

DIBRUGARH UNIVERSITY



Department of Home Science
Post Graduate Syllabus (CBCS)

POST GRADUATE SYLLABUS (CBCS)

HOME SCIENCE

	CREDIT	MARKS
FIRST SEMESTER	18	450
SECOND SEMESTER	20	500
THIRD SEMESTER	22	550
FOURTH SEMESTER	16	400
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TOTAL	76	1900

FIRST SEMESTER

Course number	Course name	L	T	C	M	E.A	I.A.
CC1001	Advanced Nutrition	48	16	4	100	60	40
CC1002	Life Span Development	48	16	4	100	60	40
CC1003	Lab. Course on			4	100		
	CC1001			2	50		
	CC1002			2	50		
DSE1004	Advanced Apparel Design and Construction	36	12	3	75	45	30
DSE1005	Practical			1	25		
AEC1006	Academic writing and Communication skill	24	6	2	50		
TOTAL				18	450		

** CC = Core Course, DSE = Discipline Specific Elective, AEC = Ability Enhancement 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.
CC2001	Resource Management	48	16	4	100	60	40
CC2002	Extension Education System	48	16	4	100	60	40
CC2003	Lab. Course on			4	100		
	CC2001			2	50		
	CC2002			2	50		
DSE2004	Institutional Food Service Management	36	12	3	75	45	30
DSE2005	Practical			1	25		
GE2006	Computer Application	24	6	2	50		
GE2007	Practical			2	50		
TOTAL				20	500		

** CC = Core Course, DSE = Discipline Specific Elective, GE = Generic Elective, L = Lecture, T = Tutorial, C = Credit, M = Marks, E.A. = External Assessment, I.A. = Internal Assessment.

THIRD SEMESTER

Course number	Course name	L	T	C	M	E.A.	I.A.
CC3001	Dyeing and Printing	48	16	4	100	60	40
CC3002	Research Methodology	48	16	4	100	60	40
CC3003	Lab. Course on			4	100		
	CC3001			2	50		
	CC3002			2	50		
DSE3004	Housing and Interior Decoration	36	12	3	75	45	30
DSE3005	Practical			1	25		
GE3006	Children with Special Need	36	12	3	75	45	30
GE3007	Practical			1	25		
AEC3008	Entrepreneurship Management	24	6	2	50		
TOTAL					22	550	

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FOURTH SEMESTER

Course number	Course name	L	T	C	M	E.A.	I.A.
EL1. CC4001	Nutritional Biochemistry	48	16	4	100	60	40
CC4002	Clinical & Therapeutic Nutrition	48	16	4	100	60	40
CC4003	Lab. Course on			4	100		
	CC4001			2	50		
	CC4002			2	50		
EL2. CC4004	History & Theories of Human Development	48	16	4	100	60	40
CC4005	Early Childhood Care & Education	48	16	4	100	60	40
CC4006	Lab. Course on			4	100		
	CC4004			2	50		
	CC4005			2	50		
EL3. CC4007	Consumer Economics	48	16	4	100	60	40
CC4008	Ergonomics	48	16	4	100	60	40
CC4009	Lab. Course on			4	100		
	CC4007			2	50		
	CC4008			2	50		
EL4. CC4010	Communication in Extension	48	16	4	100	60	40
CC4011	Media Production & Management	48	16	4	100	60	40
CC4012	Lab. Course on			4	100		
	CC4010			2	50		
	CC4011			2	50		
EL5. CC4013	Advanced Textile Designing	48	16	4	100	60	40
CC4014	CAD in Textiles and Fashion	48	16	4	100	60	40
CC4015	Lab. Course on			4	100		
	CC4013			2	50		
	CC4014			2	50		
DSE4016	Project/Internship related to Core course			4	100		
TOTAL				16	400		

*Any one Elective Course to be opted from the above mentioned EL1, EL2, EL3, EL4, EL5 as specialization.

FIRST SEMESTER
CC1001: ADVANCED NUTRITION

L T Credit: 4
48 16 Marks: 100

Unit I: Concept and basics of nutrition- Food, nutrient, nutrition, health, balanced diet, five food groups, RDA, BDR, meal planning, nutritional status, functions of food, Relationship between nutrition and health.

Unit II: Energy: Introduction, functions, RDA, excess and deficiency. Measurement of energy expenditure. Estimating energy requirements of individual and group. Carbohydrate: Introduction, functions, RDA, excess and deficiency. Dietary fibre and its importance in human health. Sweeteners- nutritive and non nutritive Protein: Introduction, functions, RDA, excess and deficiency. Therapeutic applications of specific amino acids Lipid: Introduction, functions, RDA, excess and deficiency. Role of omega-3, omega-6 fatty acids in health and disease. Mineral and vitamins: Introduction, functions, RDA, excess and deficiency. Water: Introduction, role of water in health and disease.

Unit III: Nutritional management in special condition- space, travel, high altitudes, low temperatures, submarines.

Unit IV: Physiological changes and nutritional requirements during various stages of life cycle- pregnancy, lactation, infancy, pre-school age, school age, adolescence, elderly.

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. Srilakshmi, 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.

CC1002: LIFE SPAN DEVELOPMENT

L	T	Credit: 4
48	16	Marks: 100

Unit I: Principles of growth and development, Factors affecting growth and development, Developmental task, Basic concepts of development maturation and learning.

Unit II: Prenatal development, Labour / birth, Postnatal life, Infancy- Physical, Motor, Social, Emotional, Cognitive and Language characteristics, Early childhood- Physical, Motor, Social, Emotional, Cognitive and Language characteristics.

Unit III: Middle childhood- Physical, Motor, Social, Emotional, Cognitive and Language characteristics. Adolescence - Physical, Motor, Social, Emotional, Cognitive and Language characteristics.

Unit IV: Adulthood- Physical, Motor, Social, Emotional, Cognitive and Language characteristics. 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.

CC1003: LAB COURSE ON

CC1001: ADVANCED NUTRITION

Credit: 2

Marks: 50

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

CC1002: LIFE SPAN DEVELOPMENT

Credit: 2

Marks: 50

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

DSE1004: ADVANCED APPAREL DESIGN & CONSTRUCTION

L T Credit: 3

36 12 Marks: 75

Unit I: Detailed study of industrial machines and equipment used for – Cutting, Sewing, Finishing, Embilishment.

Unit II: Preparatory steps for garment construction - Fabric grain; Preparatory steps- pre-shrinking, straightening & truing. Layout for patterns – general guidelines, basic layouts – lengthwise, crosswise, double fold. Pinning, marking and cutting.

Unit III: Methods of pattern making – Drafting, Flat pattern, Draping.

Unit IV: Evaluating the quality of apparel. Identification of the components of apparel, Fibre content, shaping devices, underlying fabrics, hem treatment, decorative details and alteration potential. Standards for evaluating the various components.

References:

1. Jamine Mee & Michael Purdy 1987: Modelling on the dress Stand, BSP Professional books.
2. Natalie Bray 1994: Dress Fitting, Blackwell.
3. Armstrong, H.J. (2009). Pattern Making for Fashion Design, Harper Collins Publishers Inc; New York.
4. Stamper, A.A., S.H. Sharp and L.B. Donnell.(1986). Evaluating Apparel Quality, Fairchild Publications, America.
5. Liechty, E.G., Potterberg, D.N., Rasband, J.A.(2010).Fitting and Pattern Alteration :A Multi method Approach, Fairchild Publications, New York.
6. Claire Shaeffers: Fabric Sewing Guide, Chilton Book Company, Radnot, Pennsylvania.
7. Grate and Storm: Concepts in Clothing, Mc Gwaw Hill Book Co. New York.
8. Margohs Design Your Own Dress Pattern Published By Double Day and Co. Inc., New York

DSE1005: PRACTICAL

Credit: 1

Marks: 25

1. Developing basic bodice block. Developing pattern of garment. (Using checks, stripes, printed fabric)
2. Designing through flat pattern – Dart manipulation
3. Developing dartless slopers – princess line variation
4. Developing slopers for skirt variation – Basic skirt, A-line skirt, Pleated skirt.
Skirt Band – Separated band, Faced waist line.

AEC1006: ACADEMIC WRITING AND COMMUNICATION SKILL

L T Credit: 2
24 6 Marks: 50

- Unit I:** Introduction to the conventions of Academic Writing.
- Unit II:** Speaking skills – Group discussion. Effective communication / mis communication. Interview, public speech.
- Unit III:** Writing skills – Documenting, Report writing, Making notes, Letter Writing.
- Unit IV:** Citing resources, Editing book and Media review.

Reference:

1. A course in Academic Writing, Gupta R., Orient Blackswan, New Delhi, 2010
2. Enrich Your English, OUP, SR Inthira and V. Saraswathi, CIEFL, 1997
3. Study Writing - A course in writing skills for academic purposes. Lip Hamp, Lyons and Ben Heasley.

SECOND SEMESTER
CC2001: RESOURCE MANAGEMENT

L T Credit: 4
48 16 Marks: 100

UNIT I: Management- Concept, Definition and Importance. Evolution of Management theories- classical, neo-classical and modern approach. Management and its environment as a system, Family Resource Management as a system.

UNIT II: Decision making- Importance, tools and techniques. Cost- benefit analysis, Decision matrix. T-chart, SWOT Analysis, Pareto Analysis, Feasibility study. Creativity in Decision Making. Human Resource Management- meaning, importance and objectives. Human Resource Development- Principles, attributes for Human Resource Development.

UNIT III: Managerial ability- Conceptual, Human and technical. Leadership- Importance, characteristics, functions, Motivation- Importance, elements and theories- Maslow's Hierarchy Needs Theory and Herzberg's Theory; Communication- type, importance, process and barriers.

UNIT IV: Management process: Planning- importance, types, planning in a system perspective, Implementing- controlling, checking, adjusting, implementing in a system perspective, evaluation and feedback.

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.
6. Crandell,E. and Gross, I.H. 1980: Management for modern families, Printice Hill, London.
7. Deacon, R.E & Firebaugh,F.M . 1981: Family Resource Management- Principles and application
8. Nickell, P. and Dorsey, J.M. 2002: Management in family living,4th edition, CBS Publishers, New Delhi.

CC2002: EXTENSION EDUCATION SYSTEM

L T Credit: 4
48 16 Marks: 100

Unit-1: Concept of Extension Education, Need, Philosophy, Objectives of Extension Education, Principles of Extension Education. 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-2: Developmental aspect of Extension, Extension Programme in India, NGO-Types, Problems of NGO, Developmental work of NGO.

Unit-3: 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-4: 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.

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.JyotiPrakashan, Allahabad
3. An introduction to extension education- S.V. Supe. Oxford IBH Publishing CO. PVT. LTD.
4. Extension Education. A. Reddy. Sree Laxmi Press.
5. Communication & Extension management. Dr. Jitendra Chauhan. Anjali Prakashan, Kanpur.

6. Extension & Communication for development.O.P.Dahama; O.P. Bhatnagar.
Oxford & Publishing CO.PVT.LTD.
7. A Handbook of Extension Education.Dipak De, BasavaprabhuJirli. Agrobios
(India).
8. Evaluating Development Programmes and Projects. R.Date – Sage
Publication.

CC2003: LAB COURSE ON

CC2001: RESOURCE MANAGEMENT

Credit: 2

Marks: 50

1. Case study on participation of decision making in families.
2. To find out leadership skills among individuals.

CC2002: 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.
3. Planning and executing extension programme.
4. Evaluation of extension programme.

DSE2004: INSTITUTIONAL FOOD SERVICE MANAGEMENT

L **T** **Credit: 3**
36 **12** **Marks: 75**

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.

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, training, 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. Quality assurance- Food quality. 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. 6th Edition. Revised by Harger FV, Shuggart SG & Palgne-Palacio June .Macmillian Publication Company New York.

DSE2005: PRACTICAL

Credit: 1

Marks: 25

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. Cafeteria.

GE2006: COMPUTER APPLICATION

L	T	Credit: 2
24	6	Marks: 50

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.

Unit IV: Multimedia: MS Word, MS Excel, MS Powerpoint, SPSS.

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.

GE2007: PRACTICAL

Credit: 2

Marks: 50

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

THIRD SEMESTER
CC3001: DYEING AND PRINTING

L T Credit: 4
48 16 Marks: 100

Unit I: Preparation of fabric for dyeing & printing. Scouring, bleaching, designing. Reagents used & their application. Specific preparatory steps for cotton, wool, silk & man made fibres. Equipment used at cottage & industrial level for yarn, fabric & price goods.

Unit II: Dye - Classification, definition, components. Dyeing with chemical dyes - Direct, reactive, vat, sulphur, azo (for cellulosic); Acid, metal complex, chromemordant (for protein); Basic, nylomine, disperse (for man-made). Dyeing with natural dyes. Use of pigments. Dyeing machines for fibers, yarns & fabrics. Dyeing methods.

Unit III: Textile design through dyeing. Dyeing defects & remedies.

Unit IV: Introduction to printing – difference between dyeing and printing. Methods of printing – Historical & Modern Methods. Printing pastes. Finishing and after treatment of printed goods at cottage and industrial level.

References:

1. V.A. Shenai (1987), Chemistry of Dyes and Principles of Dyeing, Sevak Prakashan, Mumbai.
2. H.A. Lubs Robert E. The Chemistry of Synthetic Dyes and Pigments, Kreiger Publishing company, New York.
3. V.A. Shenai (1999), Azo Dyes – Facts and Figures – Sevak Prakashan, Mumbai.
4. R.S. Prayag, Technology Textile Printing – Noyes Data Corporation.
5. V.A. Shenai (1977), Technology of Printing – Technology of Textiles Processing, Vol. IV, Sevak Publication.
6. M.L. Gulrajani and Deepti Gupta (1990), Natural Dyes and their application to textiles”, ed. I.I.T. Delhi Publication.

7. John and Margarot Cannon (1994), Dye Plants and Dyeing. The Herbert Press (UK).
8. ASTM and ISI Standards.
9. K. Venkatrama (1970). Chemistry of synthetic Dyes. Part I and II.

CC3002: RESEARCH METHODOLOGY

L **T** **Credit: 4**
48 **16** **Marks: 100**

Unit I: Research Methodology: An Introduction – Meaning of research, objectives of research, types of research, Research approaches, significance of research, research methods versus methodology, research and scientific method, Research process, criteria of good research. Trends in research in Home Science.

Unit II: Research problem: What is a research problem? Selection of research problem, Principle to be followed, definition and statement of the problem, Justification of the problem, Delimitation of the problem, Criteria for selecting a research topic, need and significance of the study.

Unit III: Research design. Dependent and independent variable, extraneous variable, experimental and control groups. Different research designs. Hypothesis – meaning, importance of hypothesis in research. Data collection. Parts of dissertation/Research report/article – introduction, review of literature, method, results and discussion.

Unit IV: Meaning, scope and definition of statistics. Measure of central tendency, Dispersion, Co-relation and Regression. Probability, Probability distribution and attributes.

References:

1. Mullins, C.J. (1977). A guide to writing and publishing in Social and Behavioral Science. New York: John Wiley & Sons.
2. Kothari, C.R.; Garg G. (2014). Research Methodology. Methods and techniques. Third Edition. New Age International Publishers.
3. Sarma, H. (2012). Research methodology assignment, seminar paper & project. EBH publishers (India), Guwahati.

**CC3003: LAB. COURSE ON
CC3001: DYEING AND PRINTING**

Credit: 2

Marks: 50

1. Preparation of fabric for dyeing & printing.
2. Dyeing of yarns & fabric with different classes of dyes - Direct, reactive, vat, sulphur, azo; Acid, chrome, metal complex; Basic, disperse; Natural dyes.
3. Preparation of fabric for printing – different fibre groups with different dyes, different styles of printing.
4. Preparation of screens for printing.
5. Printing with blocks and screens on cotton, silk, wool. Wool, cotton silk and cotton polyester blends in different styles with different dye classes - Direct style, Mordant or dyed style, Azok style, Discharge style, Resist style, Finishing the printed goods.

CC3002: RESEARCH METHODOLOGY

Credit: 2

Marks: 50

1. Exercise in designing tools and their analysis: interview, questionnaire.
2. Data collection process: conducting interviews, case studies.

DSE3004: HOUSING AND INTERIOR DECORATION

L	T	Credit: 3
36	12	Marks: 75

UNIT I: Housing - needs and importance, Present housing conditions in India- Rural and Urban. Building materials, Low cost and eco- friendly building materials, building bye-laws.

Unit II: Interior Space Designing- Factors to be considered while designing- orientation, grouping, circulation, light and ventilation, flexibility, privacy, roominess, aesthetic, cost. Sanitary and Electrical, fittings.

UNIT III: Colour and colour schemes, lighting in different rooms, Acoustics

UNIT IV: Planning different areas of the house- living, dining, 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.

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.
4. Gandotra, V. & Patel, S. (2017): Housing for Family Living, Dominant Publishers, New Delhi.

DSE3005: PRACTICAL

Credit: 1

Marks: 25

1. Drawing house plans for different income groups.
2. Drawing Colour schemes for different rooms.
3. Market survey of surface materials, finishes, fittings and fixtures.

GE3006: CHILDREN WITH SPECIAL NEED

L	T	Credit: 3
36	12	Marks: 75

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, orthopedically 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.

GE3007: PRACTICAL

Credit: 2

Marks: 50

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

AEC3008: ENTREPRENEURSHIP MANAGEMENT

L	T	Credit: 2
24	6	Marks: 50

Unit I: Concept, definition, need of entrepreneurship, entrepreneurship development in India. Types of enterprise.

Unit II: Entrepreneurial motivation and competency. Understanding the process of entrepreneurship development, self awareness, interpersonal skills, creativity assertiveness.

Unit III: Enterprise selection, market assessment, Resource mobilization - finance technology, raw material, site and manpower, cost, Quality control.

Unit IV: Marketing management, Functions of marketing. Marketing mix, Profit assessment.

References:

1. Entrepreneurship for women in India. MMP Akhauri, 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, Sage Pulation.Inc.

FOURTH SEMESTER

EL1. CC4001: 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, food sources, functions, requirements, classification, structure and properties. Minerals: Biological role of trace elements.

Unit III: Hormones- definition, types and mechanism of action of hormones. Blood-composition, blood groups and functions. Intermediary metabolism: Carbohydrates- glycolysis, Gluconeogenesis, citric acid cycle. Lipids- synthesis and breakdown of Unsaturated fatty acids, cholesterol, phospholipids and triglycerol.

Unit IV: Classification and importance of food pigments, browning reaction. Definition, Classification and uses of food additives.

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.

EL1. CC4002: 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. Diet, nutrient and drug interaction- effect of drugs on ingestion, digestion, absorption and metabolism of nutrients.

Unit II: Assessment of nutritional status- concept and importance. Methods of assessment of nutritional status- direct methods and indirect methods. Assessment of nutritional status of various segments of the population- infants, children, adolescents, adults.

Unit III: Etiology, signs and symptoms, types, complications, prevention and recent advances in the nutritional management of: Weight imbalances, malaria, typhoid, tuberculosis, gout, cardiovascular disorders, diabetes mellitus, GI tract disorders, Liver and gall bladder, Pancreatic disorders, Renal Disorders, Cancer, neurological disorder, Infection and AIDS.

Unit IV: Etiology, signs and symptoms, types, prevention and recent advances in nutritional management of – diarrhoea, vomiting, constipation and childhood problems/ disorders including inborn errors of metabolism. Dietary recommendations for blood donors, 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.

EL1. CC4003: LAB. COURSE ON

EL1. CC4001: NUTRITIONAL BIOCHEMISTRY

Credit: 2

Marks: 50

1. Estimation of glucose in blood and urine.
2. Estimation of cholesterol in blood.
3. Estimation of haemoglobin.
4. Survey of pathological laboratories to obtain the information about the methods used for blood/ serum analysis.

EL1. CC4002: CLINICAL AND THERAPEUTIC NUTRITION

Credit: 2

Marks: 50

1. Market survey of commercial nutritional supplements and nutritional support substrates.
2. Preparation of diet manual.
3. Preparation of diet counseling aids for common disorders.
4. Planning and preparation of diets for patients with common multiple disorders and complications.

EL2. CC4004: 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.

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.

EL2. CC4005: 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- firsthand 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 WorldBank.
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 Kayness: 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.

EL2. CC4006: LAB. COURSE ON

EL2. CC4004: 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.

EL2. CC4005: 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, Anganwadi centres.
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.

EL3. CC4007: 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.

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

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, Kitab Mahal.

EL3. CC4008: ERGONOMICS

L	T	Credit: 4
48	16	Marks: 100

UNIT I: Ergonomics- meaning, scope, need and benefits, principles of ergonomics, components of ergonomics, man- machine- environment system.

UNIT II: Physiological cost of work- Methods to assess physiological cost of work, types of movements taking place at joints, Static and dynamic muscular effort, Endurance and muscular strength. Efforts used in household activities.

UNIT III: Anthropometry and Biomechanics – meaning and scope. Working posture and motion – positions causing fatigue, Body mechanics – principles, height of work surface. Ergonomic consideration for work place design and designing product, ergonomic consideration for physically challenged and elderly persons.

UNIT IV: Environment factors- heat, illumination, noise etc. Safety factors in designing work areas and equipments, Occupational hazards, fatigue-types, effect, causes and remedies. Stress- types and causes.

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 organisational science, new age international (P) Ltd, New Delhi.
5. Gandotra, V; Oberoi, K & Sharma, P.(2013).Essentials of Ergonomics, Dominant Publishers, New Delhi.
6. Gandotra, V.; Jaiswal, N. (2008): Management of Work in Home, Dominant Publishers,New Delhi-110002
7. Setharaman, P.; Batra, S.; Mehra, P. (2015): An Introduction to Family Resource Management, CBS Publishers and Distributers, New Delhi-110002

EL3. CC4009: LAB. COURSE ON

EL3. CC4007: CONSUMER ECONOMICS

Credit: 2

Marks: 50

1. Visit to rural and urban consumers and to identify their problems.
2. Observation of World Consumer Rights Day.
3. Visit to consumer redressal forum.

EL3. CC4008: ERGONOMICS

Credit: 2

Marks: 50

1. Determination of physical fitness using step stool ergometer.
2. To identify and use various instrument employed in ergonomic research- Tread mill, Step stool, Heart rate monitor, Noise level meter, Luxmeter, Hygrometer, Bicycle Ergometer, Handgrip Dynamometer, Height and Weight measuring instrument, Stop watch, etc.
3. Determination of energy expenditure and physiological cost of work of selected household activities by using heart rate monitor.

EL4. CC4010: COMMUNICATION IN EXTENSION

L T Credit: 4
48 16 Marks: 100

Unit I: Concept, models, types, function of communication, Communication approaches, credibility, empathy, fidelity, feedback and factors affecting communication process, barriers in communication. Communication skills- soft skill, writing skill, public speaking.

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

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

Unit IV: 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.

EL4. CC4011: MEDIA PRODUCTION AND MANAGEMENT

L T Credit: 4
48 16 Marks: 100

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

Unit III: 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 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. VirbalaAgarwal, V.S. Gupta. Concept publishing company.
3. Text book of Mass Communication & Media. Uma Joshi, Anmol Publication Private Limited.

EL4. CC4012: LAB. COURSE ON

EL4. CC4010: COMMUNICATION IN EXTENSION

Credit: 2

Marks: 50

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

EL4. CC4011: 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 of advertisement for campaigns on different media.

EL5. CC4013: ADVANCED TEXTILE DESIGNING

L	T	Credit: 4
48	16	Marks: 100

Unit I: Introduction of weaving operation - Pre weaving operations, Classification of weave, Parts of loom.

Unit II: Study of design, draft and peg plan for different weaves; weave calculations, advantages and disadvantages.

Unit III: Weaving structure- leno, double cloth, honey comb, mock leno, diamond, dobby, warp and wet figuring, terry and bile, huck - a - back. Dobby and jacquard pattern device. Advantages and disadvantages. Methods of making carpets.

Unit IV: 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 process.

References:

1. Radha Kerma, 1971: Manual of non-weaven, Textile Trade Press.
2. Sengupta 1959: Weaving Calculations DB, Taraporawala Sons.
3. Bane A, 1996: Creative Clothing Construction, McGraw Hill.

EL5. CC4014: CAD IN 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, Septamber 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.

EL5. CC4015: LAB. COURSE ON

EL5. CC4013: ADVANCED TEXTILE DESIGNING

Credit: 2

Marks: 50

1. Weaving: preparation of drafts 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 tradition and modified textile design.

EL5. CC4014: 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.

DSE4016

❖ PROJECT / INTERNSHIP RELATED TO CORE COURSE

Credit: 4

Marks: 100