



OFFICE OF THE REGISTRAR:: DIBRUGARH UNIVERSITY:DIBRUGARH

Ref. No: DU/JR-A/7-1/18/219

Date: 24.01.2018

NOTIFICATION

As recommended by the Board of Studies in Home Science, Dibrugarh University held on 12.09.2017, the 146th Meeting of the Post Graduate Board, Dibrugarh University held on 22.11.2017 vide Resolution No.(3) approved the Course Structure and Syllabi for the M.A Programme in Home Science under Non-CBCS mode giving effect from the Academic Session 2017-2018. The Syllabi is uploaded in the website-www.dibru.ac.in as *Annexure-A* of this notification.

Issued with due approval.

(Dr. B.C. Borah)
Joint Registrar (Academic)
Dibrugarh University

Copy to:

1. The Vice-Chancellor, Dibrugarh University for favour of information.
2. The Deans, Dibrugarh University for favour of information.
3. The Registrar, Dibrugarh University for favour of information.
4. The Controller of Examinations, Dibrugarh University for favour of information and the needful. The copy of the Syllabus are enclosed herewith.
5. The Chairperson, Board of Studies in Home Science, Dibrugarh University for favour of information. The copy of the Syllabi may be downloaded from the website: www.dibru.ac.in.
6. The Joint Controller of Examinations (A, B & C), Dibrugarh University for favour of information and needful.
7. The Programmer, Dibrugarh University for information. He is requested to upload the syllabi in the Dibrugarh University website with this notification.
8. File.

(Dr. B.C. Borah)
Joint Registrar (Academic)
Dibrugarh University

Dibrugarh University



Department of Home Science
Lakhimpur Girls' College
North Lakhimpur
Post Graduate Syllabus (Non-CBCS)

POST GRADUATE SYLLABUS (NON- CBCS)

HOME SCIENCE

CREDIT	MARKS	
FIRST SEMESTER	18	450
SECOND SEMESTER	18	450
THIRD SEMESTER	20	500
FOURTH SEMESTER	20	500
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TOTAL	76	1900

FIRST SEMESTER

Course number	Course name	L	T	C	M	E.A	I.A.
CT1001	Advance Nutrition	48	16	4	100	80	20
CT1002	Life Span Development	48	16	4	100	80	20
CT1003	Family Resource Management	48	16	4	100	80	20
CL1004	Lab Course on	-	-	-	150		
CT1001		-	-	2	50		
CT1002		-	-	2	50		
CT1003			-	2	50		
		TOTAL			18	450	

*** C=Course, L=Lecture, T=Tutorial, C=Credit, M=Marks, E.A. =External Assessment, I.A. =Internal Assessment.

SECOND SEMESTER

Course number	Course name	L	T	C	M	E.A.	I.A.
CT2005	Advanced apparel construction	48	16	4	100	80	20
CT2006	Extension education system	48	16	4	100	80	20
CT2007	Statistics and computer application	48	16	4	100	80	20
CL2008	Lab Course on	-	-	-	150		
	CT2005	-	-	2	50		
	CT2006	-	-	2	50		
	CT2007	-	-	2	50		
TOTAL				18	450		

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THIRD SEMESTER

(CPT) Compulsory Paper- Research Methodology

The student shall have to opt one elective course in the third semester and same elective course shall have to be opted in the fourth semester. The student shall also have to opt one optional paper besides the elective course in the third and fourth semester.

Optional Paper: Third Semester (Part-I)

OT (0301) - Assessment of Nutritional status.

OT (0302) - Apparel Design and Construction

OT (0303) –Curriculum for early years

OT (0304) - Environment Management.

OT (0305) - Entrepreneurship Management.

Elective (E): Group (A)- Food Science and Nutrition

Course number	Course name	L	T	C	M	E.A .	I.A.
ET3131	Nutritional Biochemistry	48	16	4	100	80	20
ET3132	Clinical and therapeutic nutrition	48	16	4	100	80	20
CPT (1)	Research Methodology	48	16	4	100	80	20
OT (part-1)	-	36	12	3	75	60	15
EL3133	Lab Course on	-	-	-	100		
	ET3131	-	-	2	50		
	ET3132	-	-	2	50		
OL (part-1)		-	-	1	25		
TOTAL				20	500		

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Elective (E): Group (B)- Textiles and Apparel Designing

Course number	Course name	L	T	C	M	E.A.	I.A.
ET3134	Textile Chemistry	48	16	4	100	80	20
ET3135	Advanced dyeing and printing	48	16	4	100	80	20
CPT (1)	Research Methodology	48	16	4	100	80	20
OT (part-I)	-	36	12	3	75	60	15
EL3136	Lab Course on	-	-	-	100		
	ET3134	-	-	2	50		
	ET3135	-	-	2	50		
OL (part-I)-	-			1	25		
TOTAL				20	500		

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Elective (E): Group (C)- Human Development and Family Studies

Course number	Course name	L	T	C	M	E.A.	I.A.
ET3137	History and theories of Human Development	48	16	4	100	80	20
ET3138	Early childhood care and education	48	16	4	100	80	20
CPT (1)	Research Methodology	48	16	4	100	80	20
OT (part-I)	-	36	12	3	75	60	15
EL3139	Lab Course on	-	-	-	100		
	ET3137	-	-	2	50		
	ET3138	-	-	2	50		
OL (part-I)		-	-	1	25		
TOTAL			20	500			

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Elective (E): Group (D) - Family Resource Management

Course number	Course name	L	T	C	M	E.A.	I.A.
ET3140	Approach to Resource Management	48	16	4	100	80	20
ET3141	Housing and Interior space designing	48	16	4	100	80	20
CPT (1)	Research Methodology	48	16	4	100	80	20
OT (part-I)	-	36	12	3	75	60	15
EL3142	Lab Course on	-	-	-	100		
	ET3140	-	-	2	50		
	ET3141	-	-	2	50		
OL (part-I)		-	-	1	25		
TOTAL				20	500		

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**Elective (E): Group (E)- Home Science extension and Communication
Development**

Course number	Course name	L	T	C	M	E.A.	I.A.
ET3143	Communication in Extension	48	16	4	100	80	20
ET3144	Extension Programme Planning and Management	48	16	4	100	80	20
CPT (1)	Research Methodology	48	16	4	100	80	20
OT (part-I)	-	36	12	3	75	60	15
EL3145	Lab Course on	-	-	-	100		
	ET3143	-	-	2	50		
	ET3144	-	-	2	50		
OL (part-I)		-	-	1	25		
TOTAL				20	500		

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FOURTH SEMESTER

Optional Paper (Part-II)

OT (0406) – Nutrition for Health and Fitness.

OT (0407) –Historic Textiles and Costumes.

OT (0408) – Parenting in Early Childhood

OT (0409) – Financial Management.

OT (0410) – Communication Technology, Mass Media in Extension.

Elective (E): Group (A)- Food Science and Nutrition

Course number	Course name	L	T	C	M	E.A.	I.A.
ET4141	Institutional Food Service Management	48	16	4	100	80	20
ET4142	Food Science	48	16	4	100	80	20
(OT) Part II	- - -	36	12	3	75	60	15
EP4143	Project	-	-	4	100	-	-
EL4144	Lab Course on	-	-	-	100		
	ET4141	-	-	2	50		
	ET4142	-	-	2	50		
OL (part-II)		-	-	1	25		
TOTAL				20	500		

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Elective (E): Group (B)- Textiles and Apparel Designing

Course number	Course name	L	T	C	M	E.A.	I.A.
ET4145	advance textile designing and pattern making	48	16	4	100	80	20
ET4146	CAD in textiles and fashion	48	16	4	100	80	20
(OT) Part II	- - -	36	12	3	75	60	15
EP4147	Project	-	-	4	100	-	-
EL4148	Lab Course on	-	-	-	100		
	ET4145	-	-	2	50		
	ET4146	-	-	2	50		
OL (Part-II)		-	-	1	25		
TOTAL				20	500		

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Elective (E): Group (C) - Human Development and Family Studies

Course number	Course name	L	T	C	M	E.A.	I.A.
ET4149	Children with special need	48	16	4	100	80	20
ET4150	Mental Health in Developmental perspective	48	16	4	100	80	20
(OT) Part II	- - -	36	12	3	75	60	15
EP4151	Project	-	-	4	100	-	-
EL4152	Lab Course on	-	-	-	100		
	ET4149	-	-	2	50		
	ET4150	-	-	2	50		
OL (Part-II)		-	-	1	25		
TOTAL				20	500		

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Elective (E): Group (D) - Family Resource Management

Course number	Course name	L	T	C	M	E.A.	I.A.
ET4153	Consumer economics	48	16	4	100	80	20
ET4154	Ergonomics	48	16	4	100	80	20
(OT) Part	- - -	36	12	3	75	60	15
EP4155	Project	-	-	4	100	-	-
EL4156	Lab Course on	-	-	-	100		
	ET4153	-	-	2	50		
	ET4154	-	-	2	50		
OL (Part-II)		-	-	1	25		
TOTAL				20	500		

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**Elective (E): Group (E) - Home Science Extension and communication
Development**

Course number	Course name	L	T	C	M	E.A.	I.A.
Et4157	Media Production and Management	48	16	4	100	80	20
ET4158	Extension administration and organization	48	16	4	100	80	20
(OT) Part II	- - -	36	12	3	75	60	15
EP4159	Project	-	-	4	100	-	-
EL4160	Lab Course on	-	-	-	100		
	ET4157	-	-	2	50		
	ET4158	-	-	2	50		
OL (Part-II)		-	-	1	25		
TOTAL				20	500		

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FIRST SEMESTER

CT1001: ADVANCED NUTRITION

L T Credit: 4

48 16 Marks:100

- Unit I: Concept and basics of nutrition- Food, nutrient, nutrition, balanced diet, five food groups, RDA, BDR, health, nutritional status, meal planning. Relationship between diet and disease. Functions of food.
- Unit II: Energy: Introduction, functions, RDA, BDR, excess and deficiency. Measurement of energy expenditure. Estimating energy requirements of individual and group. Carbohydrate, Protein, Lipid- Introduction, types, functions, RDA, BDR, excess and deficiency. Therapeutic applications of specific amino acids Role of n-3, n-6 fatty acids in health and disease.
- Unit III: Mineral and vitamins: Introduction, types, functions, RDA, BDR, excess and deficiency. Water: Introduction, role of water in health and disease. Dietary fibre, fructo-oligosaccharides. Resistant starch- chemical composition and physiological effects.
- Unit IV: Non nutritive food components with potential health effect- polyphenols, tannin, phytate, cyanogenic compounds. Sweeteners- nutritive and non nutritive. Nutritional management in special condition- space travel, high altitudes, low temperatures, submarines.

References:

1. Indian Council of Medical Research. Recommended Dietary intakes for Indians. 2010.

2. Indian Council of Medical Research . Nutritive value of Indian Foods- Latest Publications.
3. Mudambi, S.R.;Rajagopal M.V. (2012). Fundamentals of food, nutrition and diet therapy. New Age International Publishers.
4. Silakshmi, B.(2014). Dietetics. 7th edition. New Age International Publishers.
5. Annual Reviews of nutrition. Annual review Inc. California, USA.
6. World Reviews Of Nutrition and Dietetics.
7. Shils, M.E.; Olson, J.; Shike, M. and Roos, C.(1998). Modern Nutrition in Health and Disease. 9th edition. Williams and Williams. A Beverly Co. London.

CT1002: LIFE SPAN DEVELOPMENT

L T Credit: 4
48 16 Marks: 100

- Unit I:** Prenatal, Perinatal and postnatal stages-
- Issues and Scientific concepts associated with conception, pregnancy, prenatal development, labour/ birth.
 - Postnatal life infancy-Physical, Motor, Social, Emotional, Cognitive and Language characteristics.
- Unit II:** Early Childhood-Physical, Motor, Social, Emotional, Cognitive and Language characteristics.
- Middle Childhood-Physical, Motor, Social, Emotional, Cognitive and Language characteristics.
- Unit III:** Adulthood-Physical, Motor, Social, Emotional, Cognitive and Language characteristics.
- Unit IV:** Old age-Physical, Motor, Social, Emotional, Cognitive and Language characteristics.

References

1. Gordon, K.J.(1975). Human development: A transactional perspective.Harper and Row Publishers, New York.
2. Hurlock. Elizabeth B. Developmental psychology: A life span Approach, Tata Mc. Graw Hill publishing company limited.
3. Laura, B.E. (2013). Exploring life span development. 3rd Ed. Mc. Graw Hill. New York.
4. Papalia, D.E. and olds, S.W.(2008). Human development. 11th Ed. Mc. Graw Hill. New York.

5. Santrock, J.(2012). Life span development.14th Ed. Mc. Graw Hill. New York.

FAMILY RESOURCE MANAGEMENT

L T Credit: 4
48 16 Marks: 100

UNIT I: History and development of home management. Inter-disciplinary nature of Family Resource Management. Management as a system: Definition ,elements, types, advantages and limitations of system approach, application in Family Resource Management

UNIT II: Decision making: meaning, types ,modes, tools and techniques – cost-benefit analysis, decision tree, multivoting, decision matrix. Creativity and rationality in Decision Making. Decision making conditions: certainty, risk and uncertainty.

UNIT III: Motivating factors: Values: Concept and definition, classification. Goals: Concept and definition, types, changing goals in family, goal priorities. Standards: Concepts and classification.

UNIT IV: Management process: Planning- types and dimensions, aspects of planning, planning in a system perspective; organizing, leading, implementing-controlling, checking and adjusting; evaluation and feedback.

References:

- 1) Crandell,E. and Gross, I.H. 1980: Management for modern families, Printice Hill, London.

- 2) Deacon, R.E & Firebaugh, F.M . 1981: Family Resource Management- Principles and application
- 3) Nickell, P. and Dorsey, J.M. 2002: Management in family living, 4th edition, CBS Publishers, New Delhi.
- 4) Tripathi, P.C. & Reddy, P.N. 2014: Principles of Management, 5th edition, McGraw Hill Education (India) Private Limited, New Delhi.
- 5) Seetharaman, P; Batra, S & Mehta, P (2015): An introduction to Family Resource Management, 1st edition, CBS Publishers, New Delhi.

FIRST SEMESTER

CL1004: LAB COURSE ON

CT1001 ADVANCED NUTRITION

Credit: 2

Marks: 50

1. Survey of food consumption pattern of different age groups.
2. Estimation of energy requirement

CT1002 LIFE SPAN DEVELOPMENT

Credit: 2

Marks: 50

1. Case study of individuals in different stages of development.
2. Critical analysis of case study reports.

CT1003 FAMILY RESOURCE MANAGEMENT

Credit: 2

Marks: 50

1. Case study on participation of decision making by the family members in different household activities

2. To find out the management of time/ money /energy in families (any one area).

SECOND SEMESTER

CT2005 ADVANCED APPAREL CONSTRUCTION

L T Credit: 4

48 16 Marks: 100

- Unit I:** Introduction, Scope and importance of clothing.Solving family clothing problems, clothing as mental stimulant and happiness, developing skill in clothing management, budgeting and wardrobe planning.
- Unit II:** Fitting- Factors affecting good fit, common problems encountered and remedies for fitting defects (upper and lower garments).
- Unit III:** Clothing for people with special needs
1. Maternity and lactation period
 2. Old age
 3. Physical challenges
- Unit IV:** Evaluating the quality of apparel
- 1.Identification of the components of apparel
 2. Fiber contents, shaping devices, underlying fabrics, pockets, necklines.

3. Hem treatment, decorative details and alteration potential
4. Standards for evaluating the various components

References

1. Slampler, Sharp &Donnell: Evaluating Apparel, Quality-Fairchild Publications, New York.
2. Natalie Bray Dress Fitting Publication By Black Well Science Ltd.
3. Margolis Design Your Own Dress Pattern Published By Double Day and Co. Inc New York.
4. Tate, M.T and Glisson,O 1961: Family Clothing, Wiley Publication, New York.
5. Gupta, S., Garg,N. and Saini, R. 2008: Text book of clothing, textile and laundry, Kalayani Publication, New Delhi.

CT2006: EXTENSION EDUCATION SYSTEM

L T Credit: 4
48 16 Marks: 100

Unit-I: Conceptual Analysis-

Concept of Extension Education, Need, Philosophy, Objectives of Extension Education. Principles of Extension Education.

Unit-2: Home Science Extension-

concept, philosophy, Objectives of home Science Extension, Importance of Home Science Extension, Qualities of Home Science Extension Worker, Approaches used in Home Science Extension.

Unit-3: Role of Extension Education in Development:

Development aspect of Extension, Extension Programme in India, Extension systems of Ministry of rural development and Department Of women and child development. Development work by NGO's Govt- NGO collaboration.

Unit-4: Support structures and their functions:

Panchayat, DRDA, Central Social Welfare Board, State Social Welfare Board, National level voluntary Agencies- as CAPART, Local level voluntary agencies, SHG.

References:

(1) Education and communication for Development- O.P. Dahama, O.P. Bhatnagar. Oxford and IBH Publishing CO. PVT. LTD.

(2) Handbook of Extension Education- Chaubey, B.K. Jyoti Prakashan,

Allahabad

(3) An introduction to extension education- S.V. Supe. Oxford IBH Publishing CO. PVT. LTD.

(4) Extension Education. A. Reddy. SreeLaxmi Press.

CT2007: STATISTICS AND COMPUTER APPLICATION

L T Credit: 4

48 16 Marks: 100

Unit I: Meaning of computer, characteristics, computer at work places, parts of computer, peripheral devices.

Unit II: Computer functioning, data coding and functioning mores code, computer logic, silicon chip, buses.

Unit III: Networking and Internet: Networking- Log out, Log in, Password, Internet-meaning, surfing. Requirements- ISP, Modem, Hardware requirements, Internet explorer, Web Browser. Multimedia: MS Word, MS Excel, MS Powerpoint, SPSS.

Unit IV: Meaning, scope and definition of statistics. Measure of central tendency, Dispersion, Coorelation and Regrassion. Probability, Probability distribution and attributes.

References:

1. Basandra, S.K.(2006). Computers Today. Galgotia publications.
2. Alexis, L. and Methew L.(2004). Fundamentals of Information Technology.Vikas Publishing House, New Delhi.
3. Hussain, S. and Deka M.(2013). Computer Skill, Mahabir Publ., Dobrugarh, Assam.
4. Narang, L.M.(1998). Anmol. Dictionary of Computer, ANMOL Publ., New Delhi.
5. IGNOU.(2011). Computer Basics & PC Software, Straight Forward Publ. Pvt. Ltd.
6. Goel, M.K.(1989). Introduction to Computer Science, Streling Publ. Pvt.Ltd., Noida, India.
7. Bubsy, M and Stultz, R.A.(2010). Wordware Publishing, INC, USA.

SECOND SEMESTER
CL2008 LAB COURSE ON
CT2005 ADVANCED APPAREL CONSTRUCTION

Credit: 2

Marks: 50

1. Developments of slopers for skirt variations
 - Low and high waist
 - A line, flared, circular, pleated, yoked with godet/peplum
 - Skirt band- separate band, faced waist line

2. Pockets
 - Slashed pockets – welt, bound flaps
 - Inseam pocket: closed and open

3. Placket
 - Fly front opening

- Zipper in seam, without seam

4. Designing, drafting and construction of skirts

CT2006 EXTENSION EDUCATION SYSTEM

Credit: 2

Marks: 50

- (1) Study on different ongoing extension programme in the locality.
- (2) Report on developmental work undertaken by NGO's.

CT2007 STATISTICS AND COMPUTER APPLICATION

Credit: 2

Marks: 50

1. MS Word
2. MS Excel
3. MS Power Point
4. MS Paint
5. SPSS
6. Internet Surfing

THIRD SEMESTER

ELECTIVE (E): GROUP (A)- FOOD SCIENCE AND NUTRITION

ET3131 NUTRITIONAL BIOCHEMISTRY

L	T	Credit: 4
48	16	Marks: 100

Unit I: Introduction to nutritional biochemistry- concept, importance and scope. Biomolecules and the cell: Chemical molecules of life, complex biomolecules, structural hierarchy of an organism. Cell: Prokaryotic cells and Eukaryotic cells.

Unit II: Carbohydrates, proteins and amino acids, Lipids, Vitamins- definition, functions, classification, structure and properties. Minerals: Biological role of trace elements. Nucleic acids- DNA

replication and transcription, DNA repair systems, DNA recombinant, genetic mutation, regulation of gene expression and protein biosynthesis.

Unit III: Hormones- Mechanism of action of hormones. Enzymes- Definition, nomenclature and classification, chemical structure and properties of enzymes, factors affecting enzyme activity, active site, enzyme inhibition, specificity, coenzymes, mechanism of enzyme action, regulation of enzyme activity in the living system, applications of enzymes, enzyme pattern in diseases.

Unit IV: Intermediary metabolism: Carbohydrates-glycolysis, Gluconeogenesis, citric acid cycle, hexose monophosphate Pathway. Lipids- beta-oxidation, synthesis and breakdown of Unsaturated fatty acids, cholesterol, phospholipids and triglycerol. Major alterations in carbohydrate, protein and fat metabolism in chronic nutrition related degenerative diseases

References:

1. Satyanarayan, U. (2012). Principles of biochemistry.
2. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2000). 25th Ed. Harpers Biochemistry. Macmillan Worth Publishers.
3. Nelson, D.L. and Cox, M.M. (2000). 3rd Ed. Lehninger's Principles of Biochemistry, Macmillan Worth Publishers.

ET3132 CLINICAL AND THERAPEUTIC NUTRITION

L T Credit: 4
48 16 Marks: 100

Unit I: Introduction to clinical and therapeutic nutrition-concept,introduction and scope. Therapeutic adaptations of normal diet, commercial preparation for therapeutic uses.Newer trends in delivery of nutritional care and dietary counseling.Nutritional screening and assessment of nutritional status of hospitalized and outdoor patients-identification of high riskpatients.

Unit II: Assesment of patient needs based on interpretation of patient data-clinical, biochemical, biophysical, personal etc.Diet, nutrient and

drug interaction- effect of drugs on ingestion, digestion, absorption and metabolism of nutrients.Effect of food, nutrients and nutritional status on drug dosage and efficacy.Nutritional support- Recent advances in techniques and feeding substrates.

Unit III: Etiology, signs and symptoms, types, complications, prevention and recent advances in the nutritional management of: Weight imbalances, influenza, malaria, measles, pneumonia, typhoid, tuberculosis, gout, cardiovascular disorders, diabetes mellitus, GI tract disorders, Liver and gall bladder,Pancreatic disorders, Renal Disorders, Cancer, neurological, disorders,Musco-skeletal disorders,Genetic disorders, Infectionand AIDS, Respiratory problems.

Unit IV: Etiology, signs and symptoms, types, prevention and recent advances in nutritional management of – diarrhoea, vomiting,constipation and childhood problems/ disorders includinginborn errors of metabolism. Dietary recommendations forblooddonors,food allergy and diet following burns.

References:

1. Mahan, L.K.andEscott-Stump, S.(2000). Krause's Food Nutrition and Diet therapy. 10th Edition. W.B. Saunders Ltd.
2. Garrow, J.S., James, W.P.T. and Ralph, A.(2000). Human Nutrition and Dietetics, 10th Edition, Churchill Livingstone.
3. Srilakshmi, B.(2012).Dietetics. New age international.

THIRD SEMESTER
EL3133 LAB COURSE ON
ET3131 NUTRITIONAL BIOCHEMISTRY

Credit: 2

Marks: 50

1. Estimation of glucose in blood and urine.
2. Estimation of albumin, globulin and albumin/ globulin ratio in serum and urine
3. Estimation of cholesterol in blood.
4. Estimation of haemoglobin.

5. Survey of pathological laboratories to obtain the information about the methods used for blood/ serum analysis.

ET3132 CLINICAL AND THERAPEUTIC NUTRITION

Credit: 2

Marks: 50

1. Market survey of commercial nutritional supplements and nutritional support substrates.
2. Interpretation of patient data and diagnostic tests and drawing up of patient diet prescription, using a case study approach.
3. Preparation of diet manual.
4. Preparation of diet counseling aids for common disorders.
5. Planning and preparation of diets for patients with common multiple disorders and complications and discharge diet plan.

ELECTIVE (E): GROUP (B)- TEXTILES AND APPAREL DESIGNING

ET3134 TEXTILE CHEMISTRY

L T Credit: 4

48 16 Marks: 100

Unit I: Polymer chemistry
Polymers, methods of polymerization, polymerization process.
Definition of co-polymer, oligomer, graft- co- polymer.

Degree of polymerization, molecular weight of polymers and its determination.

Orientation and crystallinity of polymers; their influence on fiber properties.

Unit II: Cellulosic fibres

Introduction to cotton, properties, longitudinal and cross sectional view.

Molecular structure of cellulose, action of acids and alkalis, hydrocellulose and oxycellulose, mercerization, liquid ammonia treatment.

Regenerated cellulosic fibers viscose rayon, cuprammonium rayon, cellulose acetate rayon, polynosic- their manufacture, properties and uses.

Protein fibers - wool and silk

Chemical composition, molecular structure, physical and chemical properties, action of acids, alkalis and other chemicals on protein fibers.

Brief description on felting of wool, degumming and weighting of silk, shrink proofing of wool.

Unit III: Synthetic fibers- polyester, polyamindand, polyethylene, acrylonitrile fibres

Chemistry of the fibres- raw material, manufacturing process from polymer to fiber stage.

Physical and chemical properties of all the fibres and their uses.

Blends of different fibres, composition and properties and uses in textile and clothing.

Unit IV: Textile finishing

Classification of finishes

Mechanical finishes

Chemical finishes

Special purpose finishes

New development in fibers manufacture

Bicomponent and biconstituent fibres

Special purpose fibre

References

1. Lewin, M. and Sello, Stephen B.(1983): Hand Book of Fiber Science and Technology, Vol. II, Chemical Process of Fibers and Fabrics, Functional Finishes- Part A, Marcel Deker, Inc., NY and Basel.
2. Shenai, V.A. (1984) Technology of Textile Processing, Vol IX, SevakPrakashan.
3. Cook, J. Gordon, Hand Book of Textile Fibers, Mn Made Fibers, Merrow Publishing Co. Ltd., England.
4. Moncrief: R. W. Manmade Fibers, John Willey & Sons New York.

ET3135 ADVANCED DYEING AND PRINTING

L	T	Credit: 4
48	16	Marks: 100

- Unit I:** Preparation of fabric for dyeing and printing
- Scouring, bleaching, desizing
Reagents used and their Applications
Specific preparatory steps for cotton, wool, silk & manmade fibres
- Unit II:** Dye
- Classification, definition, components
Colour and chemical constitution of dyes

Dyeing with chemical dyes-Direct, Reactive, Vat, Sulphur, Azo(for cellulosic), Acid, Metalcomplex, Chromemordent (for protein) Basic, Nylomine, Disperse(for manmade)

Dyeing with natural dyes

Use of pigments

Dyeing auxiliaries and their uses

Dyeing of blends

Textile design through dyeing- Tie and dye, Batik, Union and cross dyeing.

Unit III: Printing

Methods of printing-Historical development of printing methods- Block, Stencil, Screen printing, Roller and Rotary screen.

Printing pastes- thickening agents and auxiliaries for printing.

Styles of printing- direct, resist, discharged and raised style.

Unit IV: Dyeing defects and remedies. Finishing and after treatment of dyed and printed goods at cottage and industrial level.

References

1. V.A. Shenai (1987). Chemistry of dyes and principles of dyeing, SevakPrakashan, Mumbai.
2. H.A. Lubs, Robert E. The chemistry of synthetic dyes and pigments, Krieger publishing company, New York.
3. M.L. Gulrajani and Deepti Gupta (1990). Natural dyes and their application to textiles, ed. IIT Delhi Publication.
4. R.S. Prayag, Technology Textile Printing- Noyes Data Corporation.

**EL3136 LAB COURSE ON
ET3134 TEXTILE CHEMISTRY**

Credit: 2

Marks: 50

1. Identification of fibres - cotton polyester, silk, wool, jute etc. use of burning test, microscopic examination, chemical tests, solubility test
2. Enzymatic desizing, scouring and bleaching of cotton fabric

3. Study chemical properties of fiber as related to textile finishing-mercerization of cotton, degumming of silk etc.
4. Mill visit to acquaint student with modern chemical processing.

ET3135 ADVANCED DYEING AND PRINTING

Credit: 2

Marks: 50

1. Preparation of fabric for dyeing and printing.
2. Dyeing of fabric with different classes of dye.
3. Printing with blocks, stencil and screens.
4. Finishing the printed goods.
5. Visits to processing and printing units.

ELECTIVE (E): GROUP (C)- HUMAN DEVELOPMENT AND FAMILY STUDIES

EL3137 HISTORY AND THEORIES OF HUMAN DEVELOPMENT

L	T	Credit: 4
48	16	Marks: 100

Unit I: Introduction to theories related to human Development. Freud's psychoanalytic theory, neo-Freudians.

Unit II: Psychosocial theory of Erikson, Learning theory of Pavlov and Skinner.

Unit III: Piaget's and Vygotsky's theory of cognition.

Unit IV: Bandura's social learning theory. Kakar's theory of the self.

References

1. Aries,P. (1962). Centuries of childhood. New York: knopf.
2. Crain, W.(1992) Theories of development, concepts and applications. New jersey: Prantice Hall
3. James, A. and Prout,J.(1990). Constructing and reconstructing childhood. London: Falmer Press.
4. Kakar, S. (1978) The inner world. Delhi: Oxford University Press.
5. Kakar, S.(1977) Culture and psyche-selected Essays. Delhi: Oxford University Press.
6. Mangal.S.K. (2000). Advanced Educational Psychology, PHI Learning Private Ltd.
7. Roland,A.(1989). In search of self in India and Japan. Princeton, NJ: Princeton University Press.
8. Roland,A.(1996). Cultural pluralism and psychoanalysis. New York: Routledge.
9. Smith,J.A., Harre R., and Van Langenhove, L.(1995) Rethinking psychology. London: sage.
10. Vasta. R.(1992). Six theories of child development: Revised formulations and current issues. London: Sessica Kingsley Publishers Ltd.

ET3138 EARLY CHILDHOOD CARE AND EDUCATION

L	T	Credit: 4
48	16	Marks: 100

Unit I: Principles of early childhood care and education.
Importance, needs and scope of ECCE.
Objectives of Ecce
Types of preschool/programmes: Play centres, Day care, Montessori, Kindergarten, Balwadi, Anganwadi etc.
Concept of non formal, formal and play way methods.
Historical trends (overview)

Contribution of the following thinkers to the development of ECCE (their principles, applications and limitations) in the context of ECCE.

pestalozzi, Rousseau, Froebel, Maria Montessori, John Dewey, GijubhaiBadheka, TarabaiModak, M.K. Gandhi, Rabindranath Tagore.

Unit II: ECCE in India

Pre Independence period, Post Independence-Kothari Commission, contribution of the five year plans to ECCE – Yashpal Committee, Maharashtra Preschool Centre Act.

Contribution of the following agencies/programmes to ECCE in India
ICCW, IAPE, NCERT, ICDS, UNICEF, NCTE, Mobile Creche Etc.

Unit III: Organization of Preschool Centres

Concept of organization and administration of early childhood centres.

Administrative set up and functions of personnel working at different levels.

Building and equipment: Location and site, arrangement of rooms, different types of size of rooms, play ground, storage facilities, selection of different types of outdoor and indoor equipment, maintenance and display of equipment and material.

Staff/personnel service conditions and role: Role and responsibilities, essential qualities of a care giver/ teacher, other personnel.

Record and report: types, aim and purpose/need, general characteristics e.g. anecdotal, cumulative, sample work, medical etc.

Programme planning

Planning: setting goals and objectives of plans-long term, short term, weekly and daily planning, routine and schedules.

Unit IV: Activities for ECCE

Language Arts: Goals of language, types of listening and activities to promote listening, various activities-(songs, object talk, picture talk, free

conversation, books, games, riddles, jokes, stories. Criteria and selection of activities, teacher's role).

Art and craft activities (creative activities of expression): Types of activities- chalk, crayon, paints, paper work and best out of waste. Role of teacher in planning the activity, motivating children. Fostering appreciation of art and craft activities.

Music: songs, objectives of music education, establishing goals, setting the stage and role of the teacher. Three aspects of music, making, listening and singing.

Mathematics: goals of mathematical learning, developmental concepts at different stages; principles of teaching mathematics- first hand experience, interaction with others, using language, reflection. Mathematical concepts like: classification, conservation, seriation, comparison, counting, fraction, one to one correspondence, addition and subtraction.

Science:

Thinking: observing, inferring, classifying, communicating.

Concept formation: Differentiation, grouping, labeling. Role of science, developing scientific outlook by a spirit of inquiry, objectivity, observation. Role of teacher in some important science experiences.

- Social Studies: goals of social studies, field trips, of fostering good self-concept and respect for others. Promoting social studies through celebrations of festivals. Role of teacher.

References:

1. Bhatia & Bhatia (1995). Theory and Principles of Education. Doaba, Delhi
2. Brewer. J.A.(1998). Introduction to early childhood education.(3rd ed.). boston: Allyn& Bacon.

3. Carol, E.C. and Jan Allen (1993) Early Childhood Curriculum, University of Tennessee, New York: Macmillan.
4. Day Barbara (1983). Early Childhood Education, New York: Macmillan.
5. Gordon & Browne (1989). Beginning and Beyond, Second edition, Delmar pub. Inc.
6. Grewal, J.S. (1984). Early childhood education, Agra national psychological corporation pub.
7. Hildebrand Verma. (1981) Introduction to early childhood education, N.Y.: Macmillan.
8. Hildebrand Verma. (1985) Guiding the young child, N.Y.: Macmillan.
9. Jenkins, E. (1977) A practical guide to early childhood curriculum, C.v. Mostey co.
10. Judith, E & Meyers, R.G. (2000). Early childhood counts: A programming guide on early childhood care for Development. Washington: The World Bank.
11. Kaul, V. (1997). Early childhood education programme, New Delhi: NCERT.
12. Kohn Ruth (1972). The exploring child. Mumbai: Orient Longman
13. Kulkarni, S. (1988). Parent education, perspectives and approaches. Jaipur. Ravat Publications.
14. Maxim, G. (1980). The very young. California: Wordsworth.
15. Mohant & Mohanti (1996). Early childhood care & education. New Delhi: Deep & Deep Publication.
16. Moyley, J.R. (1996) Just playing: the role and status of play in early childhood education. Milton Keynes: Open University Press.
17. Murlidharan, R. (1991). Guide to nursery school teacher. New Delhi: NCERT.

18. Pankajam,G.(1994) preschool education. Ambala: Indian Pub.
19. Rao, V.K & S. Khurshid-ul-Islam. (1997). Early childhood: care and education. New Delhi: Commonwealth Publication.
20. Read Katherine (1980). The nursery school. Halt Rinehart & Winston.
21. Saraswathi,T.S.(1988). Issues in child Development, Curriculum & other Training & employment, Mumbai: Somaiya.

**EL3139 LAB COURSE ON
ET3137 HISTORY AND THEORIES OF HUMAN DEVELOPMENT**

Credit: 2

Marks: 50

1. Prepare project report on Freudian theory and its current status.
2. Bandura's social cognition theory and its current status.
3. Pavlov Learning theory and its current status.

4. Piaget's cognitive development theory and current status.

ET3138 EARLY CHILDHOOD CARE AND EDUCATION

Credit: 2

Marks: 50

1. Visit to various centres, which cater to the preschool stage e.g. Day care centre, Balwadi, Anganwadicentres.

2. Preparing teaching material kit and presentation in mock set up:

Story and their techniques.

Types of puppets and mobiles.

Song booklet and low cost musical instruments

3. Planning and executing activities in ECCE centres.

ELECTIVE (E): GROUP (D) - FAMILY RESOURCE MANAGEMENT

ET3140 APPROACH TO RESOURCE MANAGEMENT

L	T	Credit: 4
48	16	Marks: 100

UNIT I: Resource Management and its importance. Evolution of Management theories- classical, neo-classical and modern approach.

UNIT II: Human resource Management-Definition, importance, principles, planning, recruitment, selection, placement and induction.

UNIT III: Human Resource Development- ways to develop human resource, managing human resources; Managerial ability- Conceptual, Human and technical. Managerial styles – meaning, types- autocratic, consultative, persuasive, democratic, laissez-faire, management by walking around(MBWA), .

UNIT IV: Leadership- Importance, characteristics, functions, Motivation- Importance, elements and theories; Communication- Importance, type, process and barriers.

References:

1. Tripathi, P.C. & Reddy, P.N.(2014). Principles of Management,5thedition,McGraw Hill Education(India) Private Limited, New Delhi
2. Saiyadain, M.s.(1988): Human resource management, Tata McGraw Hill, New Delhi.
3. Dayal, R. (1996): Dynamics of human resource Development, Mittal Publications, New Delhi.
4. Seetharaman,P; Batra, S & Mehta, P (2015): An introduction to Family Resource Management, Ist edition, CBS Publishers, New Delhi.
5. Singal, S &Gandotra, V.(2014): Family Resource Management- Historical and contemporary developments, First edition,Dominant Publishers, New Delhi.

ET3141 Housing and Interior Space Designing

L	T	Credit: 4
48	16	Marks: 100

UNIT I: History of housing, changes in housing needs and standards. Present housing conditions in India- Rural and urban, emerging techniques in house construction- Low cost and eco- friendly building materials.

Unit II: Various housing schemes- Central and local government programmes. Housing finance, Building bye – laws. Estimating cost of building a house, Electrical, sanitary fittings and acoustics.

UNIT III: Factors to be considered while designing- orientation, grouping, circulation, light and ventilation, flexibility, privacy, roominess, aesthetic, cost. Colour and colourschemes, lighting in different rooms.

UNIT IV: Planning different areas of the house- living, dinning, bedroom and children’s room. Kitchen planning- importance, different areas for kitchen planning, cooking area , preparation area, washing area and serving area, types of kitchen, height and work surface of kitchen .

References:

- 1.Deshpande,R. S. (1974): Modern Ideal homes for India, United Book Corporation.
- 2.Publication of Housing Boards, NBO, ISI, HUDCO etc.
- 3.Seetharaman,P.&Pannu, P. (2015): Interior Design and Decoration, CBS Publishers, New Delhi.

EL3142 LAB COURSE ON

ET3140 APPROACH TO RESOURCE MANAGEMENT

Credit: 2

Marks: 50

1. Study on managerial abilities among housewives/ employed homemakers
2. Visit to organization to find the working of HR department.

ET3141 HOUSING AND INTERIOR SPACE DESIGNING

Credit: 2

Marks: 50

1. Drawing house plans for different income groups, colour schemes for different rooms.
2. Market survey of surface materials, finishes, fittings and fixtures.
3. Study of housing conditions of rural/ urban areas.
4. Visit to building design centres.

ELECTIVE (E): GROUP (E)- HOME SCIENCE EXTENSION AND COMMUNICATION DEVELOPMENT

ET3134 COMMUNICATION IN EXTENSION

L T Credit: 4
48 16 Marks: 100

Unit I: Communication Systems

Concept, models, types, function of communication, Communication approaches, creditability, empathy, fidelity, feedback and factors affecting communication process, barriers in communication. Communication skills- softskill, writing skill, public speaking.

Unit II: Participative communication- Participatory Communication, Meaning, process, principles of participation. Factors affecting participation.

Unit III : Adoption and Diffusion Process- Adoption process, Stages, factors affecting adoption.Types of Adoption, Diffusion process, Element of process diffusion.Innovation.

Unit IV: ICT in Extension
Definition, concept, meaning of ITC, ICT in Extension, Scope of IT, Application of IT, Impact of IT, Limitation of IT, Cyber Extension.

References-

- 1.Education and Communication for Development- O.P. Dahama, O.P.Bhatnagar.Oxford IBM Publishing Co.Pvt.Ltd.
2. Communication and Extension Management- Dr. JitendraChauhan. Anjali Prakashan.

3. An Introduction to Extension Education- S.V. Supe. Oxford IBM Publishing Co.Pvt.Ltd.

4.Extension Communication and Management- G.L.Ray.

ET3144 EXTENSION PROGRAMME PLANNING AND MANAGEMENT

L T Credit: 4
48 16 Marks: 100

Unit I: Concept of extension programme planning:

Concept of extension Programme, Extension programme planning, objectives of programme planning. Principles of programme planning, methods of programme planning. Situation analysis, Determining Programme objectives, Developing plan of work.

Unit II: Participation in Extension

People's participation in programme planning, Peoples participation and social mobilization in development, Role of specialist in extension programme planning. Leadership- definition, types, functions of leaders. Extension evaluation- concept, types, purpose of evaluation.

Unit III: Extension Management:

Concept, definition of management, extension management, objectives, scope, principle of extension management. Qualities of good extension manager. Recruitment of extension workers, work motivation, Time management.

Unit IV: Strategic Planning:

Strategic planning, Transactional analysis, techniques of Transactional analysis. Total quality management, Creative problem solving techniques. Team building process.

References:

1. Communication & Extension management. Dr. JitendraChauhan.AnjaliPrakashan,Kanpur.
2. Extension & Communication for development.O.P.Dahama; O.P. Bhatnagar. Oxford & Publishing CO.PVT.LTD.
3. A Handbook of Extension Education.Dipak De, BasavaprabhuJirli. Agrobios (India).
4. Evaluating Development Programmes and Projects. R.Date – Sage Publication.

ET3143 COMMUNICATION IN EXTENSION

Credit: 2

Marks: 50

1. Practical exercise on oral/written communication.
2. Planning and use of different communication approach.

ET3144 EXTENSION PROGRAMME PLANNING AND MANAGEMENT

Credit: 2

Marks: 50

1. Planning and executing extension programme.
2. Evaluation of extension programme.

THIRD SEMESTER (OPTIONAL PAPER)

OT0301: ASSESSMENT OF NUTRITIONAL STATUS

L T Credit: 3

36 12 Marks: 75

Unit I: Assessment of nutritional status- concept and importance. Assessment of nutritional status of various segments of the population- infants, children, adolescents, adults. Nutritional assessment of non-ambulatory patients.

Unit II: Methods of assessment of nutritional status-direct methods: anthropometric assessment, clinical examinations, biophysical or radiological examination, functional assessment, laboratory and biochemical estimation. Indirect methods: dietary assessment and vital health statistics.

Unit III: Nutritional surveillance- basic concepts, uses and setting up of surveillance systems, monitoring and evaluation of nutritional surveillance systems.

Unit IV: Role of International and National agencies in combating malnutrition: International agencies-WHO, FAO, UNICEF. National agencies- ICMR, ICAR, FNB, NIN, NFI, NNMB, NSI.

References:

1. Srilakshmi, B.(2012). Nutrition Science. 4th revised edition. New Age International Publishers.
2. Nnkwe, N.E.(2009). Community Nutrition. Johnsen-Bartlet Publ., Boston.

OT0302:APPAREL DESIGN AND CONSTRUCTION

L T Credit: 3
36 12 Marks: 75

- Unit I:** Details study of industrial machines and equipment used for –
- Cutting
 - Sewing
 - Finishing
 - Embellishment
- Unit II:** Introduction to pattern making-
- Importance of taking body measurement
 - Importance of patterns and pattern information
 - Methods of pattern making
- Unit III:** Preparatory steps for garment construction-
- Fabric grain
 - Preparatory steps- preshrinking, straightening and truing
 - Layout for patterns-general guidelines, basic layouts- lengthwise, partial lengthwise, crosswise, double fold
 - Pinning, marking and cutting
- Unit IV:** Garment and garment details-
- Necklines and collars
 - Sleeve details
 - Skirts and pants

Blouse, coats and jackets

Yoke and underskirt

References:

1. Armstrong, H.J. (2009). Pattern Making for Fashion Design, Harper Collins Publishers Inc; New York.
2. Stamper, A.A., S.H. Sharp and L.B. Donnell. (1986). Evaluating Apparel Quality, Fairchild Publications, America.
3. Liechty, E.G., Potterberg, D.N., Rasband, J.A. (2010). Fitting and Pattern Alteration : A Multi method Approach, Fairchild Publications, New York.
4. Claire Shaeffers: Fabric Sewing Guide, Chilton Book Company, Radnot, Pennsylvania.
5. Grate and Storm: Concepts in Clothing, McGraw Hill Book Co. New York.
6. Margohs Design Your Own Dress Pattern Published By Double Day and Co. Inc., New York

OT0303: CURRICULUM FOR EARLY YEARS

L T Credit: 3

36 12 Marks: 75

Unit I: Meaning, Nature, Objectives, Importance and Classification of Early Childhood Care and Education.

Unit II: Contribution of educators: Historical perspectives on Early Childhood Education

Western Educators (Rousseau, Froebel, Montessori)

India Educators(Rabindranath Tagore, M.K. Gandhi)

Unit III: ECCE Curriculum

Essential features of ECCE

Methods and materials

Play and its significance in ECCE

Unit IV: ECCE Programme planning, organization and management.

Basic consideration while planning

Long term and short term planning

Stages of planning

Observation. Recording and reporting

Equipment for preschool centre

References:

1. Aggarwal & Gupta.(2016). Early childhood care and Education. Principles and Practices, Shipra Publications.
2. Sengupta. M.(2016). Early childhood care and Education. PHI Learning Private Limited
3. Shukla, R.P.(2012). Early childhood care and Education.

OT0304: ENVIRONMENT MANAGEMENT:

L	T	Credit: 3
36	12	Marks: 75

UNIT I: Man, Environment & resources- micro and macro environment, family as an ecosystem, impact of environment on family life, environment and health hazards due to pollution. Different types of pollution- air, water, soil and noise pollution, role of homemakers in improving home environment.

UNIT II: Household energy forms- sources, fuels and their classification .Energy crisis, its causes and implications for energy management in home. National efforts for energy and environment conservation. Renewable and non-renewable sources of energy

UNIT III: Global warming- Its impact on environment, Carbon credit and its Impact on growth of industries. Acid Rain; environmental education and management; Waste Management- Types of waste, methods of waste management- solid waste management.

UNIT IV: Environment control measurement- Environmental legislation, environmental policies, Environment movements, women and environment.

References:

- 1) Chaudhary,BL. 2007. Environment Management Practices: An Indian Outlook. Himanshu Publications.
- 2) Deswal.S andDeswal.A.2002. Energy Ecology Environment and Society. DhanpatiRai and Co.
- 3) Kumar.A. &Preeti, 2008. Environment: New Challenges.Daya Publications

OT0305: ENTREPRENEURSHIP MANAGEMENT

L T Credit: 3
36 12 Marks: 75

Unit I: Entrepreneurship

Concept, definition, need of entrepreneurship, entrepreneurship development in India. Role of enterprise in national and global economy. Types of enterprise, Government policies and schemes for enterprise development.

Unit II: The Entrepreneur

Entrepreneurial motivation- Entrepreneurial competency. Developing entrepreneurial competencies- requirements and understanding the process of entrepreneurship development, self awareness, interpersonal skills, creativity assertiveness.

Unit III: Enterprise development

Analysis of environment, Enterprise selection, market assessment, Resource mobilization- finance technology, rawmaterial, site and manpower, costing, Quality control.

Unit IV: Marketing Management

Managing marketing- understanding markets and marketing.Functions of marketing. Marketing mix, Profit assessment, Enterprise networking.

References:

1. Entrepreneurship for women in India.MMPAkhauri, NIESBUD. New Delhi.
2. Entrepreneurship- Starting, Developing and managing a New enterprise. Richard D. Irwin, INC USA.
3. Entrepreneur Development. Taneja and Gupta. New Venture Creation. Galgotia Publishing Company.
4. Entrepreneurship Strategy. Changing Patterns in New Venture Creation, Growth Reinvention, SagePublication.Inc.

LAB COURSE ON
FOOD SCIENCE AND NUTRITION
OL0301 ASSESSMENT OF NUTRITIONAL STATUS

Credit:1

Marks:25

1. Assessment of nutritional status of any one of the group of community by use of different methods of assessment.

2. Participating and conducting World Food Day, Nutrition Week, World Health Day.

TEXTILES AND APPAREL DESIGNING
OL0302 APPAREL DESIGN AND CONSTRUCTION

Credit: 1

Marks: 25

1. Development and identification of seams, placket and fasteners, edge finishing (Binding & Facing), pleats and gathers.
2. Development of bodice, skirt and various sleeves and collars for self.
3. Develop style variations in adults' bodice using dart manipulation.
4. Construction of kurta for self.

HUMAN DEVELOPMENT AND FAMILY STUDIES

OL0303 CURRICULUM FOR EARLY YEARS

Credit: 1

Marks: 25

1. Planning Programme for various ECCE setting.

FAMILY RESOURCE MANAGEMENT

OL0304:ENVIRONMENT MANAGEMENT

Credit: 1

Marks: 25

1. Preparation and maintenance of compost pits for garbage disposal- vermin-culture/ vermin-composting.

2.Study on Identification of different household waste.

EXTENSION EDUCATION

OL0305 ENTREPRENEURSHIP MANAGEMENT

Credit: 1

Marks: 25

1. Project: Survey report of different enterprise.
2. Preparing project proposal to start new enterprise.

FOURTH SEMESTER

ELECTIVE (E): GROUP (A)- FOOD SCIENCE AND NUTRITION

ET4141 INSTITUTIONAL FOOD SERVICE MANAGEMENT

L T Credit: 4

48 16 Marks: 100

Unit I: Evolution of the food service industry, concept and definition of institutional food service, characteristics of the various types of food service units. Approaches to management- Theories of management, functions of management, principles of management, styles of management, management tools.

Unit II: Management of resources: Finance- determining the finance

needed to establish or run an unit, budgets, sources of finance planning adequate cash flow. Space and equipment- steps in planning layouts, management of spaces-kitchen spaces, storage spaces, service areas ,determining equipment, selection and placement of equipment, maintenance of equipment, layout analysis.

Unit III: Material- Menu planning, planning the materials needed, method of selection, storage, quantity food production, service and modes of delivery. Staff- manpower planning, manpower placement, recruitment, induction, training, motivation and performance appraisal. Time and energy- Measures of utilization and conservation.

Unit IV: Cost accounting/ analysis- Food cost analysis, Records to be maintained, Reports and trends analysis. Marketing and sales management- marketing strategies, sales Analysis, Market promotion. Computer aided record maintenance and management. Quality assurance- Food quality. Total Quality Management. Personnel hygiene and its management.

References:

1. Arora, R.K. (2016). Food service and catering management. A.P.H. Publicity Corporation.
2. Sethi M.; Malhan, S. (2015). Catering management – An Integrated Approach. New Age International Publishers.

3. SethiMohini.(2016). Institutional Food Management. Second Edition. New Age International Publishers.
4. West, B Bessie & Wood, Levelle (1988). Food Service In Institutions.6thEdidition. Revised by Harger FV, Shuggart SG &Palgne- Palacio June .Macmillian Publication Company New York.

ET4142 FOOD SCIENCE

L	T	Credit: 4
48	16	Marks: 100

Unit I:

Introduction to Food Science- Evolution of the food servic industry and allied industries. Development of Food Science as a discipline. Constituents of foods- Properties and significance.Colloidal salts, stabilization of colloidal systems. Rheology of food dispersions. Gels- Structure, formation, strength, types andpermanence. Emulsions- formation, stability, surfactants and emulsifiers. Foams- structure, formation and stabilization.

Unit II: Carbohydrate: Starch- Structure, gelatinization, methods for following gelatinization changes. Effect of ingredients and conditions on gelatinization.Modified food starches. Non starch polysaccharides: Cellulose, hemicelluloses, pectins, gums, animal polysaccharides. Sugars and sweeteners- sugars, syrups, potent sweeteners, sugar alcohols and sugar products.

Unit III: Proteins- Classification, composition, denaturation, non-enzymetic browning and other chemical changes. Fats and Oils- sources, composition, effects of composition on fat properties. Functional properties of fat and uses in food preparation. Fat substitutes.Fat deterioration and antioxidants.Inter-esterification of fats.

Unit IV: Cereals: cereal grains- structure and composition, effect of cooking and other processing techniques. Milk and milk products- composition, physical and functional properties, effects of processing and storage. Meat and Poultry- muscle composition and structure. Post mortem changes.Processing and preservation and their effects.Flavour constituents, plant phenolics and pigments. Effects of storage, processing and preservation.

References:

1. Charley, H.(1982). Food Science(2nd Edition), John Wiley & Sons, New York.
2. Srilakshmi, B.(2015). Food Science, New Age International Publishers.

EL4144 LAB COURSE ON
ET4141 INSTITUTIONAL FOOD SERVICE MANAGEMENT

Credit: 2

Marks: 50

1. Visit to different food service institutions and study the following: management, physical plan and layout, menu planning, service and modes of delivery, food cost analysis, food production and hygiene and sanitation.
2. Planning menus for quantity- college, canteen, hostel mess.

3. Standardizing recipes for quantity 100, 250, 500.
4. Cost analysis of menu in – college canteen, hostel mess, hospitals(government, private, charitable).
5. Practical experience in organization and management of college Cafeteria.

ET4142 FOOD SCIENCE

Credit: 2

Marks: 50

1. To study the microscopic structure of starch granules.
2. Evaluation of foods by subjective and objective methods.
3. To study the stages of sugar cookery.
4. Product preparation by using leavening agents
5. To study the role of fats and oils in cookery: shortening agent, frying medium.

ELECTIVE (E): GROUP (B)- TEXTILES AND APPAREL DESIGNING

ET4145 ADVANCED TEXTILE DESIGNING AND PATTERN MAKING

L	T	Credit: 4
48	16	Marks: 100

Unit I: Shuttle less loom- projectile, rapier, air jet, water jet weaving, multiple shed loom, automatic controls in modern looms and scope of modern method of weaving, detailed pre weaving process.

Unit II: Study of design, draft and peg plan for different weaves; weave calculations, advantages and disadvantages. Weaving structure- leno, double cloth, honey comb, mock leno, diamond, dobby, warp and weft figuring, terry and pile, huck - a - back. Dobby and jacquard pattern device. Methods of making carpets.

Unit III: Advanced technique of pattern making –incorporating style lines and fullness. Principles of contouring, surplice and halter designs built-in- necklines cowls and collars.

Unit IV: Skirts, advanced sleeve variations exaggerated armholes, pockets- bias cut dresses, jackets, types of pants.

References :

1. Marjory Joseph, 1972: Illustrated guide to textiles, Rime Mor&winsten, New York.
2. RadhaKrema, 1971: Manual of non-woven, Textile Trade Press.
3. Sengupta 1959: Weaving Calculations DB. Taraporawala Sons.
4. Bane A, 1996: Creative Clothing Construction, McGraw Hill.
5. JamineMee& Michael Purdy 1987: Modelling on the dress Stand, BSP Professional books.
6. Natalie Bray 1994: Dress Fitting, Blackwell.

ET4146 CADIN TEXTILES AND FASHION

L	T	Credit: 4
48	16	Marks: 100

Unit I: Concept, definition & role of computer in Textiles and Apparel designing production.

Unit II: Different fashion design software-Adobe Photoshop, Corel draw, TUKA cad, REACH cad, Auto cad.

Unit III: Adobe Photoshop

Basic concepts - File formats, Image Modes, Resolution and image size, Pixel Dimensions, File size, Changing image size

Basic tools of Adobe Photoshop.

Print dimensions and resolutions of an image.

Unit IV: Coral draw

Definition, Basic concept and component of Coral Draw.

Bitmap and vector graphics.

Drawing tools of Coral Draw.

References

1. Computers in the world of Textiles- papers presented at the annual world conference, September 26-29, 1984, Honhkong.
2. Veisinet, D.D.(1987): Computer Aided Drafting and Design: Concept and Application.
3. Yates M.P. (1996). Textiles- A handbook for Designers, W.W. Northton.
4. Prakash K. (1994). Impression- A classic collection of textile designs, design points.
5. Prakash K. (1995). Traditional Indian motifs for weaving & textile, design points.

**EL4148 LAB COURSE ON
ET4145 ADVANCED TEXTILE DESIGNING AND PATTERN MAKING**

Credit: 2

Marks: 50

1. Weaving: preparation of draft plans, peg plan for all types of weave
2. Analysis of woven samples
3. Weaving samples of various weavers

4. Developing design for weaving motif preparation and placement, colour and texture plans, documentation of traditional and modified textile design.
5. Procedures use in the development slops and pattern, developing dartless slopes, princess line variation, blouse, and halters.
6. Sleeves kimono and raglan, bel-bottom pants

ET4145 CAD IN TEXTILES AND FASHION

Credit: 2

Marks: 50

1. Adobe Photoshop:

Creation of new designs for textile surface-strips, checks, etc. leading to application and change of fabric texture, print and colour.

Typography and text layout for various magazine, newspaper advt. etc.

2. Coral draw:

Drawing rectangle, ellipses, polygons, stars and spirals with shape of tool.

Creation of different designs for apparel- natural, geometric, abstract and ethnic.

**ELECTIVE (E): GROUP (C)- HUMAN DEVELOPMENT AND FAMILY
STUDIES**

ET4149 CHILDREN WITH SPECIAL NEEDS

L	T	Credit: 4
48	16	Marks: 100

- Unit I:** Concept of impairment, disability and handicap.
Definition and classification of children with special needs.
Efforts taken to solve/ combat the problem of children with special needs.
Education and care of children with special needs.
- Unit II:** Different types of impairments, definition, causes and effects on individuals and preventive measures and educational provisions

Physically challenged(orthopaedically handicapped, visually impaired, hearing impaired, speech impaired)
- Unit III:** Definition, causes and effect on individuals and preventive measures and education provision

Socially and emotionally challenges(Delinquents, problem children).
Mentally challenged (Gifted, Backward, and Retarded).
- Unit IV:** Definition, causes, treatment and education of children with attention deficit hyperactive disorder (ADHD), cerebral palsy.Organization and administration of special Education in India.

References

1. Mangal, S.K. (2017). Educating Exceptional Children: An Introduction to Special Education. PHI Learning private limited.
2. Pankajam, G. (2009). Care and Education of Differently Abled, Concept Publishing Company, New Delhi.

ET4150 MENTAL HEALTH IN DEVELOPMENTAL PERSPECTIVE

L T Credit: 4

- Unit I:** Mental health-
Definition, Concept and importance of holistic health, well being and happiness.
National mental health policy of India (1982).
Community mental health: needs and programmes.
Infancy:
Implication of attachment and bonding for mental health; deprivation syndrome.
Malnutrition and its effect on growth and behavior.
Intervention with families and professionals from allied fields.
- Unit II:** Early Childhood Years:
Mental health needs: safety, security, relationships, autonomy and self-concept, nutrition and health.
Behavior difficulties, manifested at this stage, e.g. feeding problem, aggression, withdrawal, problems related to early schooling and formal leaving.
Intervention work with children.
Middle Childhood:
Mental health needs: recognition, appreciation, friendships and industry.
School related problem e.g. discipline, truancy, fears and phobias, learning difficulties and disabilities.
Maladjustment at home and school.
Providing guidance to children, parents, teachers, peers and school administration.
- Unit III:** Adolescence:

Mental health needs: sense of identity, autonomy, individualism/familism.

Problems related to physical appearance, development and relationships.

Problems related to sexuality.

Authority-adolescent conflicts(e.g. parents, school authority, grand parents)

Guidance and counseling of adolescents, parents and other significant adults, school personnel

School mental health programmes:

Need for mental health programmes for identification and intervention.

Improving school climate

Importance of sensitizing and involving administrators and teachers in mental health aspects of children.

Orienting teachers to attend to developmental behavior problems in the classroom, to make referrals wherever necessary.

Unit IV:

Mental health problems in the community

Life events that cause stress, e.g. separation due to death, migration etc.

Substance abuse and addiction.

Violence and sexual abuse.

Management of stress-counseling, training in relaxation, yoga, meditation.

References:

1. Barry, P.D. (1990). *Mental Health and Mental Illness*. (4thed.) Philadelphia: J.B. Lippincott Co.
2. Bono, E. de(1991) *Handbook for the positive revolution*. London: Penguin Publications.
3. Carter, F. &Cheesman, P. (1988). *Anxiety in childhood & adolescence-encouarging self-help through relaxation training*. London: Croom Helm.
4. Goleman, D. (1996). *Emotional intelligence*. N. Y. Bantam Books.
5. Gopalkrishnan, N.(1994). *Mental Health and You*. Mumbai: Popular Prakashan.
6. Graham, P.J., Jegede, R.o., Kapur, M, Minde, C., Nikapota, A.P.&Sell, H.L.(1983). *A manual on child mental health and psychosocial development. Part II, for primary health workers*, New Delhi: WHO.
7. Graham, P.J., Jegede, R.o., Kapur, M, Minde, C., Nikapota, A.P.&Sell, H.L.(1983). *A manual on child mental health and psychosocial development. Part III, for teachers*. New Delhi: WHO.
8. Kapur, M. (1995). *Mental health of Indian children*. New Delhi: Sage Publications.

ET4149 CHILDREN WITH SPECIAL NEED

Credit: 2

Marks: 50

1. Visit to different institutions, Hospitals, Clinics and Special School.
2. Case study of child with disability.

ET4149 MENTAL HEALTH IN DEVELOPMENTAL PERSPECTIVE

Credit: 2

Marks: 50

1. Visit to school or institution that have counseling centre of mental health programme
2. Design a mental health intervention programme for any one age group.

ELECTIVE (E): GROUP (D) - FAMILY RESOURCE MANAGEMENT

ET4153 CONSUMER ECONOMICS

L T Credit: 4
48 16 Marks: 100

UNIT I: Consumer- Definition and characteristics. Basic concepts of market and marketing, classification and functions of market. Types of market- wholesale, retail, telemarkets, national and global. Changing nature of the business world- e- business and e- commerce. Marketing strategies- concept and types based on product, seller, demand, media mix, price, promotion and policy.

UNIT II: Channels of Distribution- meaning and type, advantages and disadvantages, factors considered in the selection of the channels. Consumer information- Need and significance, consumer services- public and private, Merits and limitations.

UNIT III: Consumer behavior, Problems of consumer- exploitation- adulteration, packaging, labels, weights and measures, advertising and sale gimmicks, causes of exploitation, consumer aids- Meaning, classification, types.

UNIT IV: Consumer redressal- Consumer protection Act, 1986, consumer protection councils. Consumer protection laws, consumer cooperatives and organization- consumer guidance society of India, consumerism and consumer movement in India.

References:

- 1) Gandotra, V. & Divatia, A. (2005). Consumer Education; Dominant Publishers & Distributors, New Delhi.
- 2) Seetharaman, P. & Sethi, M. (2001). Consumerism: Strategies and Tactics, CBS.

- 3) Chadda, R(1995): The emerging consumer, New Age International Publishers Limited and Wiley Eastern Limited, New Delhi.
- 4) Memooria, C. B. Principles and Practice of marketing in India, KitabMahal.

ET4154: ERGONOMICS

L	T	Credit: 4
48	16	Marks: 100

UNIT I: Scope of ergonomics in home and other occupations. Need and importance, elements of ergonomics.man-machine- environment system

UNIT II: Physiological cost of work- physiology of human body with respect to bones, joints and muscles.Static and dynamic muscular effort, energy requirement for muscular work and efficiency, energy expenditure for different activities, Endurance and muscular strength.

UNIT III: Anthropometry and Biomechanics – definition, scope. Postures at work and their effect on health. Workload during operations of various tasks.Anthropometric measurements related to work station design and household equipment. Occupational hazards, fatigue, stress.

UNIT IV: Environment factors, heat,illumination, noise etc. Safety factors in designing work areas and equipments, ergonomic consideration for physically challenged and elderly persons.

Reference:

1. Bridger, R.S. (1994).Introduction to ergonomics. McGraw hill.
2. Grandghan, E. Use (1978). Ergonomics of the home, Taylor and Francis.
3. Eastman, Kodak Company.(1986). Ergonomic design for people at home, Vol. I & II, Van Nostrand Reinhold, New York.

4. Nag, P.K.(1996)Ergonomics and work design: Emerging issues in organisatrional science, new age international (P) Ltd, New Delhi.
5. Gandotra, V; Oberoi, K & Sharma, P.(2013).Essentials of Ergonomics, Dominant Publishers, New Delhi.

**EL4156 LAB COURSE ON
ET4153 CONSUMER ECONOMICS**

Credit: 2

Marks: 50

- 1) Visit to rural and urban consumers and to identify their problems.
- 2) Mock session on consumer rights and redressal mechanism and to find out the procedure for filing a complaint appeal to district, state and national commission.
- 3) Visit to consumer redressal forum.

ET4154 ERGONOMICS

Credit: 2

Marks: 50

1. Determination of physical fitness using step stool or other techniques.
2. To identify and use various instrument employed in ergonomic research- tread mill, step stool, heart rate monitor, noise level meter, environment kit, skin thermometer, midget impinge, sphygmomanometer, height and weight measuring instrument, stop watch, illuminometer etc.
3. Determination of work load of selected household activities by using pulse rate technique, physiological cost etc.

**ELECTIVE (E): GROUP (E)- HOME SCIENCE EXTENSION AND
COMMUNICATION DEVELOPMENT**

ET4157 MEDIA PRODUCTION AND MANAGEMENT

L T Credit: 4
48 16 Marks: 100

Unit I: Media and multimedia:

Concept of media, multimedia, fundamentals of making multimedia programme, evaluation of multimedia. Different programme formats for radio and television. Use of radio, television and multimedia in extension.

Unit II: Media management:

Ownership pattern of various media, organizational structure of media, different departments – production, planning, layout registration, marketing, understanding regulatory mechanism of media.

Unit III: Advertising:

Concept of advertising, classification of advertising, functions of advertising, various media of advertising, laws and ethics in advertising, Apex bodies in advertising. Strategies used in advertising.

Unit IV: Advertising and Marketing:

Advertising as a tool of marketing, advertising process in the market. Marketing communication- concept, function. Consumer behavior- importance, factors affecting consumer behavior. Recent trends in advertising and marketing.

References:

1. Introduction to advertising. S. Ganesh. Radha Publication.
2. Hand book of journalism and mass communication. Virbala Agarwal, V.S. Gupta. Concept publishing company.
3. Text book of Mass Communication & Media. Uma Joshi, Anmol Publication Private Limited.

ET4158 Extension Administration and Organisation

L T Credit: 4
48 16 Marks: 100

Unit I: Extension Organisation

Meaning and definition of organization, extension organization. Formal and Informal organization. Characteristics of effective organization. Units of organization- line and staff unit.

Unit II: Administration

Meaning and definition of administration, Purpose of administration, Scope of administration, Basic principles of administration.

Unit III: Extension administration

Concept of Extension administration, Principles Of Extension Administration. Characteristics of Extension administration. Functions of Extension Administration. Organizational climate, stress management, Development of management information system.

Unit IV: Training in extension

Meaning of training, objectives of training, need of training, types of training for extension workers. Principles of extension training, methods of training. Training strategy.

References:

1. Communication & Extension Management. Dr, Jitendra Chauhan. Anjali Prakashan, Kanpur.
2. An Introduction to Extension Education. S.V.Supe. Oxford & IBH Publishing CO.PVT.LTD. New Delhi.
3. Education and Communication for development. O.P. Dahama. O.P. Bhatnagar. Oxford & IBH Publishing CO.PVT.LTD.
4. Fundamentals of Extension Education & Management in Extension. K.A.Jalihal.V. Veenabhadriah. Concept Publishing Company.

EL4160 LAB COURSE ON
ET4157 MEDIA PRODUCTION AND MANAGEMENT

Credit: 2

Marks: 50

1. Visit to various media industry.
2. Visit to advertising agency, layout techniques for the different advertising.
3. Collect samples of social and commercial advertisement across different media and study the differences and similarities in terms of strategy, appeal, content and presentation.
4. Preparation for advertisement for campaigns on different media.

ET4158 Extension Administration and Organisation

Credit: 2

Marks: 50

1. Survey report on different methods used in extension training method.
2. Organizing and conducting training programme.

FOURTH SEMESTER

OT0406: NUTRITION FOR HEALTH AND FITNESS

L	T	Credit: 3
36	12	Marks: 75

Unit I: Definition, components and assessment criteria of age: Specific fitness and health status. Holistic approach to management of Fitness and health: Energy input and output. Diet and exercise. Effect of specific nutrients on work performance and physical fitness. Nutrition, exercise, physical fitness and health inter-relationship. Review of different energy systems for endurance and power activity: Fuels and nutrients to support physical activity. Shifts in carbohydrate metabolism. Mobilisation of fat stores during exercise.

Unit II: Nutrition in sports: Sports specific requirement. Diet Manipulation. Pre-game and post-game meals. Assessment of different nutrigenic aids and commercial supplements. Diet for persons with high energy requirements, stress, fracture and injury. Water and electrolyte balance: losses and their replacement during exercise and sports events, effects of dehydration, sports drinks.

Unit III: Significance of physical fitness and nutrition in the prevention and management of weight control, obesity, diabetes mellitus, CV disorders, bone health and cancer. Nutritional and exercise regime for management of obesity. Critical review of various dietary regimes for weight and fat reduction. Prevention of weight cycling.

Unit IV: Defining nutritional goals, guidelines appropriate to health, fitness, prevention and management of the chronic degenerative disorders: obesity, diabetes mellitus, CV disorders, bone health and cancer. Nutrition and diet regime for pre and post-natal fitness.

References:

1. Mahan, L.K. & Ecott- Stump, S.(2000). Krause's Food, Nutrition and Diet therapy, 10th Edition, W.B. Saunders Ltd.
- 2.Sizer, F. & Whitney,E.(2000). Nutrition- Concepts and Controversies, 8th Edition, Wadsworth Thomson Learning.

OT0407: HISTORIC TEXTILES AND COSTUMES

L T Credit: 3

36 12 Marks: 75

- Unit I:** Development of embroideries from ancient times- India, America, china, Greece, Rome, France, Japan.
- Unit II:** Development of dyeing and printing since ancient times-dyes, methods of dyeing and styles of printing.
- Unit III:** Study of traditional costumes of India- Kashmir, Himachal Pradesh, Punjab, Rajasthan, Gujarat, Maharashtra, Tamil Nadu, Assam, West Bengal.
- Unit IV:** Historical textiles of special significance
- Carpets
- Tapestries
- Brocades
- Shawls,
- Resist dyed and ikat fabric
- Printed fabrics

References

1. Gillow John and Sentence Bryan (1999): World Textiles, Thames and Husdon, London
2. Ginsburgh, M. (1977): Embroidery, Marshall Cavendish Editions, London.
3. Amalce Gold 1987: One World of Fashion, Fair Child Publication
4. Pandit, S., Indian Embroidery- Tts variegated charms- Published by SabitriPndit, Faculty of Home Science, Baroda
5. Blanche, P. (1965): History of costumes from the ancient Egyptian to the twentieth Century, Marpen&Row.
6. Harvey Janet(1966): Traditional textiles of Central Asia, Thames and Hudson, London.
7. Chetia, S. (2006). The Assamese Handloom and Textile Tradition,department of Home Science,DigboiMahilaMahavidyalaya, Digboi.

OT0408: PARENTING IN EARLY CHILDHOOD

L T Credit: 3

36 12 Marks: 75

- Unit I:** Introduction
The task of parenting and the concept of parenting skills.
Changing concept of parenthood and childhood.
Being a competent parent.
- Unit II:** Individual parenting roles
Determinations of parenting behavior
Characteristics of the parenting roles.
The mothering role.
The fathering role.
Concept of family, the family life cycle stages.
- Unit III:** Developmental interaction in Early Childhood Years-
Parents' role in developing self-awareness in children.
Family relations and communication.
Helping the child to learn to express and control emotions.
Helping children discover personal capabilities.

Establishing routines and showing responsible behavior.
Learning social role and interaction with others.
Meeting the family needs during this stage.
Meeting the children's needs.
Techniques of parent education in pre-school setting-
Informal meetings: Occasional/accidental meeting, written/printed-
newsletters, circulars, notices etc.
Parent library, toy library
Workshops/demonstration centre
Parents' corner
Open house
Large/small group meetings
Individual meetings: home visits, individual sessions.
Working with vulnerable families.

Unit IV:

Parent education and support
Role of professionals.
Parents as family workers.
Flexibility to different needs.
Personal development for parents.

References:

1. Binger, J.(1979) Parent child relation: An introduction to parenting. N.Y. McMillan Pub.
2. Brim, Harman(1980): Learning to be parents, principles, programmes and methods. Saga Pub.
3. Fine Marwin (1980) Handbook on parent education, New York: academic press inc.

4. Gillian, Pugh (1984): The needs of parents. Practice and policy in parent education, macmillan.
5. Goldolein, J.C.(ed)(1994), toys, children development, Cambridge: Cambridge university press.
6. Gordon, Thomas (1975): Parent effectiveness training, New York: new American library.
7. Gupte(1991): Speaking of child care, everything you wanted to know. New delhi.
8. Kulkarni, Sudha(1988): Parent education, Jaipur: rawat Pub.
9. Lidhop, M.(1987): Child rearing and psycho social development. New Delhi. Ashish Publications.
10. Naidu, U.S. and Nakhate, V.S.(1985). Child development studies in India. Tata institute of social sciences.
11. Wagh, Anutai(1984): Parent and community participation in the preschool programme, new Delhi: NCERT.

OT0409:FINANCIAL MANAGEMENT

L	T	Credit: 3
36	12	Marks: 75

- UNIT I:** Socio-economic environment- National income, income distribution, per capita income, inequalities in income, consumer price index, inflation vs. deflation, principles of wage determination.
- UNIT II:** Budgeting – allocation of resources, identifying aspirations, expectations and goals, objectives, advantages of budgeting. Record keeping and accounts- principles, income and expenditure accounts, balance sheet /ledger, ratio analysis, cash flow, fund flow.
- UNIT III:** Tax planning- types of taxes, principles and procedures of income tax. Savings and investments- importance, role of credit in finance
- UNIT IV:** Income and property rights- will, trusts and legal aspects. Economic insecurity- unemployment , its nature and causes, government programmes designed to increase family financial security.

References:

1. Dewitt, R. J. and Singh: Indian Economics, Premier Publishing Company, Mumbai.
2. Chandra Prasanna(1993): Financial Management: Theory and practice, Tata McGraw hill Publishing, New Delhi.
3. Srivastava, R.M.(1996): management of Indian financial institutions,Himalaya Publishing House, Bombay.
4. Pandey, I. M.(1988): Elements of Financial Management, Vikas Publishing House, New Delhi.

**OT0410: COMMUNICATION TECHNOLOGY, MASS MEDIA IN
EXTENSION**

L T Credit: 3
36 12 Marks: 75

Unit I: Communication system

Concept, function, types of communication. Models of communication. Factors affecting Communication process. Barriers in communication.

Unit II: Communication skill

Soft skill, effective oral communication, public speaking, Non verbal communication, writing skills.

Unit III: Mass Communication

Mass communication, concept, elements of mass communication, functions and uses of mass communication, characteristics of mass communication.

Unit IV: Communication through mass media

Print media- Newspaper, Magazine, Leaflet, Folder

Electronic media- Radio, Television, Video, computer base Technologies.

Outdoor media- Exhibition fair, kiosk, Ethics of mass media.

References-

1. Handbook of Journalism and Mass Communication.
VirBalaAggarwal. V.S. Gupta. Concept Publishing Company.
2. Media of Mass Communication. Vevian J.
3. Introduction to mass communication. Baran& Stanley
J.McGraw hill medical Publishing.

LAB COURSE ON
FOOD SCIENCE AND NUTRITION
OL0406: NUTRITION FOR HEALTH AND FITNESS

Credit:1

Marks:25

1. To assess physiological parameters like heart rate and blood pressure.
2. Planning diets for:
 - Fitness and health
 - Obesity management
 - Management of diabetes mellitus and CVD.

TEXTILES AND APPAREL DESIGNING

OL0407: HISTORIC TEXTILES AND COSTUMES

Credit: 1

Marks: 25

1. Preparation of portfolio of designs of different textiles
2. Museum visit

HUMAN DEVELOPMENT AND FAMILY STUDIES

OL0408: PARENTING IN EARLY CHILDHOOD

Credit: 1

Marks: 25

1. Conducting home visit and interacting to parents
2. Arranging workshop for parents.

FAMILY RESOURCE MANAGEMENT

OL0409: FINANCIAL MANAGEMENT

Credit: 1

Marks: 25

1. Planning budget for different income groups.
2. Preparation of statement of income, income tax and filling of income tax in case of returns for individual (salaried class).

EXTENSION EDUCATION

OL0410: COMMUNICATION TECHNOLOGY, MASS MEDIA IN EXTENSION

Credit: 1

Marks: 25

1. Planning & development of communication strategies and techniques using print/electronic/ outdoor media system.