The child welfare challenge: Policy, practice and research. Aldine transaction publisher.
13. Kapoor M. (2011). Counseling children with psychological problems. Pearson Education India.
14. Puri S. (2004). Child development and welfare services. Pointer publishers. Jaipur(India)
15. Dav M.I. (1984). Introduction to Child Welfare and Counseling. Himanshu Publisher. New Delhi.

Objectives:

1. To enable the students to understand dietary requirements of different groups under various conditions.
2. To educate students to modify basic dietary pattern to suit various groups, economic conditions, occupation and diseases.

Theory:

S.No.	Topics	No. of classes
1	Determination of nutritional requirements: recommended dietary allowance, calorie consumption unit and food exchange list method.	2
2	Maternal nutrition :Physiological changes and nutritional requirements during pregnancy and lactation.	2
3	Infancy. Growth, development and nutritional requirement, importance of breast feeding, weaning and supplementary foods.	3
4	Pre-school children : Growth and development, food habits and nutritional requirements.	2
5	School age child and adolescents: Growth and development, food habits and nutritional requirements.	2
6	Geriatric nutrition: Physiological and psychological changes during old age, nutritional requirements and consideration for diet planning.	2
7	Importance and modification of normal diet to therapeutic diets, Methods of feeding- Normal and artificial.	2
8	Etiology, symptoms and dietary management in acute and chronic fevers- Typhoid, influenza & tuberculosis.	2
9	Etiology, symptoms and dietary management in gastrointestinal disorders- Diarrhoea, constipation & peptic ulcer.	3
10	Etiology, symptoms and dietary management in liver diseases- Hepatitis, jaundice & cirrhosis of liver.	3
11	Problems of weight control. Overweight and obesity, dietetic management and prevention.	3
12	Etiology, symptoms and dietary management in cardiovascular disease- Atherosclerosis & hypertension.	3
13	Etiology, symptoms and dietary management in diabetes mellitus	3
Total		32

Practicals:

S.No.	Topics	No. of classes
1	Standardization of serving size portions.	1
2	Planning and preparation of diets for different age groups-Infancy, preschool age, school age, adolescent, adult & old age.	5
3	Planning and preparation of diets for pregnant and lactating women.	2
4	Planning and preparation of diets for special occasions- Birthdays, festivals & packed lunches.	2
5	Planning and preparation of diets for following diseased conditions- Diarrhoea, constipation, hepatitis, hypertension, diabetes mellitus & overweight/ obesity.	6
Total		16

Suggested Readings:

1. Raghuvanshi, R.S. and Mittal, M. (2014). Food Nutrition and Diet Therapy. Westvills Publication Delhi.
2. Agarwal, A and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication Delhi.

Residential and Commercial Space Design

RMCS - 311

3 (2+1)

Objectives:

1. To give an insight about the designing of various types of residential and commercial buildings.
2. To learn about making various types of conceptual drawings of residential and commercial buildings.

Theory:

S. No.	Topic	No. of classes
1.	Design and space organization analysis of independent house of different income groups.	3
2.	Design and space organization analysis of apartments and flats.	3
3.	Understanding on building bye laws, regulations and specifications essential for building, and service management.	3
4.	Selecting materials and finishing scheme for interiors.	2
5.	Estimation of cost of fittings, fixtures, furniture, lighting and materials for interior finishing.	4
6.	Estimation of cost of fittings, fixtures, furniture, lighting and materials for commercial buildings.	4
7.	Appraisal on space needs in commercial buildings.	3
8.	Study of commercial interiors for business establishments, hotels/restaurants, hospitals, educational buildings, public service buildings	4
9.	Specifications writing- writing detailed clause by clause	3
10.	Specification for materials pre and post execution, tests, mode of measurements, manufacturers details and specifications etc.	3
Total		32

Practical:

S. No.	Topic	No. of classes
1.	Develop conceptual drawings and floor plans for various income groups.	3
2.	Develop layouts of furniture, lighting, electrical and plumbing for various income groups.	3
3.	Practical applications of design and space organization of apartments and flats and analysis.	2
4.	Cost estimation for designing interiors of various income groups.	2
5.	Planning of ergonomic work layout for a small project	1
6.	Presentation of the detailed work done for residential projects.	2
7.	Presentation of the detailed work done for hill areas.	2
8.	Presentation of the detailed work done for small and commercial projects.	1
Total		16

Suggested Readings:

1. Bonda P. and Sonsnowchik K. (2007).Sustainable Commercial Interiors.John Wiley and Sons Publication.
2. Carol Simpson, Estimation for Interior Designers, Watson Guptill, Rev. Sub edition, 2001.
3. Crafti. (2004). The office – Designing for Success. 2004. Images Publication
4. Francis, D. (1997). The New Office. Conran Octopus Publication
5. Harmon. S and Kennon, K. The Codes guidebook for Interiors.Fifth Edition.John Wiley and Sons Publication.
6. Leibing W. Ralph(1999). Architectural Working Drawings ,4th edition John Wiley and sons, New York .
7. Piotrowski, C. and Rogers, E. (1999).Designing Commercial Interiors.Second Edition.John Wiley and Sons Publication.

Objectives:

- 1.To acquire knowledge of dyeing and printing processes used in textiles.
- 2.To develop the aesthetic sense in decorating the textiles.
- 3.To develop skill of dyeing and printing techniques.

Theory:

S.No.	Topic	No. of Classes
1	Introduction to dyeing and printing	1
2	Classification of dyes- Indigenous dyes; Synthetic dyes	2
3	Types of synthetic dyes available and their structures and properties (a) Direct;Basic; Acid, (b)Vat; Naphthol; Sulphur, (c) Mordant; Disperse; Reactive; Pigment	2 2 2
4	Methods of dyeing and printing. (a) Resist dyeing, Tie and dye, Batik, (b) Stencil printing and screen printing, (c) Roller printing, Discharge printing. (d) Duplex, Flock , Heat Transfer Printing	1 2 2 2
Total		16

Practical:

S.No.	Topic	No. of Classes
1	Preparation of fabrics for dyeing	1
2	Selection and preparation of dyes for dyeing cotton fabric- <ul style="list-style-type: none"> • Direct dye • Basic dye • Sulphur dyes • Naphthol dyes • Reactive dyes. 	1 1 1 1 1
3	Introduction to tie and dye and batik printing.	3
4	Stencil Printing on cotton <ul style="list-style-type: none"> • Selection of design and preparation of stencil of - Single colour; double colour • Stencil printing in one color and two colour. 	2 2
5	Fabric painting: <ul style="list-style-type: none"> • Selection of Design • Tracing and enlarging of design, • Painting on the fabric, • Preparation of hand bag/ table cloth, pillow cover/wall piece 	3
Total		16

Suggested Readings:

1. Joyce Story. 1974. *The Thames & Hudson Manual of Textile Printing*. Thames & Hudson.
2. Shenai VA. 1994. *Technology of Dyeing*. Sevak Publ.
3. Shenai VA. 1985. *Technology of Printing, Technology of Textile Processing*. Vol. IV. Sevak Publ.
4. Vilensky G. 1987. *Textile Science*. CBS.

Theory:

S. No.	Topic	No. of classes
1.	Terms and definitions in Economics; Consumption, demand and supply.	4
2.	Factors affecting production. Gross Domestic Product (GDP) – Role of poultry sector in National GDP.	4
3.	Marketing- Definition, marketing process, need for marketing, role of marketing, marketing functions,	6
4.	Classification of markets, marketing of various channels, price spread,	4
5.	Marketing efficiency, integration, constraints in marketing of agricultural produce, market intelligence, bank norms, insurance,	4
6.	SWOT analysis, crisis management.	6
7.	Techno-economic parameters for preparation of projects and basic guidelines for preparation of project report.	4
Total		32

Practical:

S. No.	Topic	No. of classes
1.	Techno-economic parameters for preparation of project	4
2.	Preparation of bankable projects for various agricultural products and its value added products.	4
3.	Identification of marketing channel, calculation of price spread, identification of market structure.	4
4.	Visit to different markets	4
Total		16

Suggested Reading:

1. Dewtt, K.K. & Verma, J.O. 1991. Elementary Economic theory, S. Chand & Co. Delhi
2. Sherlekar, S.A.; Salvadore Victor S.J., Prasad K. Nirmala, "1994. Principle of marketing Himalaya publishing house, Bombay, Delhi Nagpur.
3. Stanton William, J. 1978. Fundamental of marketing, McGraw Hill Book Company.

VI SEMESTER

S.No.	Course Title	Course No.	Credit Hours
1	Traditional Textiles and Costumes of India	TAD -321	3 (2+1)
2	Community Nutrition and Education	FN-321	3 (2+1)
3	Food Analysis	FN -322	3 (1+2)
4	Entrepreneurship Development and Business Management	RMCS – 321	3 (2+1)
5	Educational Psychology and Early Childhood Education	HDFS – 321	3 (2+1)
6	Programme Development for Rural Families	EECM – 321	3 (1+2)
7	Extension Training Management	EECM -323	3 (1+2)
TOTAL			21 (11+10)

Objectives:

1. To gain knowledge of traditional textiles prevalent in India.
2. To study about the various embroideries of India.

Theory:

S.No.	Topic	No. of Classes
1	Traditional woven textiles of India	1
2	History of woven textiles: Dacca muslin, Brocades, Calico Printing	2
3	Traditional sarees of India Jamdani, Baluchari, Pochampalli, Patola and Ikat, Kanjivaram, Chanderi, Maheshwari, Bomkai, Sambhalpuri, Vichitrapuri, Paithani, Kota Doria, Gadwal, Irkal, Venkatagiri, Narayanpet, Kasavu, Tanchoi and Brocade Sarees.	3
4	Traditional woven and embroidered shawls of India <ul style="list-style-type: none"> • Shawls of Kashmir • Himachal Pradesh • Gujarat • North Eastern States and other states 	1 1 1 1
5	Printed and painted textiles Printed textiles Block printed textiles <ul style="list-style-type: none"> • Dabu printing • Bagru printing and Sanganeri printing • Bagh printing • Tie and dyed textiles of Rajasthan and Gujarat 	1 1 1 1
6	Painted textiles: <ul style="list-style-type: none"> • Kalamkari • Madhubani • Warli • Patchitra • Phad and Pichhawai 	1 1 1 1 1
7	Embroideries of different states of India: <ul style="list-style-type: none"> • Kashida of Kashmir • ChambaRumal • Chikankari and Zari work of Uttar Pradesh • Phulkari and Bagh of Punjab • Embroideries of Gujarat • Kantha of Bengal • Manipuri Embroidery • Kasuti of Karnataka • Embroidery and Rabari work of Bihar • Pipli work of Orissa 	1 1 1 1 1 1 1 1 1 1
8	Importance of traditional textiles in textile and apparel industry	1
9	Importance and market scenario of traditional Indian textiles and their impact on modern textiles industry	1
10	Geographical Indications obtained for traditional Indian textiles	1
Total		32

Practical:

S.No.	Topic	No. of Classes
1	Documentation of motifs of traditional Indian embroideries	2
2	Sample preparation of traditional Indian embroideries	7
3	Documentation of woven textiles of India	3
4	Creative projects in the adaptation of traditional motifs and designs in contemporary textiles through collection of samples, sketches and development of scrap book	3
5	Visit to museum and art galleries	1
Total		16

Suggested Readings:

1. Bhatnagar, P. 2005. Decorative Design History in Indian Textiles and Costumes. Chandigarh, Abhishek Publication.
2. Chattopadhyay, K. 1977. Indian Embroidery. New Delhi, Wiley Eastern Limited
3. Harney, J. 1997. Traditional Textiles of Central Asia. London. Thome and Hudson Ltd.
4. Krishna, R A. 1966. Banaras Brocades. New Delhi. Crafts museum.
5. Lubell, C. 1976. Textile Collection of the World. Vol. 2. London. United States publication.
6. Mehta, R J. 1970. Master Piece of Indian Textiles. D. B. Taraporevale Sons and Co. Private Ltd.
7. Treasure of Indian Textiles. 1980. Calico Museum. Ahmedabad. Marg Publication Bombay

Objectives:

1. To develop awareness of the students about the magnitude of nutritional problems.
2. To develop ability to assess the problems and devise nutrition education material for them.

Theory:

S.No.	Topics	No. of classes
1	Malnutrition- Definition and causes, PEM, Marasmus, Kwasiorkor and vicious cycle of malnutrition	3
2	Assessment of nutritional status, Clinical signs and symptoms, nutritional anthropometry, biochemical tests, biophysical tests and diet survey methods.	6
3	Major nutritional problems prevalent in India and the state of Protein energy malnutrition, anaemia, vitamin A deficiency, iodine deficiency disorders, obesity, hypertension, atherosclerosis and diabetes mellitus	6
4	National programmes and role of national and international agencies in improving nutritional status of the community	5
5	Integrated Child Development Service (ICDS), supplementary Nutrition Program (SNP), Applied Nutrition Program (ANP), Mid Day Meal Program (MDMP), Vitamin A Prophylaxis Program and Anaemia Prophylaxis Programme.	5
6	Food and Agricultural Organization (FAO), World Health Organization (WHO), United Nations Children's Fund (UNICEF), UNDP, CARE and other Voluntary and Government Agencies	5
7	Nutrition education- Objectives, methods and principles	2
Total		32

Practicals:

S.No.	Topics	No. of classes
1	Assessment of nutritional status of an individual/community using anthropometry and dietary survey. A) Preparation of schedule B) Survey work C) Analysis of data D) Writing of report.	4
2	Visit to local health centre to identify clinical signs and symptoms of nutritional problems. Identification of adulterants in common foods.	2
3	Visit to an ICDS Block	1
4	Development of audio visual aids- radio script; popular article; chart/posters leaflets etc.	5
5	Planning, implementation and evaluation of nutrition education for a target group.	4
Total		16

Suggested Readings:

1. Sehgal, S. and Raghuvanshi, R.S. (2007) Text Book of Community Nutrition. ICAR, New Delhi.

Objectives:

1. To acquaint the students with principles, techniques and application of different methods of analysis for various nutrients.

Theory:

S.No.	Topics	No. of classes
1	Sampling and sampling techniques.	1
2	Proximate analysis- Moisture, ash, crude fat, crude fibre, crude protein and carbohydrates by difference.	2
3	Principles and methods of food analysis. Basic principles: Refractometry, polarimetry, densitometry, HPLC, GLC, spectrophotometry, electrophoresis, and automatic amino acid analyzer	2
4	Determination of starch. Test for unsaturation of fats and rancidity of fats.	2
5	Quantitative analysis of protein by Biuret method, Ninhydrin method, Lowry's method and Dye-binding method. Bioassays for protein quality of grains.	2
6	Chemical, microbiological, flurometric and colorimetric methods of analysis of fat soluble and water soluble vitamins.	2
7	Principles and methods for estimation of minerals	2
8	Atomic absorption spectroscopy, colorimetric, titrimetric and gravimetric methods.	2
9	Methods for determining physical and rheological properties of food.	1
Total		16

Practicals:

S.No.	Topics	No. of classes
1	Proximate analysis: Moisture, ash, crude fat, crude fiber, crude protein and carbohydrate by difference.	6
2	Demonstration of kjelplus, fibreplus and sox-plus.	3
3	Estimation of sugar content of fruit and reducing and non-reducing sugars in cereals. Estimation of starch content of cereals.	6
4	Determination of iodine value and saponification number of fats.	3
	Estimation of minerals, iron, calcium and phosphorus	4
5	Estimation of vitamins: Ascorbic acid, thiamine and beta-carotene.	4
6	Protein quality analysis, in-vitro method.	4
7	Physical test for grain quality and rheological properties of foods.	2
	Total	32

Suggested Readings:

1. AOAC. (2000). Association of Official Analytical Chemists. Washington, DC.
2. Pearson, D. (1973). Laboratory Techniques in Food Analysis. Butterworths and Co., London
3. Pomeranz and Yeshajahu. (1987). Food Analysis Theory and Practice. 2nd ed. AVI Publ.Company, Westport.
4. Joslyn, M.A. (1970). Methods in Food Analysis: Physical, Chemical and Instrumental Methods of Analysis. Academic Press. New York
5. NIN. (2003). A Manual of Laboratory Techniques.

Entrepreneurship Development and Business Management

RMCS -321

3(2+1)

Objectives:

- To learn about the importance of entrepreneurship Development and Business Management in the development of Indian economy
- Creating awareness regarding entrepreneurial traits, entrepreneurial support system, opportunity identification, project report preparation and understanding of legal and managerial aspects.

Theory :

S. No.	Topic	No. of classes
1.	Development of entrepreneurship, motivational factors, social factors, environmental factors, characteristics of entrepreneurs.	2
2.	Concept, need and importance of entrepreneurial development. Evolution of entrepreneurship, objectives of entrepreneurial activities, types of entrepreneurs, functions of entrepreneurs, importance of entrepreneurial development, and process of entrepreneurship development.	4
3.	Environment scanning and opportunity identification of product / service – starting a project; factors influencing sensing the opportunities.	2
4.	Infrastructure and support systems- Good policies, schemes for entrepreneurship development; role of financial institutions, and other agencies in entrepreneurship development.	3
5.	Steps involved in functioning of an enterprise. Selection of the product / services, selection of form of ownership; registration, selection of site, capital sources, acquisition of manufacturing know how, packaging and distribution.	4
6.	Planning of an enterprise, project identification, selection and formulation of project; project report preparation, Enterprise Management.	3
7.	Production management – product, levels of products, product mix, quality control, cost of production, production controls, Material management. Production management – raw material costing, inventory control. Personal management – manpower planning, labour turn over, wages / salaries.	4
8.	Financial management /accounting – funds, fixed capital and working capital, costing and pricing, long term planning and short term planning, book keeping, journal, ledger, subsidiary books, annual financial statement, taxation.	4
9.	Marketing management- market, types, marketing assistance, market strategies.	3
10.	Crisis management- raw material, production, leadership, market, finance, natural etc.	3
Total		32

Practical:

S. No.	Topic	No. of classes
1.	Visit to small scale industries. Interaction with successful entrepreneurs.	5
2.	Visit to financial institutions and support agencies.	5
3.	Preparation of project proposal for funding by different agencies	6
Total		16

Suggested Readings:

1. Bhawal, C. P. 2005. Entrepreneurship and Entrepreneurial Development. New Royal Company, Lucknow
2. Vasant Desai. (2011). Entrepreneurial Development Potential beyond Boundaries; Himalaya Publishing House.

HDFS-321 Educational Psychology and Early Childhood Education 3(2+1)

Objectives:

1. To orient the student regarding significance, scope, concepts and theories of educational psychology and its practical implications.
2. To develop an understanding regarding the significance of early childhood years.
3. To expose the students to the age wise developmental characteristics of young children and their implication for ECCE care and education.
4. To equip the students to plan and conduct Early Childhood care and Education, Programme.

Theory:

Sr.No	Course title	No.of Classes
1.	Educational psychology- Meaning, nature, scope and importance of educational psychology	2
2.	History of its evolution, abroad and in India	1
3.	Recent trends and challenges in educational psychology	1
4.	Concept of learning- definition, essential features, types of learning, laws of learning, principles of learning ,learning environment	2
5.	Sensation, Perception, Imagination, Attention and Memory, Remembering and Forgetting, Reasoning and Thinking, Problem Solving, Information Processing	2
6.	Reinforcement- definition, types of reinforcements, schedules of reinforcement, importance of negative and positive reinforcement in learning,	2
7.	Punishment- meaning, functions, types, essentials of good punishment, effect of punishment on learning	2
8.	Motivation- definition, types, modes of motivation (contingency contract, token economy) relationship of motivation with learning and performance	2
9.	Discipline- meaning, need, functions and essentials in discipline, techniques of discipline, factors influencing choice of disciplinary techniques	2
10.	Theories for classroom teaching and its applicability(Jerome Bruner, Robert Gagne, Jean Piaget)	2
11.	Theories of learning Erik Erikson, Lev Vygotsky, , Kohlberg(Educational Implications)	2
12.	Early Childhood Education: Meaning and significance	2
13.	Different types of Pre School programmes: Montessori, Kindergarten, Nursery, Pre-Basic, Balwadi	2
14.	Curriculum models of ECCD	2
15.	Activities to promote all round development of preschool children- cognitive, language, socio-emotional and motor development	2
16.	Programme planning in ECE- Steps and types of programme planning	1
17.	Role, qualities and responsibilities of an early childhood personnel	2
18.	Monitoring and Evaluation of ECCD programme	1
	Total	32

S.No.	Course Title	No.of Classes
1.	Analysing effect of reinforcement, motivation, discipline on learning	4
2.	Application of different methods of evaluating performance and interpretation.	2
3.	Observation and recording of activities in ECE center.	2
4.	Developing and conducting activities to promote all round development- Gross and fine motor skills, cognitive skills, language skills and creativity and socio emotional skills.	4
5.	Preparation of suitable teaching learning material used for Pre-school children	4
Total		16

Suggested Readings:

1. Mertens, M.D. (2014), Research and evaluation in education and Psychology. Sage publication.
2. Papalia, D.E. and Olds, S. W. (2008). Human development. 11thed. McGraw Hill. New York.
3. Mazur, J.E. (1989). Learning and behaviour. Prentice Hall, New Delhi.
4. Klausmier, H.J. (1985). Educational psychology. Harper and Row, New York.
5. Dubious, N.F. (1979). Educational psychology and instructional decisions. Dorsey press
6. Narang D; Purohit S & Koradia K (2008). Early childhood care and development, Shivam Book Depot, Jaipur
7. Swaminathan, M. (ed.) (1998). The First Five Years: A Critical Perspective on Early Childhood Care Education in India. Sage Publication. New Delhi.
8. Grewal, J.S. (1984) Early Childhood Education – Foundation and Practice. National Psychological Corporation Agra.

Objectives :

1. To develop knowledge about concept, objectives and principles of programme planning.
2. To develop ability in planning, implementing and evaluating extension programme
3. To understand the role of monitoring and evaluation in programme development

Theory :

S. No.	Topic	No. of classes
1.	Planning – concept, importance & nature	1
2.	Extension programme planning – concept, objectives & principles	2
3.	Relevant terms used in programme planning- situation, aims. Objectives, problems, solution, project, plans, plans of work, calendar of work	1
4.	PRA – concept, importance & techniques	1
5	Step in extension programme planning	2
6	Involvement of local leaders, organization and extension agencies in planning & implementation of extension programme	2
7	Implementation of programme – environment & rapport building	2
8	Constraints in implementation of extension programme & ways to overcome them	2
9	Monitoring of extension programme- meaning, importance & techniques	1
10	Evaluation of extension programme- meaning , importance, types & method	2
Total		16

Practical:

S. No.	Topic	No. of classes
1	Establishing rapport with rural families and identification of leader	4
2	Conducting baseline survey of village and household and analysis of information	4
3	Different PRA tools, its application in program development and exercises	4
4	Triangulation of information from conventional and PRA method	2
5	Preparation of detailed plan of work for small need based program	5
6	Implementation of program	6
	Evaluation of program	3
	Documentation and presentation of findings of program	4
Total		32

Suggested Readings:-

1. Dhama, O.P. And Bhatnagar, O.P. 1980. Communication for Development Oxford and IBH, Publishing Co. New Delhi.
2. Reddy, A. 1993. Extension Education, Sri Laxmi Press, Bapatla, Guntur, A.P.
3. Sandhu, A.S.1994. Extension Program Planning, Oxford and IBH, Publishing Company Pvt. Ltd., New Delhi, Bombay, Calcutta.
4. Ray, G.L. (2004), Extension Communication and Management, New Delhi: Kalyani Publishers.
5. SanthsGovind, G. TamliSelvi And J. Meenainbigai 2011 Extension Education And Rural Development .Agrobios (India) Chopasani Road Jodhpur- 342002 (Raj.)
6. Gupta, D. D. Extension Education Core Content And Emerging Area Published By Dr. UpdeshPurohit For Agrobios (India) Jodhpur
7. Supe, S.V.Integrated Extension Education , Publishing By Mrs. GeetaSomani, Agrotech Publishing Academy, Vinayak Complex B, Durga Nursery Udaipur

Objectives:

1. To develop understanding about training.
2. To develop skills in use of different training methods.
3. To develop competence in designing, implementation & evaluation of training program.

Theory :

S. No.	Topic	No. of classes
1	Training- concept & importance	1
2	Types of training	1
3	Phases of training and its management	1
4	Qualities of trainer	1
5	Characteristics of adult learning	1
6	Principles of adult learning	1
7	Facilitation skills in training	1
8	Identification of training needs	1
9	Steps of designing training program	2
10	Training methods- lecturette, demonstration, case study, role play, games, practical clinics, small group tasks.	3
11	Training evaluation– meaning , importance, indicators & methods	1
12	Problems in training	1
13	Important training institution in India for extension functionaries and farmers	1
Total		16

Practical :

S. No.	Topic	No. of classes
1	Visit to training institutes	3
2	Hands on experience on training methods- lecturette, demonstration, case study, role play, games, practical clinics, small group tasks.	6
3	Hands on experience with training need analysis	2
4	Formulation of training objectives	1
5	Familiarization with monitoring and evaluation tools of training	2
6	Familiarization with offline & online training module	1
7	Preparation of training module	2
8	Planning of a training program	5
9	Execution and evaluation of training program	5
10	Preparation and presentation of report	2
11	Analysis of HRD programs of academic and corporate institutions. interaction with HRD professionals	3
Total		32

Suggested readings:-

1. Singh, R.P.2000. Management of Training Programs.Anmol Publication Pvt. Ltd. New Delhi-11002(India)
2. Lynton R.&Pareek U. 1991. Training For Development, Vistar Publication, New Delhi.
3. Singh R.P. Jhamtani A.& Singh P. 1996. Training Management- A Hand Book, Jain Brothers, 16/873, East Park Road, Karol Bagh, New Delhi.
4. Approach To Training And Development Dugan Land. Third Edition Rawat Publication 2007 Jawaharnagar Jaipur
5. Roy, S. Verma, T. And Gupta , P. Extension Program Management Published By Kuldeep Sharma Incharge (Dipa) Icar, 2579 Mandir Lane, Shadipur, New Delhi.

VII SEMESTER

S.No.	Course Title	Course No.	Credit Hours	Page No.
Module I- Product Development and Entrepreneurship				
1	Apparel Designing Technique – Flat Pattern and Draping	TAD -411	3 (0+3)	
2	Principles of Textile Designing	TAD – 412	3 (0+3)	
3	Fashion Illustrations	TAD – 413	3 (0+3)	
4	Computer Aided Designing-Pattern Designing	TAD -414	2 (0+2)	
5	Print and Electronic Journalism	EECM – 411	3 (0+3)	
6	Instructional Video Production	EECM – 412	3 (0+3)	
7	Web designing and Multimedia Production Marketing	EECM – 413	4 (0+4)	
8	Public Relations and Social Marketing	EECM – 414	3 (0+3)	
9	Event Management	RMCS – 411	3 (0+3)	
10	Interior Design and Decoration	RMCS – 412	3 (0+3)	
11	Computer Aided Interior Designing	RMCS – 413	4 (0+4)	
12	Seminar	Seminar – 411	1 (1+0)	
	Minimum of 20 credits to be studied	TOTAL	35(2+34)	
Module II - Community Nutrition and Welfare				
1	Print and Electronic Journalism	EECM – 411	3 (0+3)	
2	Instructional Video Production	EECM – 412	3 (0+3)	
3	Web designing and Multimedia Production Marketing	EECM - 413	4 (0+4)	
4	Diet and Nutrition Counselling	FN - 411	3 (0+3)	
5	Food Preservation and Storage	FN – 412	3 (0+3)	
6	Food Service and Hospitality Management	FN – 413	3 (0+3)	
7	Nutraceuticals and Health Foods	FN – 414	3 (0+3)	
8	Methods and Materials for Teaching Young Children	HDFS – 411	4 (0+4)	
9	Education and Counselling of Parents and Community	HDFS -412	2 (0+2)	
10	Early Childhood Care, Education and	HDFS – 413	4 (0+4)	

	Management			
11	Developmental Assessment of Young Children	HDFS - 414	3 (0+3)	
12	Seminar	Seminar – 411	1 (1+0)	
	Minimum of 20 credits to be studied	TOTAL	36(2+34)	

TAD-411 Apparel Designing Techniques- Flat Pattern and Draping 3(0+3)**Objectives:**

1. To impart indepth knowledge of style reading, pattern making and garment construction techniques.
2. To develop an understanding of the principles of pattern making through flat pattern designing.
3. To enable the student to make pattern from sketch/ photograph using draping technique.
4. To enable the students to obtain perfect fit and harmony between the fabric and design of the garment.

Practical:

S.No.	Topic	No. of Classes
1	Designing and styling using flat pattern technique	1
2	Moving, dividing and combining darts: Pivot and slash method	5
3	Converting darts into seam lines	4
4	Adding fullness by gathers, pleats and tuck	5
5	Construction of different types of <ul style="list-style-type: none"> • yokes: round, square, V, pentagonal and straight • collars: full roll collar, convertible collar, sailor collar, chinese collar, polo collar • sleeves: set-in sleeve and its variations, raglan sleeve, kimono sleeve • skirts: 'A' line, pleated and gathered 	3 5 5 5
6	Preparation of basic block using draping techniques	4
7	Construction of formal dress for teenager using draping technique	5
8	Development of commercial pattern for a prepared dress: pattern envelope, patterns and instructions for use	5
9	Visit to fashion institute.	1
Total		48

Suggested Readings:

1. Bane, A. 1972. Flat Pattern Design. New York. McGraw Hill Book.
2. Bray, N. 1986. Dress Pattern Designing. The Basic Principles of Cut and Fit. 5th ed. USA. Blackwell Science Inc.
3. Helen, I.B. 1965. The Theory of Fashion Design. New York. John Wiley and Sons.
4. Erwin, M.D. 1970. Practical dress design: Principles of Fitting and Pattern and Marking. USA. The Macmillan Company.
5. Hollen, N.R. 1975. Pattern Making by the Flat-Pattern method. 4th ed. Minnesota Burgess Publishing Company.
6. Pepin, H. 1942. Modern Pattern Designs. New York. Funk and Wagnalls Company Inc.
7. Warden, J.A. Golding, M.A. and Stam, J.Y. 1969. Principles for Creative Clothing. New York. John Wiley and Sons.
8. Helen, J.A. 2009. Pattern making for Fashion Design. New Delhi. Dorling Kindersley India Pvt. Ltd.

Objectives:

1. To develop ability in creative use of art principles applied in textile designing.
2. To create awareness about different types of motifs.
3. To develop skills in textile designs for vocational proficiency.

Practical:

S.No.	Topic	No. of Classes
1	Motif and its geometry	2
2	Motif as basic unit of design: selection of components of motif, motif development, symmetrical and asymmetrical motifs and their arrangements	2
3	Pattern arrangement with motif in different repeats	2
4	Geometry involved in basic textile designing- translation, rotation, reflection and glide reflection	2
5	Geometrical motifs Developing geometrical motifs Use of monochromatic, analogous and complementary colour scheme in developed motif	3
6	Arrangement of patterns with developed geometrical motifs	2
7	Abstract motifs Developing abstract motifs Use of monochromatic, analogous and complementary colour scheme in developed motif	3
8	Arrangement of patterns with developed abstract motifs	2
9	Stylized motifs Developing stylized motifs Use of monochromatic, analogous and complementary colour scheme in developed motif	3
10	Arrangement of patterns with developed stylized motif	2
11	Natural motifs Developing natural motifs Use of monochromatic, analogous and complementary colour scheme in developed motif	3
12	Arrangement of patterns with developed natural motifs	3
13	Ethnic and Traditional motifs Using ethnic and traditional motifs for creating designs	3
14	Application of suitable colour schemes in the developed designs	3
15	Sketching and rendering of different types of border patterns	2
16	Sketching and rendering of patterns for apparels	2
17	Sketching and rendering of patterns for home textiles	2
18	Preparation of swatch book of fabric samples of different types of structural and decorative designs	2
19	Introduction to CAD Textile Designing and its modules	4
20	Field visit to printing and textile design centre	1
Total		48

Suggested Readings:

1. Goldstein, H. and Goldstein, V. 1954. Art in Everyday life. 4thed. New York. Macmillan Publishing Co., Inc. pp – 515.
2. Bhatnagar, P. 2005. Decorative Design History in Indian Textiles and Costumes. Chandigarh, India. Abhishek Publications. 41-43 pp.
3. Graves, M. 1951. Art of Colour and design. 2nded. New York. McGraw- Hill Company. pp – 438.
4. Beitler, E. J. and Lockhart, B. 1961. Design for you. 2nded. New York. Johan Wiley and Sons, Inc. pp – 247.
5. Wilson, J. 2001. Hand Book of Textile Design: Principles, Processes and Practice. CRC Press, Cambridge. Woodhead Publishing Limited. Pp.152.
6. Evans, H. M. and Dumesnil, C. D. 1982. An Invitation to Design. New York. Macmillan Publishing Co., Inc. pp – 358.
7. Miller, J. 2003. The style sourcebook. London. Octopus Publishing. pp 92-108.

Objectives:

1. To develop an understanding of the dynamics of fashion and role of fashion designer.
2. To develop skill among the students about fashion sketching principles and techniques.

Practical:

S.No.	Topic	No. of Classes
1	Drawing eight head figure using geometric body shape	1
2	Proportion: <ul style="list-style-type: none"> • proportion of body parts • proportion of head • face and feet according different age group, 	1 1
3	sketching figures of different age group based on head theory	5
4	Facial expression in illustration-eyes, nose and lips	1+1+1
5	Basics of drawing legs, hands and arms of children, men and women's hand	1+1+1
6	Front, ¾ and profile faces of adult and child (Male and Female)	2+2
7	Adult and child (Male and Female)	2+2
8	Sketching of garment features: <ul style="list-style-type: none"> • collars, • neckline • fasteners • sleeves • pockets • cuffs • hemline 	1 1 1 1 1 1 1
9	Sketching of added fullness: <ul style="list-style-type: none"> • frills • flounce • gathers • pleats 	1 1 1 1
10	Sketching of accessories: <ul style="list-style-type: none"> • hats • shoes • boots • belts • Purses 	1 1 1 1 1
11	Designing of garments for adult and child -Male and Female	2+2
12	Illustration of fabric design and texture using different media - <ul style="list-style-type: none"> • water colour • pencil colour • collage • poster colour • crayon colour 	1 1 1 1 1
Total		48

Suggested Readings:

1. Greenwood, M. and Murphy, M.F. 1978. Fashion innovation and marketing. New York, Macmilan Publishing Company.
2. Stone, E. and Sample, J.A. 1985. Fashion merchandising- An Introduction. IV Ed., New York, MacGraw-Hill Book Company.
3. Bina, A. 2012. Fashion Sketchbook. IV Ed. New York. Fairchild books.
4. Ireland, P.J. 1970. Fashion Design Drawing. London. B.T. Batsford Ltd.
5. Ireland, P.J. 1980. Basic Fashion Design. London. B.T. Batsford Ltd.
6. Ireland, P.J. 1974. Fashion Drawing for Advertising. London. B.T. Batsford Ltd.
7. Kathryn, K.C. and Munslow, J. 1997. Illustrating Fashion. Oxford. Blackwell Science.
8. Riegelman, N. 2009. 9 heads: A guide to drawing fashion. Boston. Pearson education.

Objectives:

1. To create awareness among students about pattern making software.
2. To impart knowledge and develop skills among the students about patter making, grading and marking techniques using software.

Practical:

S.No.	Topic	No. of Classes
1	Introduction to pattern making software	2
2	Basics of pattern making tools	2
3	Standard tool bar	2
4	Piece tool bar	2
5	Seam tool bar	2
6	Edit tool bar Tool kit Rotate tool	2
7	Tool kit	2
8	Rotate tool	2
9	Internals	2
10	Segment tool bar	2
11	Grading tool bar	2
12	Darts/Pleats	2
13	Fabric and Stripes	2
14	Basics of pattern making menus	2
15	File menu	2
16	Edit menu	2
17	Piece menu	1
18	Grading menu	1
19	Point menu	1
20	Segment menu	1
21	Dart menu	1
22	Pleat menu	1
23	Seam menu	1
24	Walk menu	1
25	Tool menu	1
26	Help menu	1
27	Creating and grading basic patterns <ul style="list-style-type: none"> • Bodice front and back • Sleeve • Skirt front and back 	6
Total		48

Suggested Readings

1. Manual of Pattern Making Software

Objectives:-

1. To develop understanding about concept and importance of print and electronic media.
2. To develop skill of writing, editing and producing scripts for print and electronic media.

Practical :

S. No.	Topic	No. of classes
1	Visit to print and electronic stations for familiarization with equipments, interaction with personnel of print and electronic media	4
2	Report writing on observations and presentation	2
3	Writing a press note/ press release for print media	3
4	Screening of Radio news program	2
5	Screening of TV news program	2
6	Exercise on writing reports on different types of radio program	3
7	Exercise on writing reports on different types of TV program	3
8	Hands –on experience with editing	2
9	Writing a press note/ press release for electronic media	3
10	Presentation on radio and television news	6
11	Orientation to photographic equipment	3
12	Hands on training with different types of professional cameras	3
13	Writing caption for photographs	1
14	Writing and editing photo features for selected photographs and presentation	2
15	Familiarization with different online articles	3
16	Content creation for online journal/ magazine	3
17	Creating a blog	3
	Total	48

Suggested reading:-

1. D'souza Y 2000 Encyclopedia of Advanced Journalism, Vol 1, 2 And 3, Anmol Publication, New Delhi
2. Ravindra R.K. 1999 Handbook Of Reporting And Editing, Anmol Publication, New Delhi
3. Arvind Kumar 1999. The Electronic Media. Anmol Publication, New Delhi.
4. Bhatt, S.C. 1993 Broadcast Journalism. Basic Principles HarAnand Publication, Delhi
5. Bhatnagar, R. 2001. Print Media And Broadcast Journalism. Indian Publishers Distributors, Delhi.
6. Katyal, V.P. 2007. Fundamental of Media Ethics. Cyber Tech Publishers, New Delhi

Objectives:-

1. To develop competence in planning and preparation of video program.
2. To develop skills in techniques of video production.

Practical :

S. No.	Topic	No. of classes
1	Familiarization with instructional video	4
2	Writing instructions of instructional video	4
3	Familiarization with script	4
4	Hands-on-experience with script writing	5
5	Familiarization with video and audio formats	4
6	Preparation of armature instructional video	4
7	Familiarization with video camera and operation	4
8	Hands-on training with video camera	5
9	Production of video	
	Pre-production	4
	Production	4
	Post production	4
10	Projection and evaluation	2
	Total	48

Suggested reading:-

1. Heinich, R. Molenda, M, Russell, James D. and Samaldino, Sharon E. 1996. Instructional Media And Technologies for Learning 5th Edition, Prentice Hall, Inc. New Jersey, USA.
2. Goplam A. and Prabhakar K.P. 1992. Planning and Management of Video Based Instructional System. Training Manual Developed By NAARAM, Hyderabad.
3. Phillips 2000 Video Program Production. Training Manual Developed By TNAU, Coimbatour.
4. Zettl, H. 2005. Television Production Handbook. Thomson Learning, USA.
5. Millerson, G. And Owns, J. 2008. A Handbook of Video Production, Butterworth-Heinemann, Oxford.
6. Millerson, G. and Owens, J. 2009. Television Production. Focal Press London.
7. Zettle, H. 2010. Video Basics, Wadsworth Publishing, Belmont, California.
8. Millerson, G. and Owens, J. 2011. Video Production Handbook, 5th Edition.
9. Vasuki, B. 2013. Video Production. 2nd Edition. Oxford University Press. India.

Objectives:-

1. To develop understanding about concept, importance and application of multimedia.
2. To develop competence in use of multimedia software for preparing educational program.
3. To develop understanding about concept, importance and process of web designing.
4. To develop skill in designing website.

Practical :

S. No.	Topic	No. of classes
1	Practical orientation to multimedia application	3
2	Exposure to multimedia hardware parts and connection, peripheral	3
3	Handling multimedia parts, connection and peripheral	3
4	Scanning, retrieval, capturing, and navigating skills	6
5	Multimedia authoring tool	8
6	Planning of a multimedia program	5
7	Production of multimedia program	8
8	CD and DVD writing techniques	3
9	Presentation of prepared multimedia program by using LCD projector	2
10	Familiarization with different types of websites	3
11	Hands-on-experience with adobe Photoshop for designing of website	4
12	Hands-on-experience with HTML 4.01	1
13	Planning for construction of website	4
14	Hands-on-experience with construction of website using Dreamweaver or recent software	6
15	Hands-on-experience with flash for animations of website	3
16	Familiarization with cascading sheet styles (CSS)	1
17	Familiarization with web analytical	1
	Total	64

Suggested reading:-

1. Robert R. & Snow D. 2004. Macromedia Flash Mx 2004 Bible, Wiley Publishing; INC, Nice Printing Press.
2. Lozano, J. 1998, Multimedia Sound and Video. Prentice Hall of India Pvt. Ltd., New Delhi.
3. Interactive Multimedia And Authoring Part-I, Arena Multimedia, 46, Madhuvan, Udaipur, Rajasthan.
4. Vanghan T. 1999 Multimedia- Making It Work. Mc Grow Hill, New Delhi.

Objectives:-

1. To develop understanding about concept, importance and techniques of public relation.
2. To develop competence in public speaking.
3. To develop understanding regarding social marketing.
4. To develop competence in designing and execution of social marketing program.

Practical :

S. No.	Topic	No. of classes
1	Visit to institution under government sector for analyzing the public relations	4
2	Orientation to different tools and techniques of PR	4
3	Exercise on different tools and techniques of PR	5
4	Analysis of the situation to find out the social problems in a community	4
5	Assessment and analysis of the problem	5
6	Preparation of report on collected information	3
7	Planning for social marketing strategy based on the identified problems	6
8	Planning for publicity campaign	3
9	Execution of publicity campaign	4
10	Execution of social marketing program	6
11	Evaluation program and reporting	4
	Total	48

Suggested reading:-

1. Ben M. Enis, 1991. Marketing Classics Allan And Bacon Inc. New York.
2. Ramaswamy And Kumari N. 1992. Marketing Management, Macmillan, New York.
3. Gupta S.S. 1990. Cases in Advertising And Communication, McGraw Hill, New Delhi.
4. Ros, R.D. 1993. The Management Of Public Relations, John Wisely And Sons, New York.
5. Sam Black 1994. Role of Public Relations In Management Pitam Publishers, New York
6. Yadava, J.S. And Mathur, P. 1998. Issues in Mass Communication: The Basic Concepts. Volumes 1 And 2 Indian Institute of Mass Communication, New Delhi.
7. Douglas, S. 1989. A Social Marketing Perspective On Communication Campaign In Public Opinion Campaigns, Sage Publications, New Delhi.

Event Management

RMCS - 411

3(0+3)

Objectives:

1. To gain knowledge about event planning for various occasions.
2. To design a planning process that incorporates budgeting, project management, communication and evaluation tools

Practical :

S. No.	Topic	No. of classes
1.	Identifying practical situations for event management, conceptualizing goal and objectives, overall show management.	3
2.	Exhibit sales and promotion, attendance promotion, contract negotiations	4
3.	Festivals (diwali, religious ceremonies), social gathering	3
4.	Conference/workshop/seminar/congress programming	4
5.	SWOT analysis of event	2
6.	Portfolio preparation, presentation and projection for work	3
7.	Project report on visit to different types of organizational settings like hotel, guesthouse, hostel, small offices, clubs, fast food centres for management and organization of events.	6
8.	Project planning	3
9.	Programme planning and execution	3
10.	Project development	2
11.	Event accountancy	1
12.	Event communication and sponsorship	3
13.	Event marketing and advertising	3
14.	Live event management	3
15.	Visit to different organizations/hotels etc	3
16.	Project preparation and report presentation	2
	Total	48

Suggested Readings:

1. **Aditya, Suvarna. (2003). Event Management Development Institute.** I.E.S. Management College. 4th Floor, 791, S. K. Marg, Opp. Lilavati Hospital, Bandra (W), Mumbai - 400050.
2. Kit, Potions, H.P. Bhuson. (1998). Festival and Special Event Management. . IBM Cooperation, 60 Renfrew Drive, Suite 105, Markham, Ontario, Canada L3R0E1.
3. **National Institute of Event Management.** Ground Floor, Nandavan Building, Corner of Vallabhbai Road and Ansari Road, Vile Parle (W), Mumbai.
4. **Sulekha, Narayna. (2001). International Institute of Event Management.** SNDT Women's University, Juhu Campus, Juhu Tara Road, Santacruz (W), Mumbai - 400 049.

Interior Design and Decoration

RMCS - 412

3 (0+3)

Objectives:

- To make student understand wide range of skills and information related to the field of interior designing and decoration
- To learn skills from wide range of areas including production design, interior design, architecture and the design of retail or commercial spaces.

Practical:

S. No.	Topic	No. of classes
1.	Application of elements and principles of interior design and decoration.	3
2.	Preparation of utility and decoration articles by using various painting/printing techniques.	3
3.	Calligraphy	2
4.	Use of floor decoration in interiors.	2
5.	Flower arrangement and decoration for different areas and occasions.	3
6.	Stationery designs.	3
7.	Cover designs for books, magazines, illustrations, lettering construction etc.	2
8.	Accessories: various types, materials and techniques	2
9.	Preparing different articles: 3. Pottery 4. Collage 5. Handicrafts 6. Utility articles 7. Paper mache` items 8. Paper sculpture 9. Poster making 10. Greeting cards 11. Fabric painting 12. Glass painting 13. Gift wrapping	 3 3 3 3 3 2 3 2 3 3
	Total	48

Suggested Readings:

1. Dorothi, S. *et al.* (1980). Introduction to Interior Design. New York: Mc Millan.
2. Faulkner and Faulkner.(1975). Inside Today's Home. New York: Holt, Rinehart and Winston.
3. Gewther, M. (1970).The Home, its Furnishings and Equipment U.S.A. Mc. Graw Hill.
4. Mike, L. (1986). The Complete Interior Decoration. United Kingdom: Mc Donald.
5. Ruth, M. (1975). The Home and its Furnishings, U.S.A.: Mc. Graw Hill.
6. Seetharaman P. Sethi M. (2002). Interior Design and Decoration.CBS Publishers and Distributors. New Delhi

Computer Aided Interior Designing

RMCS - 413

4(0+4)

Objectives:

- To understand the computers with special reference to CAD and 3 D Max.
- To learn about the application of Computer Aided Designing in Interior and Exterior Space Designing.

Practical:

S. No.	Topic	No. of classes
1.	Use of computer in daily sphere and interior decoration.	3
2.	Basic knowledge to start: Installation Explore Auto CAD window.	5
3.	Concepts of Auto CAD window. Opening auto cad through keyboard, mouse and getting acquainted with main screen, tool bars, dialog box, cancel command, handling files.	4
4.	Drafting, settings and setting preferences.	3
5.	Co-ordinate system and input methods, concept of isometrics.	5
6.	Function and toggle keys, command prompt.	4
7.	Draw commands – lines, multiline and pool lines. Draw commands – arc, circle and ellipse.	5
8.	Edit commands – trim, extend, stretch. Edit commands – rotate, mirror, break, offset. Edit commands – object properties, colour. Edit commands polyline filleting, chamfering.	5
9.	Layers – new, name, line weight, line type and style, changing properties. Text style and editing.	5
10.	Dimensioning style and editing. Hatching concept, inquiry tools, introduction to dimension style.	5
11.	Creation of 2d floor plan line, offset, trim, erase. Add on to the floor plan – stretch, extend, mirror, copy, move, rectangle, circle, arc, fillet, chamfer.	5
12.	Get organized with layers – creation of new layers, layer names, colours to layers, line types, weight, freeze.	5
13.	Introduction to 3d modelling – co-ordinate systems, primitive solids objects – slice, revolve, rotate, aligning, filleting, chamfering, perspective view editing.	5
14.	Rendering – material, light effects, backgrounds, fog, landscapes, image creation. Render the images and save them with different image files in BMP, TGA and JPEG.	5
	Total	64

Suggested Readings:

1. Aptech, Ltd. (2002). Auto CAD – A Beginners Companion. Tata Mc Graw-Hill Series, New Delhi.
2. Frey, D. (2002). Auto CAD-2000. BPB Publications, Conaught Place, New Delhi.
3. Srivastava, P. and Pushker, R. (2003). Multimedia an Education Tool. Advanced Publishing Concept, New Delhi.

Objectives:-

1. To develop understanding about concept and importance of print and electronic media.
2. To develop skill of writing, editing and producing scripts for print and electronic media.

Practical :

S. No.	Topic	No. of classes
1	Visit to print and electronic stations for familiarization with equipments, interaction with personnel of print and electronic media	4
2	Report writing on observations and presentation	2
3	Writing a press note/ press release for print media	3
4	Screening of Radio news program	2
5	Screening of TV news program	2
6	Exercise on writing reports on different types of radio program	3
7	Exercise on writing reports on different types of TV program	3
8	Hands –on experience with editing	2
9	Writing a press note/ press release for electronic media	3
10	Presentation on radio and television news	6
11	Orientation to photographic equipment	3
12	Hands on training with different types of professional cameras	3
13	Writing caption for photographs	1
14	Writing and editing photo features for selected photographs and presentation	2
15	Familiarization with different online articles	3
16	Content creation for online journal/ magazine	3
17	Creating a blog	3
	Total	48

Suggested reading:-

1. D'souza Y 2000 Encyclopedia of Advanced Journalism, Vol 1, 2 And 3, Anmol Publication, New Delhi
2. Ravindra R.K. 1999 Handbook Of Reporting And Editing, Anmol Publication, New Delhi
3. Arvind Kumar 1999. The Electronic Media. Anmol Publication, New Delhi.
4. Bhatt, S.C. 1993 Broadcast Journalism. Basic Principles HarAnand Publication, Delhi
5. Bhatnagar, R. 2001. Print Media And Broadcast Journalism. Indian Publishers Distributors, Delhi.
6. Katyal, V.P. 2007. Fundamental of Media Ethics. Cyber Tech Publishers, New Delhi

Objectives:-

1. To develop understanding about concept, importance and application of multimedia.
2. To develop competence in use of multimedia software for preparing educational program.
3. To develop understanding about concept, importance and process of web designing.
4. To develop skill in designing website.

Practical :

S. No.	Topic	No. of classes
1	Practical orientation to multimedia application	3
2	Exposure to multimedia hardware parts and connection, peripheral	3
3	Handling multimedia parts, connection and peripheral	3
4	Scanning, retrieval, capturing, and navigating skills	6
5	Multimedia authoring tool	8
6	Planning of a multimedia program	5
7	Production of multimedia program	8
8	CD and DVD writing techniques	3
9	Presentation of prepared multimedia program by using LCD projector	2
10	Familiarization with different types of websites	3
11	Hands-on-experience with adobe Photoshop for designing of website	4
12	Hands-on-experience with HTML 4.01	1
13	Planning for construction of website	4
14	Hands-on-experience with construction of website using Dreamweaver or recent software	6
15	Hands-on-experience with flash for animations of website	3
16	Familiarization with cascading sheet styles (CSS)	1
17	Familiarization with web analytical	1
	Total	64

Suggested reading:-

1. Robert R. & Snow D. 2004. Macromedia Flash Mx 2004 Bible, Wiley Publishing; INC, Nice Printing Press.
2. Lozano, J. 1998, Multimedia Sound and Video. Prentice Hall of India Pvt. Ltd., New Delhi.
3. Interactive Multimedia And Authoring Part-I, Arena Multimedia, 46, Madhuvan, Udaipur, Rajasthan.
4. Vanghan T. 1999 Multimedia- Making It Work. Mc Grow Hill, New Delhi.

Objectives:-

1. To develop understanding about concept, importance and application of multimedia.
2. To develop competence in use of multimedia software for preparing educational program.
3. To develop understanding about concept, importance and process of web designing.
4. To develop skill in designing website.

Practical :

S. No.	Topic	No. of classes
1	Practical orientation to multimedia application	3
2	Exposure to multimedia hardware parts and connection, peripheral	3
3	Handling multimedia parts, connection and peripheral	3
4	Scanning, retrieval, capturing, and navigating skills	6
5	Multimedia authoring tool	8
6	Planning of a multimedia program	5
7	Production of multimedia program	8
8	CD and DVD writing techniques	3
9	Presentation of prepared multimedia program by using LCD projector	2
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11	Hands-on-experience with adobe Photoshop for designing of website	4
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13	Planning for construction of website	4
14	Hands-on-experience with construction of website using Dreamweaver or recent software	6
15	Hands-on-experience with flash for animations of website	3
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17	Familiarization with web analytical	1
	Total	64

Suggested reading:-

1. Robert R. & Snow D. 2004. Macromedia Flash Mx 2004 Bible, Wiley Publishing; INC, Nice Printing Press.
2. Lozano, J. 1998, Multimedia Sound and Video. Prentice Hall of India Pvt. Ltd., New Delhi.
3. Interactive Multimedia And Authoring Part-I, Arena Multimedia, 46, Madhuvan, Udaipur, Rajasthan.
4. Vanghan T. 1999 Multimedia- Making It Work. Mc Grow Hill, New Delhi.

Objectives:

1. To develop competence in diet planning and counseling for different disease

Practicals:

S.No.	Topics	No. of classes
1	Planning and preparation of diets using exchange lists.	3
2	Processes and technique of counseling	2
3	Diet planning in fever and infection Diet planning in GI disorders Diarrhea, constipation, gastritis, ulcerative colitis Diet planning in liver disease.	4
4	Diet formulation in diabetes mellitus.	3
5	Diet planning in heart diseases.	3
6	Diet planning in kidney diseases	3
7	Diet planning in food allergies and gout	3
8	Diet modification for prevention and treatment of cancer	3
9	Diet in trauma and burns.	2
10	Diet in obesity and underweight	3
11	Diet for old age people	2
12	Setting up a unit for nutrition counseling.	4
13	Role play exercises for counseling.	3
14	Supervised counseling of patients/clients.	7
15	Visit to hospitals with therapeutic kitchen setup.	3
Total		48

Suggested Reading:

1. Antia, P. (1986). Clinical dietetics and nutrition. Oxford Univ. Bombay
2. Moris, E.S. (1994). Modern Nutrition in Health and disease. Leaned Febiger, USA
3. Aronson. V. (1986). Effective Nutrition Counselling. Van Nostrand Reinhold, New York.
4. Bamji, M.S. (2003). Textbook of Human Nutrition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
5. Mahan and Stump. (2003). Kraus's Food Nutrition and Diet Therapy. 11th ed. Saunders Publishing.
6. Mahan L.K. and Raymond, J. L. (2011). Krause's Food and the Nutrition Care Process. 13th ed. Saunders Publishing.
7. Sardesai, V. (2011). Introduction to Clinical Nutrition. CRC Press.

Objectives:

1. To develop competence of the students in food preservation and storage.

Practicals:

S.No.	Topics	No. of classes
1	Market survey of raw and preserved foods.	3
2	Preparation of preserved products. Squash, cordial, crush, jams, jellies, marmalade, candy, preserves, murabbas, pickles with and without oil, chutneys, ketchup, sauces, candies, toffees, cheese and syrup.	30
3	Shelf life and sensory evaluation of developed products	4
4	Demonstration on canning and bottling of fruits and vegetables.	3
5	Demonstration on storage of food grains.	2
6	Visits to food processing and preservation units, canning and bottling units, Grain storage institute, dairy plant and FCI godown	6
	Total	48

Suggested Readings:

1. Potter, N.N. (1996). Food Science. The AVI Publishing Company, Inc., Westport, Connecticut.
2. Sehgal, S., Grewal, R.B., Kawatra, A. and Kaur, Y. (1997). Practical Aspects of Food Preservation. Directorate of Publications. Haryana Agricultural University, Hisar.
3. Vijay K., (1999), Text book of Food, Storage and Preservation, Kalyani Publishers, New Dehi.
4. Kalia, M. and Sood, S. (2010). Food Preservation and Processing. Revised Edition, Kalyani Publishers, New Delhi.
5. Jood, S. and Khetarpaul, N. (2002). Food Preservation. Geeta Somani Agrotech Publishing Academy, Udaipur.
6. Sivasankar, B. (2002). Food Processing and Preservation. PHI Learning Pvt. Ltd. Delhi.

Objectives:

1. To develop competence of the students in Food Service and Hospitality Management

Practicals:

S.No.	Topics	No. of classes
1	Contribution of food service institutions in meeting socioeconomic and dietary needs.	2
2	Menu planning for industrial canteen, hospital canteen, cafeteria, snack bar, residential hostel.	8
3	Standardization of recipes suitable for fast food outlet, industrial canteen, hospitals, college hostel.	8
4	Multiplication of standard recipes for quantity food production, quantity food management, portioning and fixing of cost.	5
5	Visit to canteen attached to hospital and dietary department cafeteria, 3 star hotel/restaurant, 5 star hotel / restaurant, industrial canteen.	5
6	Presentation of report on hospital canteen, cafeteria, 3 star hotel / restaurant, 5 star hotel / restaurant in terms of organizational set up, production, preparation and service.	2
7	Practical exercise on planning, preparation and service in a cafeteria, snack, bar fast food outlet.	8
8	Management of cafeteria – preparation, costing and fixing of price for meal items.	8
9	Evaluation of management process and report presentation	2
Total		48

Suggested readings:

1. Sethi and Malhan. (1993) Catering Management: An Integrated Approach. Wiley Eastern. West, Wood and Hanger.
2. Food Service in Institutions. John Willey.

Objectives:

1. To develop competence of the students in the field of Nutraceuticals and Health Foods

Practicals:

S.No.	Topics	No. of classes
1	Market survey for dietetic foods.	2
2	Planning, preparation, nutrient calculation and acceptability of dietetic foods with preference to locally available food stuff.	8
3	High/low energy, high/low protein, high/low fiber, low sodium, low cholesterol, low glycemic index, low fluid, high fiber and low fat foods.	20
4	RUTF (Ready to use therapeutic foods) for under nutrition in preschool and school age children.	4
5	Food for sports person in intensive activities and endurance activities.	4
6	Celiac disease, Food for lactose intolerance, Food for senior citizens (with dental problem, with flatulence, digestive disorders, physical and nervous diseases).	10
Total		48

Suggested Reading:

1. Brigelius-F., J. and Joost HG. (2006). Nutritional Genomics: Impact on Health and Disease. Wiley VCH.
2. Cupp, J. and Tracy, T.S. (2003). Dietary Supplements: Toxicology and Clinical Pharmacology. Humana Press.
3. Gibson, G.R. and William CM. (2000). Functional Foods - Concept to Product.
4. Goldberg I. (1994). Functional Foods: Designer Foods, Pharma Foods. 1st ed. Springer US
5. Losso, J.N. (2007). Anti-angiogenic Functional and Medicinal Foods. CRC Press.
6. Manson, P.(2001). Dietary Supplements. 2nd ed. Pharmaceutical Press.
7. Campbell J.E. and Summers JL. (2004). Dietary Supplement Labelling Compliance.
8. Neeser, J.R. and German BJ. (2004). Bioprocesses and Biotechnology for Nutraceuticals. Chapman and Hall.
9. Robert, E.C. (2006). Handbook of Nutraceuticals and Functional Foods. 2nd edn. Wildman.
10. Shi J. (2006). Functional Food Ingredients and Nutraceuticals: Processing Technologies. CRC Press.
11. Webb, GP. (2006). Dietary Supplements and Functional Foods. Blackwell Publ.
12. Robert. E.C. (2002). Hand book of Neutraceuticals and Functional Foods, CRC, Press.
13. Goldber, I. (1999). Functional foods: Designer foods, Pharma foods and Nutraceuticals, An Aspen Publications.
14. Ghosh, D., Baghchi Debasis and Konishi Tetsuya. 2014. Clinical Aspects of Functional Foods, CRC Press.
15. Swaminathan, M. (2004). Essential of Foods and Nutrition. Vol.I and II BAPCO, Bangalore.
16. Srilakshmi B. (2002). Dietetics. New Age International, New Delhi.

Objective:

1. To equip and develop skills in the students regarding different methods and materials for teaching young children

Theory:

Sr.No	Course title	Credit hours
1.	Orientation on different methods and materials used for teaching young children.	3
2.	Survey of available different kinds of literature appropriate for infancy through early childhood in various ECCD centres, schools and their uses	4
3.	Visit to Organization and Children's libraries for development of literature	3
4.	Report writing on different kinds of literature appropriate for infants and preschool children.	4
5.	Developing stories appropriate for infancy through early childhood- Afolk tale, A fairy tale, A personal story etc, Discussions on developed stories	4
6.	Collection and Observation of different techniques of story telling.	3
7.	Identifying and analyzing the different techniques of story telling, Practicing techniques of effective story telling	4
8.	Identifying different types of creative dramas-Scripting for short puppet show and creative dramas	4
9.	Identifying methods of development of creativity -Analyzing situations/ conditions that foster creativity	4
10.	Preparation of art file with different forms of paintings and printing appropriate for infancy through early childhood	4
11.	Preparation of collage, murals and models appropriate for infancy through early childhood	4
12.	Art activities (Painting and graphics, Tearing, cutting, pasting and collage, murals, modeling, printing, blocks, sand and mud, water) Preparation and variations	4
13.	Identification of different types of creative expressions in young children	3
14.	Making simple musical instruments with indigenous material- preparation of different types of puppets -practicing musical activities	4
15.	Learning basic manipulation skills: use of music, voice modulation and sound effects.	3
16.	planning and implementing activities to promote creative expressions among young children through a variety of media i.e. painting, printing, modeling, cutting, pasting, blocks, puppetry, music movement, drama and language,	4
17.	Developing resource file, Organizing an Exhibition and evaluation of materials developed.	4

Suggested Readings:

1. Blackie, Pamela. (1972). Drama. Macmillan, London.
2. Contractor, M. (1984). Creative drama and puppetry in education. National Book Trust of India, Delhi.
3. Currell, D. (1985). The complete book of puppet. A and C. Black, London.
4. Garretson, R. (1966). Music in childhood education. Meredith Publishing Company, New York.
5. Hendrick, J. (1980). Total Learning for the Whole Child. The C V Mosby, St. Louis.
6. Kaul, V. (1991). Early childhood education programme. NCERT, New Delhi.
7. Kaul, V. and Bhatnagar, R. (1992). Early childhood education: A trainer's handbook, NCERT, New Delhi.
8. Lacper, S., Witherspoon, R. and Day, B. (1984). Good schools for young children. Mac Millan, New York.
9. Maxim, G. (1985). The very young. Wadsworth Publishing Company, Belmont, California.
10. Murlidharan, R. and Asthana, S. (1991). Stimulation activities for young children. NCERT, New Delhi.
11. Robinson, H. (1983). Exploring teaching. Allyn and Bacon, London.
12. Swaminathan, M. (1984). Play activities for young children, UNICEF, New Delhi.

Objective:

1. To acquaint the students with the significance and approaches of parent and community education and counseling
2. To develop skills in using various techniques of parent and community education and counseling

Theory:

Sr.No	Course title	Credit hours
1.	Orientation on need and importance of parent and community education	1
2.	Reviewing literature to understand recent issues and challenges	1
3.	Reviewing literature to understand Parent-Child Relationships and its impact on children	1
4.	Collecting information on various methods of parent and community education	2
5.	Visit of local community to identify parents of normal and exceptional children, rapport building	2
6.	Identifying families with problems and conducting case studies	2
7.	Acquiring familiarization with the tests and techniques used for the assessment of troubled families	2
8.	Identification of areas and issues for parent education	1
9.	Developing parent education programmes	2
10.	Planning, conducting and evaluating parenting education programmes	2
11.	Study on communication barriers-differences between men and women	1
12.	Conducting sessions in the community on communication skills and effective human communication	2
13.	Observing various approaches and techniques of counselling	2
14.	Organising counseling sessions for individuals,couples, parents and families of normal and exceptional children by using appropriate therapies – Cognitive Behavioural Therapy (CBT)	2
15.	Organising counseling sessions for individuals,couples, parents and families of normal and exceptional children by using appropriate therapies - Rational Emotive Behavioural Therapy (REBT)	2
16.	Organising counseling sessions for individuals,couples, parents and families of normal and exceptional children by using appropriate therapies - client centered and existential therapies	2
17.	Establishing and managing the resource centre for parents and local community	1
18.	Implementing and evaluating the programmes developed	2
19.	Exploring various G.O.s and N.G.O.s working for parent and community education	1

Suggested Reading :

1. Epstein, L.J. (2010). *School, family and community Partnership: Preparing educators and Improving School*, Westview press.
2. Tett, L. (2006). *Community education: Lifelong learning and social inclusion (Policy and practice in education)*. Dunedin Academic Press.
3. Cempbell, D. (2003). *Group parent education: Promoting parents learning and support*. Sage publication.
4. Brim, H, Orville, G & Brjm Jr. 1980. *Learning to Parents, Principles, Programmes and Methods*. Sage Publications, California
5. Fine, M.J. (Ed.). 1980. *Handbook on Parent Education*. Academic Press, Inc. New York.
6. Kulkarni, S. 1980. *Parent Education Perspectives and Approaches*. Rawat Publications, Jaipur
7. Ramiya, K. 1977. *Minimum Content of Parent Education. A Survey of Expert's Opinion*. Tata Institute of Social Sciences, Bombay.

Objective:

1. To gain knowledge and insight regarding early childhood care and education.
2. To develop the skills and techniques to plan, implement and evaluate activities in ECCE Centres.
3. To gain experience of planning and managing ECCD centers

Theory:

Sr.No	Course title	Credit hours
1	Visits to nursery schools/ ECCE centers for observation of material, space, personnel, finance, documentation	2
2	Orientation on areas of development during early childhood period	2
3	Planning and implementing activities for physical and motor development, language development, cognitive development, socio-emotional development and creativity	2
4	Planning theme based developmentally appropriate programmes for crèche, Nursery, LKG and UKG children	3
5	Preparing yearly and weekly plans for pre-primary education programmes	3
6	Implementation of prepared plans	3
7	Visit to different types of ECE centers - based on funds and resources and philosophy and function styles	3
8	Observation of records and reports maintained in ECE center	3
9	Organizing parent teacher conferences/ meetings	3
10	Planning parental participation in ECE programme	3
11	Celebration of annual day of ECCD center	3
12	Orientation on management of ECCE programmes - planning, organizing, staffing, leading, monitoring and controlling for quality	3
13	Designing the activity corners in ECE center- arranging and equipping the classroom – block center, language and art center, creative art and construction center, science and collection center, math and manipulative material center, pretend and play center, sand and water center, outdoor nature center	3
14	Preparing ECCE project proposal	3
15	Budget preparation for ECE center	3
16	Preparation of brochures, leaflets, communication documents for parents and public	3
17	Evaluation of daily, weekly and monthly schedule of activities prepared	3
18	Reporting on monitoring and evaluation of classroom arrangements, cleanliness, record keeping etc	3
19	Planning and organizing field trips	3
20	Identification of preprimary children with mild behavioural problems	3
21	Planning and execution of strategies of children with mild behavioural problems	3
22	Evaluation of strategies planned for children with mild behavioural problems	3
23	Presentation of reports	3

Suggested Readings:

1. Hildebrand, V. (2014). Management of child development centers. 8thed. McMillan publishing. New York.
2. Mohanty, J. and Mohanty, B. (2007). Early childhood care and education (ECCE). Deep and Deep publishing pvt ltd.
3. Agarwal, C.J. (2007). History and philosophy of pre-primary and nursery education. DOABA house, New Delhi.
4. Singh, B. (2004). Preschool education. APH publishing corporation, New Delhi.
5. Rao, K.V. and Islam-ul-Khurshid. (1997). Early childhood care and education. Ajay Verma for Common Wealth publishers, New Delhi.
6. Gill, S. (1993). Child care programmes in India: Changing trends. In Saraswathi, S.S. and Kaur, B. Sage Publication. Unit II, New Delhi.
7. Roopnarine, J.L. and Johnson, J.E. (1993): Approaches to early childhood education. Macmillan Publishing Co., New York.
8. Beaty, J.J. (1992). Skills for preschool teachers. Macmillan Publishing Co.
9. Kaul, V. (1991). Early childhood education programme. National Council for Educational Research and Training, New Delhi.
10. Bamahas, A.S., Anandlakshmy, S., Chandra and Bose, A. (1988). Profile of the Child in India. Ministry of Social Welfare, New Delhi.
11. Lawton, J.T. (1988). Introduction to child care and early Childhood Education. Oxford and IBH, Calcutta.
12. Grewal, J.S. (1984) Early Childhood Education – Foundation and Practice. National Psychological Corporation Agra.
13. Mishra.R.C.(2005). Early childhood care and education. A.P.H. Publishing corporation. New Delhi.
14. Amin S. and Mohite P. (1999). Growing and Learning The Preschool Years. Bal Shikshan Samiti Trust Vadodar

Objectives :

1. To appraise the students with different methods and techniques of assessment of young children and expose them to use different assessment techniques.

Theory:

Sr.No	Course title	Credit hours
1	Orientation on Screening and developmental assessment of young children for various developments through different tools and techniques	2
2	Exploring existing areas, approaches and tools in developmental screening	2
3	Orientation on formal and informal measures in assessment, special considerations and ethical issues in assessing various areas of developments of : <ol style="list-style-type: none"> 1. Toddlers 2. Infants 3. Preschoolers 4. Pre-Primary school children 	1 1 1 1
4	Conducting tests for Neonatal assessment – <ol style="list-style-type: none"> 1. APGAR and Gestational age 2. Neonatal Behavioural Assessment Scale (NBAS) 	1 1
5	Conducting tests for Infant and Toddler hood assessment - <ol style="list-style-type: none"> 1. Anthropometry, Developmental Screening Test 2. Bayley's Scale of Infant Development (BSID) 3. Vineland social Maturity scale 	1 1 1
6	<ol style="list-style-type: none"> 1. Screening and assessment of preschool and Preprimary school children- Stanford Binet Intelligence Scale 2. Weschler Scale of Intelligence for Preschool and Primary School Children 3. Vineland Social Maturity Scale 4. Adaptive Behaviour Scale; DAS II 5. Thematic Apperception Test (TAT) 6. Children's Apperception Test (CAT) 7. Raven's Coloured Progressive Matrices (RCPM) 8. Pea body Picture Vocabulary test 9. Pramila Pathak's Mental and Motor Growth of Indian babies 	1 1 1 1 1 1 1 1 1
7	Ecological assessment of Preschool and Preprimary school children- HOME Inventory	2
8	Informal measures like <ol style="list-style-type: none"> 1. Time sampling 2. Event sampling 3. Sociogram 4. Anecdotal records 5. Case studies 	1 1 1 1 1

9	Assessment of readiness skills of pre-primary school children- 1. Auditory perception 2. Visual perception skills 3. Writing skills 4. Reading skills 5. Arithmetic skills 6. Discriminatory skills 7. Tests for preschool children	1 1 1 1 1 1 1
10	Presentation of reports	2
11	Conducting education programmes for parents on the developmental status of their children	3
12	Identifying the intervention needs of developmentally delayed child	3
13	Planning and implementation of intervention programmes and preparation of material	3
14	Evaluation of effectiveness of intervention program planned for developmentally delayed child	3
15	Presentation of reports	3

Suggested Readings:

1. Minds, L. (2014). *Assessing young children*. 5thed. Pearson publication.
2. Losardo, A. (2011). *Alternative approaches to assessing young children*. 2nded. Brooker publishing.
3. Anastasi, A. (1997). *Psychological testing*. 7thed. Pearson publishers.
4. Gulati R & Gugnani A. 1994 *Child Development - A practical Manual*. Phoenix Publ.
5. Kothari CR. 1999, *Research Methodology - Methods and Techniques*. Wishwa Prakashan.
6. Sharma RA. 1999. *Essentials of Measurement in Education and Psychology*. Raj Printers.
7. Sidhu.KS.1999. *Methodology of Research in Education*. Sterling Publ.