



**Faculty of Home Science**  
**Professor Jayashankar Telangana State Agricultural University**  
**Rajendranagar, Hyderabad – 500030**  
**B.Sc. (Hons) Community Science**  
**I, II, III & IV year syllabus with lecture outlines**

**Department Wise List of Courses, Course Numbers and  
 Credit Hours – Approved**

**A) Core Courses**

<b>Department of Apparel and Textiles</b>		
<b>Course No.</b>	<b>Course Title</b>	<b>Credit hours</b>
APT X 111	Textile Science and Fabric Care	3(2+1)
APT X 121	Fundamentals of Clothing Construction	3(1+2)
APT X 211	Techniques of Fabric Construction	3(1+2)
APT X 221	Textile Finishes	2(1+1)
APT X 311	Garment and Accessory Designing	3(0+3)
APT X 312	Retailing and Merchandising-Textiles and Apparel	2(2+0)
APT X 321	Traditional Textiles and Costumes of India	3(2+1)
	<b>Total</b>	<b>19(9+10)</b>
<b>Department of Extension Education and Communication Management</b>		
EECM 121	Extension and Rural Development	3(2+1)
EECM 211	Women in Agriculture	3(2+1)
EECM 221	Extension Training Management	3(1+2)
EECM 311	Project Management	2(1+1)
EECM 321	Information and Communication Technology	3(1+2)
EECM 322	Diffusion and Adoption of Homestead Technologies	3(2+1)
	<b>Total</b>	<b>17(9+8)</b>
<b>Department of Foods and Nutrition</b>		
FDNT 111	Principles of Human Nutrition	3(3+0)
FDNT 121	Food Science and Processing	3(2+1)

FDNT 211	Community Nutrition and Education	3(2+1)
FDNT 212	Food and Nutrition Policy and Agriculture	2(2+0)
FDNT 221	Normal and Therapeutic Nutrition	4(3+1)
FDNT 222	Food Standards and Quality control	3(2+1)
FDNT 311	Food Hygiene and Sanitation	2(1+1)
FDNT 312	Food Analysis	3(1+2)
FDNT 321	Clinical Nutrition and Dietetics	3(2+1)
	<b>Total</b>	<b>26(18+8)</b>
<b>Department of Human Development and Family Studies</b>		
HDFS 111	Fundamentals of Human Development	2(2+0)
HDFS 121	Life-Span Development	3(2+1)
HDFS 211	Marriage and Family Dynamics	3(2+1)
HDFS 221	Developmental Challenges in Children	3(2+1)
HDFS 311	Family Counseling and Welfare	3(2+1)
HDFS 321	Education Psychology and Early Childhood Education	3(2+1)
	<b>Total</b>	<b>17(12+5)</b>
<b>Department of Resource Management and Consumer Sciences</b>		
RMCS 111	Fundamentals of Art and Design	3(2+1)
RMCS121	System Dynamics and Management of Resources	2(1+1)
RMCS211	Financial Management and Consumer Education	2(2+0)
RMCS221	Housing and Space Management	3(2+1)
RMCS222	Ergonomics and Appropriate Technologies	2(1+1)
RMCS311	Residential and Commercial Space Design	3(2+1)
RMCS321	Entrepreneurship Development and Business Management	3(2+1)
	<b>Total</b>	<b>18(12+6)</b>

### **B) Community Science Basic Courses (CSBC)**

<b>Course No.</b>	<b>Course Title</b>	<b>Credit Hours</b>
CSBC 111	General English-I	2(1+1)
CSBC 112	Introduction to Rural Sociology	2(2+0)
CSBC 113	Environmental Studies and Disaster Management	3(2+1)
CSBC 114	National Service Scheme*	2(0+2)
CSBC 115	Physical Education & Yoga*	1(0+1)
CSBC 121	Technical Writing –English-II	2(1+1)

CSBC 122	Principles of Biochemistry	3(2+1)
CSBC 123	Agricultural Informatics	3(1+2)
CSBC 211	Elementary Statistics	3(2+1)
CSBC 212	Fundamentals of Food Microbiology	3(2+1)
CSBC 221	Communication Skills and Personality Development	3(2+1)
CSBC 311	Economics and Marketing	3(2+1)
CSBC 321	Elementary Human Physiology	3(2+1)
	<b>Total</b>	<b>33(19+14)</b>
	*Non gradial courses	

### C) Semester Wise Distribution of Courses

Course No.	Course Title	Credit Hours
<b>I SEMESTER</b>		
CSBC 111	General English – I	2 (1+1)
FDNT 111	Principles of Human Nutrition	3(3+0)
APTX 111	Textile Science and Fabric Care	3(2+1)
RMCS 111	Fundamentals of Art and Design	3(2+1)
HDFS 111	Fundamentals of Human Development	2(2+0)
CSBC 112	Introduction to Rural Sociology	2(2+0)
CSBC 113	Environmental Studies and Disaster Management	3(2+1)
CSBC 114	National Services Scheme	2(0+2)
CSBC 115	Physical education/ yoga	1 ( 0+1)
	<b>Total</b>	<b>21(14+7)</b>
<b>II SEMESTER</b>		
CSBC 121	Technical Writing (English)	2 (1+1)
FDNT 121	Food Science and Processing	3(2+1)
APTX 121	Fundamentals of Clothing Construction	3(1+2)
RMCS121	System Dynamics and Management of Resources	2(1+1)
HDFS 121	Life-Span Development	3(2+1)
EECM 121	Extension and Rural Development	3(2+1)
CSBC 122	Principles of Biochemistry	3(2+1)
CSBC 123	Agricultural Informatics	3(1+2)
	<b>Total</b>	<b>22 (12+10)</b>
<b>III SEMESTER</b>		
FDNT 211	Community Nutrition and Education	3(2+1)
FDNT 212	Food and Nutrition Policy and Agriculture	2 (2+0)
APTX 211	Techniques of Fabric Construction	3(1+2)
RMCS 211	Financial Management and Consumer Education	2(2+0)
HDFS 211	Marriage and Family Dynamics	3(2+1)
EECM 211	Women in Agriculture	3(2+1)
CSBC 211	Elementary Statistics	3(2+1)
CSBC 212	Fundamentals of Food Microbiology	3(2+1)
	<b>Total</b>	<b>22(15+7)</b>
<b>IV SEMESTER</b>		

FDNT 221	Normal and Therapeutic Nutrition	4(3+1)
FDNT 222	Food Standards and Quality Control	3(2+1)
APTX 221	Textiles Finishes	2(1+1)
RMCS 221	Housing and Space Management	3(2+1)
RMCS 222	Ergonomics and Appropriate Technologies	2(1+1)
HDFS 221	Developmental Challenges in Children	3(2+1)
EECM 221	Extension Training Management	3(1+2)
CSBC 221	Communication Skills and Personality Development	3(2+1)
	<b>Total</b>	<b>23(14+9)</b>
<b>V SEMESTER</b>		
FDNT 311	Food Hygiene and Sanitation	2(1+1)
FDNT 312	Food Analysis	3(1+2)
APTX 311	Garment and Accessory Designing	3(0+3)
APTX 312	Retailing and Merchandizing- Textiles and Apparel	2(2+0)
RMCS 311	Residential and Commercial Space Design	3(2+1)
HDFS 311	Family Counseling and Welfare	3(2+1)
EECM 311	Project Management	2(1+1)
CSBC 311	Economics and Marketing	3(2+1)
	<b>Total</b>	<b>21(11+10)</b>
<b>VI SEMESTER</b>		
FDNT 321	Clinical Nutrition and Dietetics	3(2+1)
CSBC 321	Elementary Human Physiology	3(2+1)
APTX 321	Traditional Textiles and Costumes of India	3(2+1)
RMCS 321	Entrepreneurship Development and Business Management	3(2+1)
HDFS 321	Educational Psychology and Early Childhood Education	3(2+1)
EECM 321	Information and Communication Technology	3(1+2)
EECM 322	Diffusion and Adoption of Homestead Technologies	3(2+1)
	<b>Total</b>	<b>21(13+8)</b>
<b>STUDENT READY PROGRAMME</b>		<b>40(0+40)</b>
<b>VII SEMESTER</b>		
READY-411 (Rural Enterpreneurship Awareness Development Yojana)	Experiential Learning Programme (Any 2modules out of 4 with 10 credits each)	20(0+20)
<b>VIII SEMESTER</b>		
READY-421	RAWE	10(0+10)
READY-422	Skill Development Training/Internship	10(0+10)
	<b>Total</b>	<b>20(0+20)</b>

## DEPARTMENTWISE AND YEARWISE DETAILED LECTURE OUTLINES

FOR I, II, III AND IV YEAR FOR

### B SC (HONS) COMMUNITY SCIENCE

#### Basic Supporting Courses

<b>1<sup>st</sup> Year 1<sup>st</sup> Semester</b>		
CSBC 111	General English – I	2 (1+1)
CSBC 112	Introduction to Rural Sociology	2 (2+0)
CSBC 113	Environmental Studies and Disaster Management	3 (2+1)
CSBC 114	National Services Scheme	2 (0+2)
CSBC 115	Physical education/ yoga	1 ( 0+1)
<b>1<sup>st</sup> Year 2<sup>nd</sup> Semester</b>		
CSBC 121	Technical Writing (English)	2 (1+1)
CSBC 122	Principles of Biochemistry	3(2+1)
CSBC 123	Agricultural Informatics	3(1+2)
<b>2<sup>nd</sup> Year 1<sup>st</sup> Semester</b>		
CSBC 211	Elementary Statistics	3(2+1)
CSBC 212	Fundamentals of Food Microbiology	3(2+1)
<b>2<sup>nd</sup> year 2<sup>nd</sup> Semester</b>		
CSBC 221	Communication Skills and Personality Development	3(2+1)
<b>3<sup>rd</sup> year 1<sup>st</sup> Semester</b>		
CSBC 311	Economics and Marketing	3(2+1)
<b>3<sup>rd</sup> year 2<sup>nd</sup> Semester</b>		
CSBC 321	Elementary Human Physiology	3(2+1)

#### Detailed Lecture Outlines

##### 1<sup>st</sup> Year 1<sup>st</sup> Semester

CSBC 111                                      **General English – I**                                      **2 (1+1)**

Course No. – CSBC 111

Title – General English

Credit hours 2 (1+1)

**General Objective:** - To enable the students to admire literary master pieces& inculcate creativity & artistic balance in them.

**Specific Objective:** - By the end of the course the students will be able to

**Theory:**

- Admire literary master pieces
- Inculcate creativity & aesthetic sense
- Learn language through Literature

**Practical:**

- Pronounce & articulate words with correct stress mark
- Learn how to write words in phonetic form
- Speak understandable English.

**Theory Lecture Outlines**

- Word Formation – Steps involved in the formation of a word
- Prepositions – Types of prepositions, Role of prepositions in the formation of a sentence
- Idiomatic Expressions – Enrichment of vocabulary through the use of idioms, how they add beauty to a sentence
- Conditional sentences – Use of conditional words like if, whether, until & unless.
- Modal Verb – Role of modal verbs in a sentence, Examples of modal verbs.
- Synthesis & Transformation of sentences – teaching vocabulary & grammar through the use of different types of sentences.
- Essay Writing – Essentials of good essay, Different types of essays
- Five topics to be discussed under Essay Writing.

**The following lessons from the text book “Selections from modern English prose” Edited by Haldhar Panda.**

- Education for new India – C. Raja Gopala Chary
- The sporting spirit – George Orwell
- On saying please – AG Gardiner
- The secret of work – Swami Vivekananda
- The generation gap – Benjamin Spock
- Learning Vocabulary, grammar & pronunciation through the above mentioned lessons.
- Appreciation of literature – Teaching students the ability to grasp & appreciate the literature
- Revision & Feedback.

**Suggest readings:**

1. Allen, W. Standard. Living English structure, Orient Longmans, London
2. Sharma, SD. A textbook of spoken and written English

**Practical Lecture Outlines**

- Introduction to spoken English
- Orthography, orthoepy
- Listening comprehension exercises
- English conversation practice
- Spoken English – slashes, Diakretics
- Vowels of spoken and written English

- Monophthongs – Types with examples
- Diphthongs - Types with examples
- Stress – Meaning and definition
- Syllable – Definition- words having one, two, three, four and five syllables
- Rules of stress
- Words having stress on first syllable
- Words having stress on second syllable
- Change of stress mark according to word function
- Review or Feedback
- Final practical examination

**FDNT 111**

**Principles of Human Nutrition**

**3(3+0)**

1. **Course No.** : FDNT 111

2. **Title** : Principles of Human Nutrition

3. **Credit hours** : 3 (3+0)

4. **General Objectives:**

- To develop an insight into the historical development of nutrition science and its relation to health.
- Create awareness about the concepts of balanced diets and recommended dietary intakes.
- Impart knowledge of nutrients, their functions, sources, requirements, digestion, absorption, deficiency diseases and toxicity.
- Develop basic understanding of nutritional assessment techniques.

5. **Specific Objectives:**

**Theory:**

By the end of the course students will be able to:

- Know list macro nutrients and micro nutrients and their historical development.
- Learn about different classification of carbohydrates, protein and lipids, their functions, deficiency symptoms, requirements and food sources and the process of their digestion and absorption.
- Learn about importance of energy, factors affecting BMR and requirements and sources.
- Learn about fat soluble and water soluble vitamins, minerals and water, their functions, deficiency symptoms, requirements and food sources.
- Know the techniques of evaluation of nutritional status of population.

**Theory Lecture Outlines:**

1. Introduction to nutrition science and its relation to health, growth and human welfare.
2. Historical development of Nutrition science.
3. Carbohydrates- introduction, types and classification.
4. Carbohydrates- functions, sources and requirements.

5. Health conditions influenced by carbohydrates and significance of dietary fibre.
6. Lipids- introduction, types and functions.
7. Lipids- sources, requirement and health conditions associated with lipids.
8. Proteins- introduction, types and classification.
9. Protein- functions, sources and requirements.
10. Protein quality evaluation and improvement.
11. Protein energy malnutrition- causes, signs and symptoms of kwashiorkor and marasmus.
12. Energy – units, sources and requirements.
13. Fuel value of food, energy requirement of the body- physical activity and thermogenic effect of food.
14. BMR –methods of measurement and factors affecting Basal Metabolic rate.
15. Digestion and absorption of carbohydrates.
16. Digestion and absorption of proteins and fats.
17. Vitamins- Introduction, classification as fat soluble and water soluble vitamins.
18. Vitamin A- functions, sources, requirement, deficiencies and toxicity.
19. Vitamin D- functions, sources, requirement, deficiencies and toxicity.
20. Vitamin E- functions, sources, requirement, deficiencies and toxicity.
21. Vitamin K- functions, sources, requirement, deficiencies and toxicity.
22. Water soluble vitamins- Vitamin C or ascorbic acid- functions, sources, requirement and deficiencies.
23. Thiamine (B1) - functions, sources, requirement and deficiencies.
24. Riboflavin (B2) - functions, sources, requirement and deficiencies.
25. Niacin (B3) - functions, sources, requirement and deficiencies.
26. Pyridoxine (B6) - functions, sources, requirement and deficiencies.
27. Vitamin B12 - functions, sources, requirement and deficiencies.
28. Vitamin Folic acid- functions, sources, requirement & deficiencies.
29. Minerals – introduction and classification.
30. Calcium- functions, sources, requirement and deficiencies.
31. Phosphorus- functions, sources, requirement and deficiencies.
32. Iodine-functions, sources, requirement and deficiencies.
33. Fluorine-functions, sources, requirement and deficiencies.
34. Iron-functions, sources, requirement and deficiencies.
35. Sodium-functions, sources, requirement and deficiencies.
36. Potassium-functions, sources, requirement and deficiencies.
37. Chloride and copper functions, sources, requirement and deficiencies.
38. Zinc-functions, sources, requirement and deficiencies.
39. Bio availability and factors affecting calcium and iron absorption.
40. Electrolyte balance- need for maintenance.
41. Water- functions, source, distribution in body and water balance.
42. Concept of recommended dietary allowances.
43. Recommended allowances for specific nutrients and energy.



44. Concept of balanced diet and importance.
45. Basic food groups – characteristics and their contribution to the diet.
46. Nutraceuticals, Dietary supplements, Functional food, Phytochemicals.
47. Assessment of nutritional status- anthropometric and biochemical methods.
48. Assessment of nutritional status –clinical and dietary surveys.

**APTX 111                      Textile Science and Fabric Care                      3(2+1)**

**1. Course No: APTX 111**

**2. Title: Textile Science & Fabric care**

**3. Credit Hours: 3(2+1)**

**4. General Objective:** To impart knowledge about textile basics like fibre, yarn, fabric in general, understand the primary and secondary properties of economically important textile fibers, yarns and fabrics, know the fabric labels, stain removal, care and laundry aspects.

**5. Specific Objective:**

**a) Theory**

**By the end of the course, student will be able to**

- To grasp basic concepts related to textile fibers, yarns, fabrics
- To enlarge vocabulary of textile fibers, yarns and fabrics
- To keep up with the basics and advances in textile fibers
- To understand the care and storage aspects of different fabrics available in market

**b) Practical**

**By the end of the course, student will be able to**

Distinguish common fibre types

- Understand processes used in forming yarns and fabrics from fibres
- Identify some common yarn and fabric construction techniques
- Understand how different fibres degrade, how textile construction affects degradation, how to take care of different fabrics.
- Undertake fibre , yarn, fabric identification strategies

**A) Theory Lecture Outlines**

1. Textile: definition, forms of textile, importance of textile industry in national economy
2. Classification of textile fibres
3. Properties of textile fibres- primary properties
4. Properties of textile fibres-secondary properties
5. Molecular structure of textile fibres: Monomers, polymers and their types, polymerization and its types, degree of polymerization and orientation
6. Cotton:Fibre production, fibre varieties and their grading ,fibre morphology, physical, chemical and biological properties and end-uses
7. Bastfibres: Flax, Fibre production, fibre morphology, physical, chemical and biological properties and end-uses

8. Jute: Fibre production, fibre morphology, physical, chemical and biological properties and end-uses
9. Other bastfibres : hemp and ramie Fibre production, fibre morphology and physical, chemical and biological properties and end-uses
10. Wool: Fibre production, classification of wool and their labeling, fibre morphology, physical, chemical and biological properties and end-uses
11. Silk:Fibre production and classification, fibre morphology, physical, chemical and biological properties and end-uses
12. Chemical spinning: Wet, melt and dry spinning and common properties of man-made fibres
13. Rayons: Viscose, rayons; fibre manufacturing, microscopic structure, physical, chemical and biological properties and end-uses
14. Cupramonium and High Wet Modulus fibre manufacturing, microscopic structure, physical, chemical and biological properties and end-uses
15. Synthetic fibres: Nylon, fibre manufacturing, fibre microscopic structure, physical, chemical and biological properties and end-uses
16. Synthetic fibres: polyesterfibre manufacturing, fibre microscopic structure, physical, chemical and biological properties and end-uses
17. Synthetic fibres: acrylic; fibre manufacturing, fibre microscopic structure, physical, chemical and biological properties and end-uses
18. Mechanical spinning: Ring spinning method
19. Classification of yarn on the basis of structure- simple and novelty yarns, twist direction, twist amount, fibre length and end-uses
20. Yarns: size of yarn, count systems
21. Methods of fabric construction: Weaving, knitting, braiding, tufting, net, lace making, crocheting, macramé,
22. Methods of fabric construction: stitch through fabrics, quilted fabrics, laminated fabrics, bonded fabrics, felt, nonwoven and films
23. Stain removal: Classification of stains and methods of removing different stains
24. Laundry: Definition, principles, equipments, laundry methods
25. Laundry: dry cleaning
26. Laundry agents: Water,
27. soap,
28. laundry auxiliary, stiffening agents, bleaches and blues
29. Care of textiles: Labeling and labeling Act Labels and tags used in textiles
30. Storage of clothes: Requirements of short term and long term storage,
31. Folding and packaging of clothes
32. Revision

## B) Practical Lecture Outlines

1. Testing of textile fibres- Visual test
2. Testing of textile fibres - Microscopic view
3. Testing of textile fibres - Burning test
4. Testing of textile fibres - Solubility test
5. Testing of unknown fiber
6. Study and identification of different types of yarns in the market
7. Study and identification of fabric samples available in the market
8. Study of thread count of samples using pick glass, line gratings, raveling method
9. Removal of different stains from fabric surface
10. Washing and finishing of garments made of Cotton
11. Washing and finishing of garments made of Wool
12. Washing and finishing of garments made of Silk
13. Washing and finishing of garments made of Blends/ synthetic
14. Visit to textile industry
15. Report writing
16. Removal of different stains from fabric surface

### References:

1. Corbman B. P (1983) Textiles-fiber to fabric, Mc Graw-Hill Int., USA
2. Dantyagi, S. 1959. Fundamentals of textiles and their Care. New Delhi. Orient Longman Limited.
3. Deulkar, D. and Tarabai.1967. Household textiles and laundry Work. 3rd ed. Delhi.Atma Ram and Sons Ltd
4. Kadolph S J (2013) Textiles: Pearson New International Edition, Pearson Education Ltd, Asia
5. Noemia, D Souza (1998) Fabric Care  
New Age Publications
6. Vatsala, R. 2003. Textbook of Textiles and Clothing. New Delhi. Indian Council of Agriculture Research
7. Wynne A (1997) Textiles The Motivate Series, Macmillan

### **RMCS 111                      Fundamentals of Art and Design                      3(2+1)**

1. Course Number                      : RMCS 111
2. Title                                      : **Fundamentals of Art and Design**
3. Credit Hours                          : 3 (2+1)
4. **General objective** : To impart knowledge and skills in fundamentals of art and design principles in interior design
5. **Specific objectives:**
  - a. **Theory**  
By the end of the course the students will be able to

- To understand design fundamentals
- To develop an awareness of the factors that determine the appropriateness of successful design
- To apply design fundamentals to develop aesthetic and functional living space

#### **b. Practical**

By the end of the course the students will be able to

- To apply the design fundamentals effectively in an interior design setting
- To discover the effects of applying the design fundamentals in various situations
- To achieve aesthetic harmony through design

#### **Theory**

Introduction and objectives of interior decoration. Types of Design and their requirements. Elements of art and their importance in interior decoration. Principles of design and their application to enrich the interiors - Colour – Importance, need, theory, schemes – Lighting – importance, types of lighting and its application - Furniture: Types, use and care, and materials – Walls , Floor, floor coverings,ceilings: Importance, types, care, maintenance, and selection : Stair cases: Importance, types, care, maintenance, and selection - Windows – importance, its functional and decorative treatments – Accessories: Classification, selection and arrangement - Flower arrangement – materials used, principles involved, types, practical utility and care - Table setting – methods and materials used for table setting and table etiquettes.

#### **Practical**

Learning elements of art and principles of design. Development of motif and design through art principles. Colour – colour schemes, values and intensity scale, colour wheel. Lighting, fixtures and then utility. Furniture – care and arrangement of furniture. Accessories – preparation and placements of accessories. Flower arrangement. Learning different types of table setting and napkin folding. Window treatment. Market survey – different types of wall and floor coverings.

#### **A. Theory lecture outlines**

1. Introduction and objectives of interior decoration
2. Design – Types, features and requirements
3. Elements of art and their importance in interior decoration
4. Elements of art and their importance in interior decoration
5. Principles of design and their application to enrich the interiors
6. Principles of design and their application to enrich the interiors
7. Colour - Sources of colour, Colour theories and properties of colour
8. Colour - Colour schemes and Colour plans for interiors
9. Colour - Emotional effects of colour
10. Lighting – Importance and sources
11. Lighting - Types of lighting and its application.
12. Furniture - Types of furniture

13. Furniture - Materials and finishes of furniture
14. Furniture - Selection, Care and maintenance of furniture
15. Furniture - Furniture arrangement
16. Walls – Classification, characteristics and Materials Used
17. Walls – Types of wall treatments
18. Walls - Exterior and interior wall finishes.
19. Ceilings – Types, materials and functions
20. Floors - Importance and types of floors
21. Floors –Types of floor covering
22. Floors - Selection and Care, maintenance of floor covering and floors
23. Windows, Doors, Ventilators – Importance and types
24. Windows – Functional and decorative treatments
25. Staircases – Types and Materials
26. Accessories – Definition, Importance and Classification
27. Accessories – Application of principles of design and decoration in the selection/development of accessories, and their placement.
28. Flower arrangement – Definition, Importance, Tools and Mechanics
29. Flower arrangement – Shapes and Types of flower arrangement
30. Flower arrangement - Principles of flower arrangement, utility and care
31. Table setting – Types and styles
32. Table setting – Methods and Materials used for table setting and table etiquettes.

**B. Practical lecture outlines**

1. Learning the application of elements of art in design
2. Learning the application of principles of design in design
3. Development of motif and design through art principles
4. Developing a Colour wheel
5. Developing value and intensity scales
6. Developing Colour schemes – related
7. Developing Colour schemes - contrasting
8. Developing a scrap book on Lighting fixtures
9. Identifying different types of Furniture through pictures
10. Identifying different arrangement of furniture for different rooms
11. Accessories – Preparation and placements of accessories
12. Flower arrangement
13. Flower arrangement
14. Learning different types of table setting and napkin folding
15. Window treatment

16. Market survey – different types of wall and floor coverings

**References:**

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

**Suggested Readings**

1. Gewther, M. (1970). The Home, its Furnishings & Equipment U.S.A. Mc. Graw Hill.
2. Mike, L. (1986). The Complete Interior Decoration. United Kingdom: Mc Donald.
3. Parveen Pannu, Premavathy Seetharaman. 2013. Interior Design and Decoration. CBS Publishers & Distributors Pvt. Ltd.,
4. Seetharaman P. 2015. An Introduction to Family Resource Management. CBS Publishers & Distributors Pvt. Ltd., New Delhi.
5. Judith Blacklock. Flower Arranging: The Complete Guide for Beginners. Amazon.com.

**HDFS 111                                      Fundamentals of Human Development                                      2(2+0)**

1. Course No                                      : HDFS111
2. Title    : **Fundamentals of Human Development**
3. Credit Hours                                    : 2(2+0)
4. **General Objective**                        : To create a basic foundation by imparting knowledge about the fundamentals of human development
5. **Specific Objectives**

By the end of the course the students will be able to

- Understand different concepts related to human development
- Study the role of heredity and environment during the life span
- Understand the trends and issues in human development
- Study the various theories related to human development
- Learn various concepts related to human research

**A) Theory lecture outlines**

1. Meaning and Definitions of human development, Introduction to evolution of the study of human development, Goals of the scientific study of human development, Periods of lifespan development, Areas of human development.
2. History of studying human development- Before 19<sup>th</sup> century and after 19<sup>th</sup> century.
3. Scope and importance of human development, characteristics of the life span perspective- Human development is lifelong, multidimensional, multidirectional, plastic, multidisciplinary, contextual,

human development involves growth, maintenance and regulation of loss, human development is a co-construction of biology, culture and the individual factors.

4. Relationship of human development discipline of with other disciplines of study- Physical sciences- physiology, pediatrics and genetics; Social sciences-psychology, sociology, anthropology and education.
5. Latest issues in human development- Nature and nurture, stability and change, continuity and discontinuity; some contemporary concerns- health and well being, parenting and education, social policy, socio cultural contexts and diversity- culture, cross-cultural studies, ethnicity, socio economic status, gender.
6. Growth and development - Definition, importance , Growth assessment- Measuring weight, height, head circumference, mid upper arm circumference, chest circumference. Growth monitoring and its importance. Differences between growth and development.
7. Principles of growth and development- Growth axis, orderly and sequential, individual variations, critical periods, continuous, correlated, individual differences.
8. Determinants or factors affecting growth and development- physiological, environmental, psychodynamic and personal factors.
9. Role of heredity and environment on growth and development- Definitions and role of heredity and environment - prenatal and post natal environment.
10. Genetics and genetical abnormalities – Genes, chromosomes, autosomes, sex chromosomes, genetic and chromosomal abnormalities- Down’s syndrome, Turner’s syndrome, Trisomy –X syndrome, Klinefelter’s syndrome, XYY Syndrome.
11. Stages of human life span- prenatal period, Infancy, toddlerhood, early childhood, adolescence, adulthood, old age.
12. Developmental tasks – Havighurst, Concept, Definition, developmental tasks across life span
13. Domains or areas or aspects of human development and its characteristics- Physical, motor, cognitive, social, emotional, language, moral, self help/ adaptive and aesthetic.
14. Introduction to theories of human development- Definition, function or purpose, and criteria of theories.
15. Theories on naturalism, Theories on environmentalism- Classical conditioning, operant condition.
16. Maturational theory- Arnold Gesell, Stanley Hall
17. Need theory- Maslow’s Hierarchy of need theory- Physiological, safety, social esteem, self actualization.
18. Ecological theory- Bronfenbrenner – micro system, meso system, exo system, macro system, chrono system.
19. Ethological theory – Lorenz, Evolutionary theory- Darwin
20. Cognitive theory by Piaget – stages of cognitive development- Sensorimotor stage, preoperational stage, concrete operational stage, formal operational stage.
21. Social Theories - John Bowlby’s attachment theory , Vygotsky’s socio cultural theory
22. Social Theories –Bandura’s social learning theory

23. Psychoanalytical theory- Frued - ego, superego, stages of psychosexual development- oral stage, anal stage, phallic stage, latency stage, genital stage.
24. Psychoanalytical theory – Erik Erikson – Stages of Psycho social development
25. Special considerations in research with human subjects- Informed consent, confidentiality, debriefing, deception, minimizing bias.
26. Ethical issues in human research- Right to privacy, Right to truth, Right to informed consent, Right to self esteem, Fetal research, Social concerns. Language and Moral research involving humans.
27. Trends and challenges in ethical issues- from global to discrete response systems, increase in complexity, increase in integration and differentiation, decrease in egocentrism, development of social autonomy.
28. Origins of scientific enquiry- 4 step model of scientific inquiry- asking the question, what factors are important and how to examine, testing original question, accepting or rejecting.
29. Research methods and designs in human development- Descriptive research, correlational research, Experimental research. Research strategies- Cross sectional approach and longitudinal approach.
30. Methods of data collection- Observation, Survey and interview, Case study, Questionnaire - merits and demerits.
31. Methods of data collection- Standardized tests, merits and demerits
32. Methodology in Human Research – definitions - variables, hypothesis, sampling, operational definitions, Reliability and Validity.

**References:**

1. Hughes F.P. & Noppe.L.D.(1985). Human Development across the Life Span. West Publishing corporation.
2. Nageswara Rao.G.(2012). Research Methodology and Quantitative Methods, BS Publications,Hyderabad.
3. Papalia, D.E. and Olds, SW. (1978). Human development. McGraw Hill. Kogakusha,Ltd.
4. Santrock, J. (2011). Life span development. 13thed. McGraw Hill Education India Pvt.Ltd..
5. Salkind,N.J. (2004). An introduction to Theories of Human Development. Sage Publications, New Delhi.

**CSBC 112**

**Introduction to Rural Sociology**

**2(2+0)**

Course no: **CSBC 112**

**Title: Introduction to Rural Sociology**

Credit hours: **2(2+0)**

**Objectives:**

- To enable the students to
- understand the concept of rural sociology and its structure
- be aware of the process of social change and factors of transformation



- comprehend rural social stratification and its significance

#### a. Theory lecture outline

Lesson No.	Topic
1.	Meaning, scope importance of rural sociology
2.	Relation of rural sociology with agriculture, animal husbandry, economic
3.	Indian rural infrastructure- origin of village, types of villages, resources, demography
4.	Indian village governance- changed scenario- past to present
5.	Structural concepts of rural sociology- groups, classification and functions of groups
6.	Structural concepts of rural sociology- association, community, society
7.	Functional concepts of rural society-meaning and definition of socialization, social system, stratification, social interaction, social control, culture
8.	Social system- harmonic and disharmonic systems, implications
9.	Functional concepts of rural society- culture, characteristics, implications
10.	Social control- norms, values, folkways, taboos, mores
11.	Social interaction- Types, implications
12.	Rural and urban society characteristics and differences
13.	Rural institutions- Family- types and functions & marriage
14.	Family - changing pattern of the rural families
15.	Rural institutions- Religion, Government - types and functions
16.	Rural institutions - Economy, Education - types and functions
17.	Rural social stratification- Forms of stratification-class and caste systems
18.	Rural social stratification - basic notions, changes and its role in economy and policy
19.	Rural social stratification- constitutional provision, categorization and reservations
20.	Land relations and changes- Land topography, ownership patterns,
21.	Land relations and changes- Land reforms
22.	Rural poverty- definition, manifestations and causes
23.	Rural poverty- poverty cycle
24.	Poverty alleviation process- livelihoods- meaning and promotion
25.	Rural social change - Categories and levels of social change
26.	Rural social change - Dimensions & factors of social change
27.	Rural social changes - Processes and factors of transformation
28.	Planned social change - Theories, transformation and shortcomings
29.	Rural social problems- inequality, untouchability, illiteracy, unemployment

30. Rural social problems- child labour, gender discrimination, alcoholism, superstitions
31. Rural social reforms- Policies and programmes
32. Rural social reforms- Amendments and acts

**References:**

1. Chitambar, J.B. (1973). Introductory rural sociology. New York, John Wiley and Sons.
2. Desai, A.R. (1978). Rural sociology in India. Bombay, Popular Prakashan, 5<sup>th</sup> Rev. ed.

**Suggested readings:**

1. Doshi, S.L. (2007). Rural sociology. Delhi Rawat Publishers.
2. Jayapalan, N. (2002). Rural sociology. New Delhi, Altanic Publishers.
3. Sharma, K.L. (1997). Rural society in India. Delhi, Rawat Publishers.

**CSBC 113                                      Environmental Studies and Disaster Management                                      3(2+1)**

1. **Course Number**                                      : CSBC 113
2. **Title**                                      : Environmental Studies and Disaster Management
3. **Credit Hours**                                      : 3 (2+1)
4. **General objective**                                      : To enlighten about the environmental protection through education

**5. Specific objectives:**

**a. Theory**

By the end of the course the students will be able to

- Learn about the importance of reuse and recycling of wastes to improve the quality of life
- Understand the role of various environmental protection acts to protect resources
- Be aware of the impact of population explosion on various resources and health issues
- Can learn about the role of information and technology in sharing the earth news from any corner of the world
- Know about the national disaster management framework

**b. Practical**

By the end of the course the students will be able to

- i. Learn about the environmental problems and role of human beings in protecting the environment
- ii. Understand the availability, accessibility and use of various resources in the nature
- iii. Awareness on the causes of different types of pollution, impact of pollution on health and nature, role of individuals in reducing the magnitude of pollution
- iv. Be alert about the harmful effects of technological advancements on certain natural resources
- v. Empower about the value education and human rights
- vi. Understand about conservation of natural resources at micro and macro level
- vii. Explore about the disaster management strategies

## **A. Theory lecture outlines**

1. Multidisciplinary nature of environmental studies – definition, scope and importance
2. Natural resources – renewable and non renewable resources and their associated problems
3. Forest resources – use and over – exploitation, deforestation, timber extraction, mining, dams and their effects on forest and tribal people
4. Water resources – use and over utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems
5. Mineral resources – use and exploitation, environmental effects of extracting and using mineral resources
6. Food resources – world food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizer – pesticide problems, water logging and salinity
7. Energy resources – growing energy needs, renewable and non renewable energy resources, use of alternate energy sources
8. Land resources – land as a resource, land degradation, man induced landslides, soil erosion and desertification
9. Role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles
10. Ecosystem – concept, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in ecosystem, ecological succession, food chains, food webs and ecological pyramids, introduction, types, characteristic features, structure and function, forest, grassland, desert and aquatic ecosystem
11. Biodiversity and its conservation – introduction, definition, genetic, species, ecosystem diversity and biogeographical classification of India
12. Value of biodiversity – consumptive use, productive use, social, ethical and aesthetic and option values
13. Biodiversity at global, national and local levels – India as a mega diversity nation, hot spots of biodiversity
14. Threats to biodiversity – habitat loss, poaching of wildlife, man-wildlife conflicts, endangered and endemic species of India, in-situ & ex-situ conservation of biodiversity
15. Environmental pollution – definition, cause and effects, control measures of air, water, soil, marine, noise, thermal and nuclear hazards
16. Solid waste management – causes, effects, control measures of urban and industrial wastes, role of an individual in prevention of pollution
17. Social issues and the environment – unsustainable to sustainable development, urban problems related to energy, water conservation rain water harvesting, watershed management
18. Environmental ethics – issues and possible solution, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust

19. Environmental protection acts – air (prevention and control of pollution) act, water (prevention and control of pollution) act, wildlife protection act, forest conservation act, issues involved in enforcement of environmental legislation, public awareness
20. Human population and the environment – population growth, variation among nations, population explosion
21. Role of information technology in environmental and human health
22. Natural disasters – meaning and nature, types (floods, drought, cyclone, earthquakes, landslides, avalanches, volcanic eruptions, heat and cold waves, global warming, sea level rise, ozone depletion) and its effects
23. Man – made disasters – nuclear, chemical, biological
24. Man – made disasters – building fire, coal fire, forest fire, oil fire
25. Man – made disasters – road accidents, rail accidents, air accidents and sea accidents
26. Disaster management – international strategy for disaster reduction at National levels
27. Disaster management – Global levels
28. National disaster management framework – financial arrangements
29. National disaster management framework – role of NGO's, community based organizations and media,
30. National disaster management framework – central, state, district and local administration
31. National disaster management framework – armed forces in disaster response, police and other organizations
32. National disaster management framework – feeding the people struck by the disaster

**B. Practical lecture outlines**

1. Visit to a local area to document environmental assets – river
2. Visit to a local area to document environmental assets – forest/ grassland
3. Visit to a local area to document environmental assets – hill/ mountain
4. Visit to a local polluted site – urban/ rural
5. Visit to a local polluted site – industrial
6. Visit to a local polluted site – agricultural
7. Study of common plants / insects / birds in forest, grass land and deserts
8. Study of simple ecosystems – pond / river
9. Study of simple ecosystems – hill slopes
10. Preparation and presentation of report
11. Preparation and presentation of report
12. Collecting information on a natural disaster management strategies from print media and reporting
13. Collecting information on a manmade disaster management strategies from print media and reporting
14. Collecting information on a global disaster management strategies from print media and reporting

15. Observing and identifying the disaster management strategies for a minor disaster and reporting
16. Final Practical Examination

**References:**

1. Bharucha, E. (2005). Text book of environmental studies. University Grants Commission, University Press,
2. Singh, S. and Singh, J. (2013). Disaster Management. Pravilika Publication Allahabad
3. Purohit, Agrawal. 2006. Environmental Pollution. Bharat Printing House, Jodhpur.
4. P.D. Sharma. 1975. Ecology and Environment. Rastogi publications. Meerut. India.

**Suggested Readings:**

1. Kapur, A. (2005). Disasters in India: Studies of grim reality. Rawat publication, Jaipur New Delhi.
2. Chauhan, B.C. (2008). Environmental studies. University Science Press, New Delhi.
3. De, A.K. (2010). Environmental chemistry. Willey Eastern ltd. New Delhi.
4. Brig Khanna, Nina Khanna. 2011. Disasters. New India Publishing Agency, New Delhi.

<b>CSBC 114</b>	<b>National Services Scheme</b>	<b>2(0+2)</b>
<b>CSBC 115</b>	<b>Physical education and yoga1</b>	<b>( 0+1)</b>
<b>NSS/NCC/Physical Education &amp; Yoga Practices Credit hours: 2(0+2)</b>		

**Theory**

Course aims at evoking social consciousness among students through various activities viz., working together, constructive and creative social work, to be skilful in executing democratic leadership, developing skill in programme development to be able for self employment, reducing gap between educated and uneducated, increasing awareness and desire to help sections of society.

Following activities are to be taken up under the NSS course:

- Introduction and basic components of NSS: Orientation
- NSS programmes and activities
- Understanding youth
- Community mobilisation
- Social harmony and national integration
- Volunteerism and shramdan
- Citizenship, constitution and human rights
- Family and society
- Importance and role of youth leadership
- Life competencies
- Youth development programmes
- Health, hygiene and sanitation
- Youth health, lifestyle, HIV AIDS and first aid
- Youth and yoga
- Vocational skill development

- Issues related environment
- Disaster management
- Entrepreneurship development
- Formulation of production oriented project
- Documentation and data reporting
- Resource mobilization
- Additional life skills
- Activities directed by the Central and State Government

All the activities related to the National Service Scheme course is distributed under four different courses viz., National Service Scheme I, National Service Scheme II, National Service Scheme III and National Service Scheme IV each having one credit load. The entire four courses should be offered continuously for two years. A student enrolled in NSS course should put in at least 60 hours of social work in different activities in a semester other than five regular one day camp in a year and one special camp for duration of 7 days at any semester break period in the two year. Different activities will include orientation lectures and practical works. Activities directed by the Central and State Government have to be performed by all the volunteers of NSS as per direction.

## **SYLLABUS**

### **Semester I**

#### **Course Title: National Service Scheme I**

#### **Introduction and basic components of NSS:**

**Orientation:** history, objectives, principles, symbol, badge; regular programmes under NSS, organizational structure of NSS, code of conduct for NSS volunteers, points to be considered by NSS volunteers awareness about health

#### **NSS programmes and activities**

Concept of regular activities, special camping, day camps, basis of adoption of village/slums, conducting survey, analysing guiding financial patterns of scheme, youth programme/ schemes of GOI, coordination with different agencies and maintenance of diary

#### **Understanding youth**

Definition, profile, categories, issues and challenges of youth; and opportunities for youth who is agent of the social change

#### **Community mobilisation**

Mapping of community stakeholders, designing the message as per problems and their culture; identifying methods of mobilisation involving youth-adult partnership

#### **Social harmony and national integration**

Indian history and culture, role of youth in nation building, conflict resolution and peace-building

#### **Volunteerism and shramdan**

Indian tradition of volunteerism, its need, importance, motivation and constraints; shramdan as part of volunteerism

#### **Citizenship, constitution and human rights**

Basic features of constitution of India, fundamental rights and duties, human rights, consumer awareness and rights and rights to information

#### **Family and society**

Concept of family, community (PRIs and other community based organisations) and society

## 1<sup>st</sup> Year 2<sup>nd</sup> Semester

CSBC 121

Technical Writing (English)

2 (1+1)

Course No. – CSBC 121

Title – Technical Writing (English)

Credit hours 2 (1+1)

**General Objective:** - To enable the students to strengthen the writing skills and improve their vocabulary

**Specific Objectives:** - By the end of the course the students will be able to

### Theory: -

- Write a technical paper confidently
- Increase the vocabulary
- Write a scientific paper in a convincing manner

### Practicals: -

- Learn the basic of English Writing.
- Write English with a flow.
- Master the art of English Writing

### Theory Lecture Outlines: -

- Style: - Definition of Style, Introduction to different styles of writing
- Writing process: - steps involved in the writing of a scientific paper
- Interview: - Definition of interview, how to prepare for an interview.
- Types of interviews – Tips to succeed in an Interview.
- Paragraph writing – Essentials of paragraph writing Definition, requirements of a good paragraph.
- Topic sentence – various orders to develop a paragraph
- Inductive, Deductive, Question to answer, Exposition, Time, Order, Comparison, Contrast, Enumeration, Space, Order
- Report writing – Definition and cardinal characteristics of report.
- Types of Report Writing – Examples of different types of reports.
- Analyzing the report, Report formats.
- Oral & Written Reports – Informational & Interpretative Report.
- Technical correspondence – General principles of technical correspondence, parts of a letter (Heading, Address, Salutation, Body, Complimentary closing, Signature).
- Types of letters – Letters giving instructions, enquires and answers to enquiries, complaints and adjustments, letter urging action, applications and resumes.

- Proposal writing – Definition and kinds of proposal, Division of formal proposal – Front matter, letter of transmittal Title page, summary or abstract, table of contents, statement of request and body.
- Writing scientific and semi-technical articles – Source material, Topic selection, Literature review, Tables, Figures, Foot notes, Bibliography.
- Revision & Feedback.

### **Suggested Readings:**

1. Bansal, RK and Harrison, JB – Spoken English, Orient Longman, New Delhi
2. Krishnamohan and Banerjee, M – Developing communication skills. MacMillan
3. Alvarez, J.A – The elements of technical writing, New York: Harcourt.

### **Technical writing (English) (1+1)**

#### **Practical Lecture Outlines**

- Phonetics – Introduction and definition
- Study of sound patterns
- Symbols – Spoken English
- Differences of symbols in spoken and written English
- Vowels – Pure vowels of spoken English
- Organs of speech
- Place and manner of articulation
- Voiceless and voiced words
- Report writing- Definition and purpose
- Types of reports
- Paragraph writing
- Letter writing
- Writing of scientific articles
- Tips of a good writing
- Feed back
- Final practical exam

**FDNT 121**

**Food Science and Processing**

**3(2+1)**

Course Number:

FSNT 121

**Title :**

Food Science and processing

Credit Hours:

3 (2+1)

**General Objective:** To impart knowledge about basic principles of different methods of cooking, different food groups, their composition, nutritive value, methods of processing, byproducts, storage, role of different food groups in cookery, changes in nutrients in processing, cooking, storage and preservation.



## **Specific Objective:**

### **a) Theory:**

By the end of the course students will be able to

- Know about the basic principles of each individual cooking method and can identify the best method of cooking for different food groups to retain maximum of nutrients
- Learn about amount of nutrients present in different food groups, their byproducts and affect of cooking and processing on nutrients.
- Learn role of each food group in cookery
- Learn different methods of storage and preservation and best method of preservation applicable for each food group

### **b) Practical :**

By the end of the course students will be able to

- Learn about different methods of cooking and changes that take place by each method in various food groups.
- Learn the role of various food groups in cookery and acquire the skill of enriching food groups with various food groups to produce qualitative and nutritive recipes.
- Learn the skill of quantifying ingredients for different number of servings and evaluating recipes in terms of sensory and nutritive quality.
- Acquire the skill of handling and retaining the maximum nutrients in processing and cooking

### **A) Theory lecture out lines**

1. Food groups – classification, Food in relation to health
2. Food Guide pyramid and its importance, Foods as a source of nutrients.
3. Objectives of cooking, preliminary preparations, processing, preservation.
4. Methods of cooking- Wet methods- boiling, simmering, poaching, stewing, blanching, steaming, pressure cooking- their merits and demerits.
5. Methods of cooking - Dry methods- roasting, grilling, toasting, baking, sautéing, frying -their merits and demerits.
6. Effect of cooking and heat on nutritive value of foods.
7. Cereals, millets: rice, wheat, golden rice, oats, rye, barley, millets- maize, jowar, ragi, bajra, quinoa, - composition and nutritive value, types, storage, processing.
8. Cereal cookery: Gluten and factors affecting the gluten formation, cereal starch, gelatinization, dextrinization.
9. Pulses: composition and nutritive value, types, digestibility of pulses, factors that reduce digestibility of pulse proteins, storage, processing-soaking, germination, fermentation, parching, puffing, extrusion
10. Effect of cooking, factors affecting cooking quality, toxic constituents in pulses-trypsin inhibitor, lathrogens, favism, haemagglutinins, cyanogenic glycoside, saponins, goitrogens
11. Nuts and oilseeds- composition and nutritive value, types, storage, oil extraction, processing.

12. Toxic constituents and role in cookery- effect of cooking, factors affecting cooking quality,role of pulses and nuts in cookery
13. Milk and milk products: composition and nutritive value, properties, processing and packaging.
14. Milk cookery -Effect of heat, acid, enzymes, microbes, processed and indigenous milk products and their quality.
15. Milk products, milk substitutes,Functional properties of milk and curd,Role of milk and milk products in cookery-
16. Eggs- structure, composition and nutritive value, storage.
17. Evaluation of quality of egg, role of egg in cookery.
18. Flesh foods- Meat - structure, composition and nutritive value, types, storage.
19. Brief description of aging , tenderization and curing of meat.
20. Fish- selection, structure, composition and nutritive value, storage.
21. Poultry- structure, composition and nutritive value, storage.
22. Vegetables -composition and nutritive value, types, storage, selection, post-harvest changes.
23. Effect of processing, preservation and cooking on different pigments of vegetables.
24. Fruits - composition and nutritive value, types, storage, selection, post-harvest changes.
25. Sugar and its products: composition and nutritive value, types, function, properties, stages in sugar cookery, role of sugar in cookery.
26. Fat and oils - composition, nutritive value.
27. Role of fat in cookery and importance in daily diet.
28. Spices and herbs- types and its use.
29. Beverages and appetizers - classification, use in everyday lives, tea, coffee, cocoa and alcoholic drinks.
30. Leavening agents - classification and functions.
31. Processed and convenience foods, Ready to eat foods, frozen foods, dehydrated foods, instant food mixes.
32. Pre final examination

## **B) Practical Lecture Outlines**

1. Objectives of Laboratory Experiments and Orientation to Equipment used in laboratory.
2. Weighing and Measuring Food items, Identification of food grains, Condiments and spices
3. Introduction to Processing of Cereals.
4. Processing of Millets.
5. Processing of Pulses.
6. Processing of Fermented Cereal and Pulse Mixtures.
7. Processing of Vegetables.
8. Processing of Milk and Milk Products.
9. Processing of Egg.
10. Processing of Meat, Poultry and Fish.

11. Preparation of Soups, Salads.
12. Preparation of Beverages.
13. Preparation of Accompanying Side Dishes.
14. Preparation of Sugar based products.
15. Preparation of Snacks and Bakery items.
16. Practical Examination.

**References:**

1. B. Srilakshmi - Food Science , New Age International Publishers, sixth edition
2. Swaminathan , M. (1988). Handbook of Food science and Experimental Foods BAPPCO, Bangalore.
3. Shakuntala Manay N, Shadaksharaswamy M (1998). Foods, Facts and principles New age international publishers, New Delhi.

**APTX 121                      Fundamentals of Clothing Construction                      3(1+2)**

1. Course No: **APTX 121**
2. **Title : Fundamentals of Clothing Construction**
3. Credit Hours: 3(1+2)
4. **General Objective** : To understand different methods of garment construction, know about the criteria used to select fabric and garments for different age groups
5. **Specific Objective:**

**a) Theory**

**By the end of the course, student will be able to**

- To understand the techniques employed for garment construction
- To learn different seams and seam finishes, methods to control and release the fullness, to learn different temporary and permanent basic stitches.
- To analyse various methods of preparing the fabric for cutting .
- To design and make basic clothing articles like apron, bib, panty/ bloomers, slip for different age groups.

**b) Practical**

**By the end of the course, student will be able to**

- Gain comprehensive knowledge regarding tools and equipment, the basic parts, use, care, repair and maintenance of the sewing machine
- Develop skill in different garment construction techniques
- Understand various seams , seam finishes, unit construction methods,etc
- Enhance knowledge in different fastening materials, trimmingsmethods
- Attain knowledge and skill in apparel suggestion for different age groups

**A) Theory Lecture Outlines**

1. Terminology related to clothing construction
2. Sewing tools and equipment's required for measuring, drafting, cutting and stitching;

3. Selection and preparation of fabric for garment construction;
4. Layout of paper pattern, marking, cutting and stay stitching;
5. Unit construction method;
6. Importance and function of clothes
7. Socio- economic and psychological factors affecting clothing choices;
8. Consumer behaviour and motivation;
9. Clothing requirements of different age groups: infant,
10. Clothing requirements of different age groups: toddler,
11. Clothing requirements of different age groups: pre-schooler
12. Clothing requirements of different age groups: school age children
13. Clothing requirements of different age groups: teenager, adolescent
14. Clothing requirements of different age groups: adult
15. Clothing requirements of different age groups: senior citizen
16. Application of elements and principles of art in apparel designing.

#### **B) Practical Lecture Outlines**

1. Demonstration on: Sewing equipments and tools
2. Demonstration on: sewing machine and its care
3. Preparation of samples: Hand stitches- basting, slip-stitching
4. Preparation of samples: smocking,
5. Preparation of samples: Hand stitches-hemming,
6. Preparation of samples: Hand stitches-over casting,
7. Attaching fastener and button holing,
8. Mending and patching Machine stitches
9. Stitching Seam
10. Types of Seam finishes
11. Stitching different types of pleats
12. Stitching different types of gathers
13. Stitching different types of tucks
14. Stay stitch, under stitching
15. Stitching placket opening- single, double
16. Demonstration on taking body measurements
17. Preparation of fabric for cutting, and layout of paper pattern on different fabrics patterns including plain, print, lines, plaid and check.
18. Designing and drafting of frock
19. Cutting and stitching of Baby frock
20. Cutting and stitching of Baby frock
21. Finishing of frock
22. Drafting, cutting of panty
23. Stitching of Panty

24. Drafting, cutting of Bloomer
25. Stitching of Bloomer
26. Finishing of Bloomer
27. Taking measurements for blouse
28. Drafting of blouse
29. Cutting of blouse and tacking
30. Stitching of Blouse
31. Stitching of blouse
32. Finishing of blouse
33. Display

**References:**

1. Carson, B. (1969), How You Look and Dress. 4th ed. New York. Webster Division, McGraw-Hill Book Company.
2. Jewel R. (2010) "Encyclopedia of Dress Making" A.P.H. Publishing Corporation, New Delhi
3. Kefgen, M. and Phyllis, T.S. (1971) Individuality in Clothing Selection and Personal Appearance. New York. The Macmillan Company
4. Mazumdar L. & Vatsala R. "Textbook of fundamentals of clothing construction", ICAR
5. Rosencranz, M.I. (1972) Clothing Concepts- A Social and Psychological Approach. New York. The Macmillan Company Ltd.

**RMCS121                      System Dynamics and Management of Resources                      2(1+1)**

1. Course Number                      : RMCS 121
2. Title                                      : System Dynamics and Management of Resources
3. Credit Hours                            : 2 (1+1)
4. **General objective** : To provide knowledge about the principles of management and their application in managing the resources.
5. **Specific objectives:**
  - b. Theory

By the end of the course the students will be able to

    - To create an awareness on the importance of management at individual and family levels
    - To understand the basics of management as a process and systems approach to management
    - To help in identifying and understanding the application of principles of management for different resources
  - c. Practical

By the end of the course the students will be able to

    - Identification and understanding of individual and family values, goals and standards
    - Identify and solve problems through decision making process
    - Applying the management principles to various resources at individual and family level

## **A. Theory lecture outlines**

1. Introduction to Management concepts
2. Family lifecycle stages and its effect on managerial functions
3. Systems approach to management
4. Family systems and its subsystems - Family environments – interaction of environments
5. Motivating factors of management- value - Origin, classification and role in management
6. Motivating factors of management - goals - Origin, classification and role in management
7. Motivating factors of management - standards - Origin, classification and role in management
8. Resources – definition, types, guidelines for use of resources and factors affecting
9. Decision making – Importance, types, Decision Making process
10. Decision making - Steps in decision making, Factors affecting decision making
11. Management process - Planning - importance, types, characteristics and techniques,
12. Management process - Organizing; Definition and meaning
13. Management process - Controlling- definition, phases and factors,
14. Management process – Evaluating and Feed back - definition and types of evaluating
15. Time Management – Concepts of Time Management, Tools of time management, and process of time management
16. Money Management – Process of money management

## **B. Practical lecture outlines**

1. Identification and listing of individual and family values
2. Identifying and listing individual and family goals
3. Identifying and listing individual and family Standards
4. Identifying and listing human and non – human resources, community resources
5. Identifying types of decisions taken by individuals and families
6. Applying decision making process – individual decisions and presentation of reports
7. Applying decision making process - group decisions and presentation of reports
8. Application of managerial process to organize an event – planning
9. Application of managerial process to organize an event – implementing
10. Application of managerial process to organize an event – evaluation
11. Management of personal time record for a week
12. Presentation of personal time record
13. Identifying types and sources of family income
14. Preparing sample budgets
15. Evaluation and presentation of budget
16. Final practical examination

## **References:**

1. Mann, M.K. (2004). Home Management for Indian Families, Kalyani Publisher Ludhiana
2. Nickell, P. and Dorsey, J.M. (1970). Management of Family Living. Wiley Eastern, New Delhi

3. Vargeese, M.N. Ogale, N.N. and Srinivasan, K. (1992). Home Management, Wiley Eastern, New Delhi.

**Suggested Readings:**

1. Krishna Oberoi (2006). Resource Management for Better Homes. R.K. Offset, Delhi.
2. Bhargava, Bela. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.
3. Duvall E.M. 1967. Family Development, Lippincott JB Company, Philadelphia, New York,
4. Moore T.J, Asay M.S. 2013. Family Resource Management, Second Edition, Sage Publications, New Delhi,
5. Gross H.I, Crandall E.W, Knoll M.M. 1980. Management for Modern Families. Prentice Hall, Inc., Eaglewood Cliffs, New Jersey.

**HDFS 121**

**Life-Span Development**

**3(2+1)**

1. Course No : HDFS 121
2. Title : Life-Span Development
3. Credit hours : 3(2+1)
4. General objective : To impart knowledge about various stages of life span development, concepts of human development, development from conception to old age, factors effecting growth and development of different stages and recent issues in growth and development
5. Specific objectives  
By the end of the course, the student will be able to
  - a) Theory
    - Understand the issues and concepts associated with conception
    - Learn different stages of life-span development
    - Know stimulating approaches for optimizing development from infancy to old age
  - b) Practical
    - Gain practical knowledge in collecting base line data related to various areas of development
    - Understand the development across the life span through case studies
    - Learn planning programmes for optimizing development of young children

**A) Theory lecture outlines**

1. Issues and scientific concepts associated with conception – Influence of genes on development, Genes and Chromosomes, Genetic transmission patterns, Chromosomal abnormalities
2. Stages of Prenatal development – Conception, Ovulation, Fertilization, Period of ovum, Period of embryo, Period of foetus, Complications of fertilization - Ectopic Pregnancy, Multiple pregnancies

3. Care during pregnancy - Diet and Nutrition, Exercise, Personal hygiene, Dress and attire, Social support, Immunization, Major and minor discomforts during pregnancy, Complications during last trimester of pregnancy
4. Factors influencing Prenatal development – Effects of unfavourable prenatal conditions - Emotional factors/ maternal stress, Drugs, Radiation, Smoking, Diseases, Accidents, Deficiency, Maternal Age, Parity, Common physical hazards during prenatal period - Period of the ovum, Period of the Embryo, Period of the Foetus
5. Labour / birth – Labour, Contractions, The stages of labour, Types of birth, Complications during delivery, reflexes of new born
6. Care of new born and nursing mother - Care of new born baby, Bathing, Clothing, Diapering, Lifting Babies, Sleeping Facilities/ Pattern, Attending to the Child's Cries, Health Care, Immunization, Care of the nursing mother -The breast, Perineal care, Pulse and temperature, Lochia, Bladder irregularities, Bowel movement, Convalescence after child birth, Nutritional care.
7. Physical and motor development during infancy – Principles of physical development, Components of Physical Growth During Infancy, Principles of motor development, Motor development during infancy, Developmental norms / milestones.
8. Cognitive and language development during Infancy – Cognitive development – The sensory motor period, Space and time, Memory, Language development – Properties of language, Theories of language acquisition, Biological and maturational factors, The role of the family.
9. Socio emotional development during infancy - Social Development during infancy, Emotional Development during infancy- Bridge's classification of emotions, Individual Differences in responding to emotions, Emotional regulation.
10. Factors influencing growth and development during infancy, care of an infant - Feeding – Breast Feeding, Artificial feeding, supplementary feeding / weaning, Failure to thrive (FTI) infants.
11. Physical and motor development during preschool period – Physical Development during preschool period - Body proportions, Bones, Muscles, Teeth, Motor development during preschool period - Gross motor development, Fine motor development, Perceptual motor development, Handedness.
12. Cognitive and language development during Preschool period - Cognitive process, Piaget's stages of cognitive development, Language development – Characteristics of children's language, Language skills during preschool period, Stages of language development
13. Socio emotional development during preschool period- Socialization definition and process, Techniques of socialization, Agents for socialization, Emotions – types, Bridge's classification of emotions, Characteristics of children's emotions,.
14. Factors influencing growth and development during preschool period - Antecedent influences for cognitive, language, socio-emotional, Physical and motor development during preschool period
15. Physical and motor development during school age – Physical development – Height, Weight, Body proportions, Skeletal and muscular growth, Brain Development, Motor development - Importance, Constituents of motor behavior, Types of motor skills



16. Cognitive and language development during school age – Piaget’s stages of cognitive development - concrete operational stage, Changes in intellectual / mental operations, Ways of promoting cognitive development, Language development – Development of Syntax, Semantics, Pragmatics, Children’s literacy.
17. Socio development during school age – Learning socially appropriate roles, Development of social interactions - Childhood gangs, Forms of social groups, Popularity and Social isolation, Socialization and its influence on the personality of the school age child.
18. Emotional and Moral development during school age – Emotional Development – Common emotions, Emotional dominance, Balance and Control of emotions- Emotional catharsis, Moral development – Components of moral development, Kohlberg’s stages of moral development
19. Factors influencing growth and development during school age – Antecedent influences for physical and motor, cognitive, socio-emotional, moral development during school age, Hazards during school age
20. Puberty – Physical changes, Changes in physical growth, Changes in body dimensions, Development of sexual characteristics/sexual maturation, Physiological changes. Adolescence- Concept, Phases, Physical development during adolescence.
21. Cognitive development during adolescence – Transitions, stages - Piaget’s stage of cognitive development -Formal Operational Stage, Adolescent’s egocentrism, Implications of formal thought
22. Socio development during adolescence – Social behavior, Peer group, Stages of development of peer group, Structures of Peer Group
23. Emotional development during adolescence - Components of Emotional development, Developmental changes in emotional functioning.
24. Identity development during adolescence – Identity meaning, Identity development, Theories of Identity Development – Erickson and Marcia, Identity problems during adolescence, Preventive strategies.
25. Factors influencing growth and development during adolescence - Antecedent influences for cognitive, moral, socio-emotional development during adolescence
26. Development during early and middle adulthood – Early adulthood – Physical development, Sexuality, Cognitive development, Socio emotional development, Middle adulthood – Physical development, cognitive development, Socio emotional development.
27. Factors influencing growth and development during adulthood - Antecedent influences for growth and development during adulthood.
28. Physical, Cognitive development during old age – Physical development , Longevity, Health, Cognitive development – Cognitive functioning, Multidimensionality and Multi directionality, Education, work and health, Training cognitive skills.
29. Socio-emotional development during old age – theories of emotional development
30. Factors influencing growth and development during old age - Antecedent influences for growth and development during old age
31. Stimulating approaches for optimizing development – Stimulation- meaning, areas of stimulation

32. Major issues in growth and development – Nature Vs Nurture, Critical period Vs. Unlimited Plasticity, Continuity Vs Change, Activity Vs Passivity.

**B) Practical lecture outlines**

1. Observational visits to well-baby clinic to observe full term and preterm babies
2. Study on developmental status of an infant
3. Study on developmental status of a preschool child
4. Assessing Physical development of an infant/ a preschooler using Anthropometry
5. Planning stimulation programmes for optimizing development of an infant
6. Implementing stimulation programmes for optimizing development of an infant
7. Planning stimulation programmes for optimizing development of a preschooler
8. Implementing stimulation programmes for optimizing development of a preschooler
9. Case study of a school age child
10. Case study of an early adolescent
11. Studying Vocational interests of Late Adolescent
12. Study on Marital adjustments during young adulthood
13. Study on Role satisfaction in Middle adulthood
14. Study on Happiness Index of Aged
15. Preparation of resource files on recent issues related to various stages of life span
16. Final Practical Examination

**References:**

1. Berk.E.Laura (2013): Exploring Life span development,3<sup>rd</sup>edi. McGraw Hill. New York.
2. Lawrence B.Schiamberg. (1985): Human Development, 2<sup>nd</sup> edi. Macmillan Publishing Company, New York.
3. Papalia. D.E. and Olds.SW.(2008): Human development,11<sup>th</sup>edi.McGraw Hill. New York.
4. Richard Fabes Carol Lynn Martin. (2003): Exploring Child Development, 2<sup>nd</sup> edi. Allyn & Bacon Publication, New York.
5. Santrock.John.(2011): Life span development,13<sup>th</sup>edi. McGraw Hill Education (India) Private Limited, New Delhi.

**EECM 121**

**Extension and Rural Development**

**3(2+1)**

Course No: EECM.121

**Title:** Extension and Rural Development

Credit hours: **2 (2+1)**

**Theory objectives:**

To enable the students to

- understand the concept of extension and rural development
- be aware of the community programmes from pre independence era to current programmes
- comprehend the role of ICAR and SAUs in rural development

## **Practical objectives**

### **To enable the students to**

- have practical exposure to the functions of village institutions
- observe the rural development programme of Government and non-government

### **a. Theory lecture out lines**

1. Extension Education –History, concept, scope and importance
2. Extension Education- philosophy, principles and objectives.
3. Evolution of extension education - glimpses of pre independence era.
4. Evolution of extension education - glimpses of post independence era.
5. Community: Meaning and types of communities, community and science
6. Community mobilization - Leadership, Qualities of a leader, Types of leaders
7. Community participation – PRA- Characteristics and Techniques of PRA
8. Community development programmes- History and concept, objectives, types
9. Community development - organization, activities, achievements and shortcomings
10. Community development National extension service
11. Rural development - concept, need, meaning
12. Rural development- Aim and objectives, functions of extension education for rural development.
13. Panchayati Raj Institutions - Concept, structure and functions.
14. Five year plans – History, year wise objectives - NITI ayog
15. Current rural development programmes – orientation on target oriented, area oriented, income generating and minimum needs programmes
16. Area development programmes –IADP and other intensive agriculture programmes of ICAR
17. Area development programmes - IRDP, DWMA
18. Income generating programmes – MGNREGA, SGSY
19. Income generating programmes - SGSY
20. Minimum needs programmes – Anthyodaya, IAY
21. Total sanitation schemes/ campaigns - Nirmal Bharat Abhiyan – Community Led Sanitation

- (CLTS), Swachabharath campaign etc.,
22. Current rural development Organisations – state and national level
  23. ATMA – objectives, organizational setup
  24. Tribal development programmes – Hill area development Programme, ITDA
  25. Women and Child development programmes – ICDS
  26. Women and Child development programmes - KGMV and other current central and state programmes
  27. ICAR – Organisational setup and role in rural developmentw
  28. Role of SAUs - Colleges, RARS and Agricultural Research Stations in rural development
  29. KVKs – Objectives, Organisational setup and functions
  30. DAATTCs - Objectives, Organisational setup, functions
  31. NGOs/ Voluntary agencies in rural development – characteristics and role
  32. Implementation institutions for social welfare - CAPART, CSWB,RMK

### **Practical Lecture Outlines**

1. Village visit to adopted village for orientation towards rural life
2. Observation of village infrastructure
3. Visit to rural institutions- Grama panchayath
4. Visit to rural institutions- Rural bank and Cooperative Societies
5. Observation of farm and non-- farm economic activities
6. Observation of rural occupations
7. Interaction with self Help Groups
8. Interaction with grass root level workers-AWW, ANM, Village Secretary
9. Interaction with political leaders
10. Visit to KVK/DAATTC
11. Observation of education programmes
12. Observation of health programmes
13. Observation of welfare programmes- women, children, youth and farmers
14. Visit to Non Government Organisations
15. Presentation of reports
16. Practical exam

### **References:**

1. Ray, G.L. (2003), Extension Communication and Management. Kalyani Publishers. Fifth revised and enlarged edition.

2. Dahama, O.P. and Bhatnagar, O.P. (2003). Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd.

### **Suggested Readings**

1. Sandhu, A.S. (1993) Textbook on Agricultural Communication: Process and Methods. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Chitambar, J.B. (2008). Introductory Rural Sociology. New Age International (P) Limited.
3. Sachdeva, D. R. and Bhushan, V (2007). An Introduction to Sociology. KitabMahal Agency.

**CSBC 122**

**Principles of Biochemistry**

**3(2+1)**

### **Theory :**

1. Recapitulation of basic chemistry and biology
2. Water ,pH and buffers, acid –base balance
3. Cellular constituents, structure and function
4. Amino acids – structure and chemical properties
5. Proteins- properties and classification
6. Carbohydrates-classification and properties
7. Polysaccharides-classification, structure and properties
8. Lipids –classification, properties, fatty acids, saturated and unsaturated and essential properties
9. Phospholipids and their importance
10. Nucleic acids-nucleosides, nucleotides and DNA, properties
11. Several RNA's and their properties
12. Vitamins-Fat soluble: A, D, E, K
13. Water soluble- complex and C vitamin
14. Mineral elements and their importance
15. Enzymes- classification, function and properties
16. Enzymes –kinetics, competitive inhibition
17. Basic concepts of bioenergetics
- 18& 19 Carbohydrates metabolism and Glycolysis,  
Gluconeogenesis, glycogenesis and glycogenolysis
- 20 HMP pathway & TCA cycle and energetic

- 21 Electron transport chain
- 22 Basic concepts of photosynthesis, light phase and dark phase
- 23 Lipid metabolism- fatty acid synthesis
- 24  $\alpha$ ,  $\beta$ ,  $\omega$  oxidation of fatty acids
- 25&26 Amino acid metabolism
- 27 Several reactions of nitrogen assimilation
- 28 Urea cycle
- 29 Biosynthesis of DNA and RNA and replication
- 30&31 Protein structure –transcription and translation
- 32 Genetic code ,regulation of gene expression

### Practical

1. Introduction and handling of chemical balance, chemicals etc.
2. Preparation of standard solutions, buffers and colloidal solutions
3. Determination of pH
4. Qualitative tests of carbohydrates
5. Qualitative tests of amino acids
6. Demonstration on titrimetric method of analysis
7. Quantitative estimation of soluble sugars
8. Demonstration on estimation of nitrogen by kjeldhal method
9. Demonstration on estimation of fat by soxhlet method
10. Determination of acid value
11. Determination of saponification value
12. Determination of iodine number
13. Demonstration on paper chromatography
14. Demonstration on thin layer chromatography
15. Demonstration on peroxide activity
16. Practical examination

### References: Text books

1. Satyanarayana ,U (2016).Essentials of Biochemistry, Books & allied(P) Ltd, Kolkata
2. West ,E.S., Todd, W.R., Mason, H.S and Van Bruggen, J.T. 4<sup>th</sup> edition. Book of biochemistry, Amerind publishing Co .Pvt, Ltd.
3. Murray, R.K., Grannen, D.K., Mayes, P.A and Rodwell,. V.W. Harpers biochemistry. Lange medical book

### Suggested readings:

1. Conn, E.E., Stumpf, P.K., Bruening, G. and Doi, R.H. 1995. *Outlines of Biochemistry*. John Wiley and Sons Inc., Singapore
2. Nelson DL & Cox MM. 2004. *Lehninger Principles of Biochemistry*. 4th Ed. MacMillan
3. Voet, D. and Voet, J.G. 2004. *Biochemistry*. John Wiley and Sons Inc., USA.
4. Jayaraman, J. 1980. *Laboratory Manual in Biochemistry*. Wiley Eastern Publishers, New Delhi.

5. Plummer, D.T. 1988. *An introduction to Practical Biochemistry*. 3<sup>rd</sup> ed. Tata McGraw-Hill Publishing Co., New Delhi
6. Hames ,B.D., Hooper, N.M and Houghton,J,D.1997.Instant notes in biochemistry. BIOS scientific publishers

**CSBC 123**

**Agricultural Informatics**

**Credits: 3(1+2)**

**Title:** Agricultural Informatics

Credit hours: **3 (1+2)**

**A) General objectives:**

To impart knowledge about the basics of computers, the word processing, arithmetic operations, database preparation and presentation through various internet sources in terms of Health, Nutrition and other Developmental communications

**B) Specific objectives:**

**Theory objectives:**

To enable the students to

- understand the basics of computers and operating systems
- be aware of different software for word processing, arithmetic and statistical operations
- learn the concept of Power point presentations
- attain knowledge about database preparation

**Practical objectives:**

**To enable the students to**

- have practical exposure to the components of computer operating systems
- learn about the word processing, arithmetic operations, power point presentations and database preparations
- gain knowledge about World Wide Web, HTML and XML coding

**Course Outline:**

**THEORY:**

**Lesson No.**

**Name of the Topic**

1. Introduction to computers - History of Computers, Uses and Types of Computers
2. Anatomy of Computers - Parts of Computers and functions
3. Input and Output devices - Types & their uses
4. Memory - Memory concepts, Units of memory, Memory Devices
5. Computer Programming - Concepts, Computer program, Programming languages, Role of Computer programmer, Flow charts of computer programs, Psuedo code

6. Operating system - History, Definition and functions of operating Systems and their software
7. Word processing - MS- Office, Application of MS-Office for creating, editing and formatting a document
8. MS Word - Components of the MS Word software, settings, Data presentation, tabulation and graph creation, Shortcut keys
9. MS EXCEL - Components of MS Excel, Spreadsheets, Workbooks, basics of MS Excel, mathematical expressions, statistical analysis and graph creation and shortcut keys
10. MS Power point - Concept, purpose and Components of MS Power point, Designing and presentation of power points, templates, styles, inserting images, illustrations, Clipart, Audio and Video and Animation of the presentation
11. Database- Concepts and Need of Database, backup and restoring database and storage
12. MS ACCESS - Components, files, fields, tables and Records, Creating database tables, datasheets, Entering records and keys, Access Windows, Navigation, Creating and queries and query wizards and generating reports
13. MS ACCESS - Entering records and keys, Access Windows, Navigation, Creating and queries and query wizards and generating reports
14. DBMS - Uses of DBMS in Health, Nutrition and other Developmental communications
15. World Wide Web (WWW)- Concepts, components and Creation of web
16. HTML, XML - Purpose and coding

## **PRACTICAL:**

### **Lesson No.**

### **Name of the Topic**

1. Anatomy of Computers - Study of computer components, accessories
2. Practice of important DOS commands.
3. Introduction of different operating systems such as windows, Unix and Linux
4. MS Word - Identifying components and understand their functions, Creating files and folders
5. MS Word - Font styles, formatting and Editing & settings
6. MS Word - Creating tables, page layout, setup and file management
7. MS Word - Insert images, themes and designs.
8. MS Word - Presentation of Prepared data
9. MS Power point for creating, editing and presenting a scientific document
10. MS Power point - Creating, editing and presenting a scientific document
11. MS Power point - Creating, editing and animation, and designs



12. MS Power point - Creating, editing and handling of video tools, Clip art tool, graphics, and template
13. MS EXCEL - Identifying components and understand their functions, Creating spread sheets, workbooks and worksheets and shortcuts
14. MS EXCEL - Working with data, Inserting images, tables, charts and graphical illustrations, Page setup and dialog box management
15. MS EXCEL - Writing expressions, creating graphs, analysis of scientific data, handling macros,
16. MS EXCEL - Cell settings - rows and columns and formatting
17. MS EXCEL - Working with Arithmetic and Statistical operations
18. MS EXCEL - Presentation of Prepared data
19. MS Power point - Creating and editing Power points
20. MS Power point - Designing and Inserting Animations
21. MS Power point - Adding Audio and Video to the Power point
22. MS Power point - Presentation of Power point presentations
23. MS-ACCESS: Creating database, preparing of queries
24. MS-ACCESS: Preparing of reports
25. Introduction to Internet - Open an Email account
26. World Wide Web (WWW) - Introduction to Components of World wide Web
27. World Wide Web (WWW) - Website creation of scientific website
28. Mobile Devices: Use of smart phones and other devices for health warning signs and dietary management
29. Mobile Devices: Presentation and management of health information through web
30. Hands on practice on preparation of decision support system.
31. Hands on practice on preparation of decision support system.
32. Practical examination

### ***References***

1. Know your Desktop (1999) A.P. Tech. Limited, Elite Auto House, Andheri (East) Mumbai 400093
2. Lab exercises for M S Office (1999) A. .P. Tech. Limited, Elite Auto House, Andheri (East) Mumbai 400093
3. Stevens, ABC for Windows 98, BPB Publications
4. Tom Stieldon (1997), Widows 98 Made Easy, IMG Hillco, New Delhi

### ***Suggested readings***

1. Computer Fundamentals (2015), Salaria RS, Jain Book Agency, New Delhi

2. Computer fundamentals and Internet basics (2015), Rohit Khurana, Jain Book Agency, New Delhi
3. Hand book of Computer Science & IT (2013), Surbhi Mitra, Arihant publishers, Hyderabad.

## **NAME OF DEPARTMENT**

## **EXTENSION EDUCATION COMMUNICATION MANAGEMENT**

**Course Number** EECM 211

**Title** Women in Agriculture

**Credit Hours** 3(2+1)

**General Objective** This course motivates the students to understand the status of women specifically in agriculture and thereby instigates them to find out ways and means to tackle the problems of women in agriculture, different programmes, policies, institutions and agriprenurship

### **Specific Objectives Theory**

- i. By the end of the course, the students will be able to understand the status of women in agriculture and identify the factors associated with the poverty of women and measures to reduce poverty.
- ii. They can comprehend the meaning of feminization of agriculture and gender issues and meaning of empowerment and the government programmes for women.
- iii. They can recognize the occupational health hazards and drudgery of women in agriculture and the preventive measures. They can understand the technological needs of women in agriculture and strategies of transfer of technology to fill the gaps.

### **Practical**

- i. By the end of the course the students will get exposure to the role of women in agriculture, get familiarized with the women friendly tools and devices, agriprenurship & farm women training.

### **Theory Lecture outline**

1. Evolution of agriculture in India: Introduction, evolution of agriculture
2. General agricultural production activities: Introduction, meaning , concepts
3. Agricultural and allied sectors in rural India: Introduction, meaning , concepts
4. Role of women in agricultural sector: Introduction, participation, role of women
5. Role of women in allied sectors: Introduction,, Participation, role of women

6. Socio economic status of farm women: Concept & meaning, measures for socio-economic development
7. Health & nutrition status of women in agriculture: Introduction, Major causes for poor health and nutritional status, Effects of poor health and nutritional status
8. Women & Poverty: Meaning ,causes and reasons
9. Feminization of Agriculture – Issues: Gender segregated and segmented labor force, Flexible labor force, Wages and benefits, Training and skills, women in small and marginal farms, women as independent farmers, feminization and empowerment, data gaps in coverage on women’s labor, constraints
10. Categorisation of women in agriculture: Introduction, Characteristics and categorization of women in agriculture
11. Women in Organized & Unorganized sectors: women in the work force, women in unorganized sector, contribution and composition in economy, occupational profile of unorganized labour, need for social security for women in unorganized sector
12. Occupational Health Hazards: Occupational health hazards & women, workplace hazards to women’s reproductive health, causes of health hazards, remedial measures
13. Types of Occupational Health Hazards: Activity specific, casual factors
14. Pesticides related health hazards and preventive measures
15. Women and drudgery: Introduction, indicators of drudgery, drudgery reducing tools and implements
16. Technological needs of farm women: Identification of technological needs -life cycle approach, knowledge empowerment technologies, drudgery reduction, value addition technologies, gainful and additional employment technologies,
17. Income generation technologies: Introduction and types
18. Women friendly tools and implements: Types of tools and implements
19. Gender issues in agriculture and allied sectors: Gender issues in agriculture, livestock management, forestry and fishing, gender & ICT and Media, access to resources or ownership of assets, Household Headship, Migration
20. Government programmes for women: District rural development agency (DRDA), Schemes of the ministry of women and child development: Swa-Shakti, Swayamsiddha, Swawlamban Programme, Support to Training and Employment Program, Institutional services, Balika mandals, Girl child protection scheme, Rashtriya Mahila Kosh (RMK), Swarnajayanthi Gram Swarozgar Yojana (SGSY)
21. Institutions for women in agriculture: Agricultural Technology Management Agency (ATMA), Directorate of Research on Women in Agriculture (DRWA)
22. Empowerment of Women :Concept & Indicators
23. Empowerment of women: Dimensions & Ways
24. Agripreneurship and training to farmwomen.: Meaning, concepts of Agripreneurship
25. Government organizations for promoting entrepreneurship: MANAGE, NISIET, SISI, NIRD
26. Non-Government organizations for promoting entrepreneurship: ALEAP

27. Programmes and schemes for promoting enterprises : Farm based
28. Programmes and schemes for promoting enterprises :Nonfarm based
29. Programmes and schemes for promoting enterprises : Trade related.
30. Strategies for Transfer of Technologies: Technology transfer, types of technology, Nature of technology, Salient features in development of rural technologies, Strategies for transfer of technologies
31. National Commission For Women: A brief history, Mandate of the and constitution of the commission, Publications
32. National Policy for Women in Agriculture: Mission , Background, Objectives

### **Practical Outlines**

1. Field visit to observe the role of women in agriculture
2. Field visit to observe the role of women in agriculture
3. Field visit to observe the role of women in agriculture
4. Field visit to observe the role of women in agriculture
5. Visit to farm machinery unit to observe women friendly tools and devices
6. Visit to farm machinery unit to observe women friendly tools and devices
7. Visit to an agripreneurship unit
8. Visit to an agripreneurship unit
9. Visit to a farm women training institution
10. Visit to a farm women training institution
11. Collection of success story
12. Collection of success story
13. Presentation of success story
14. Presentation of success story
15. Practical examination
16. 16. Practical examination

### **References**

1. Kiran, S. and Vasantha, R. (2012). Extension Education- New Horizons. Kalyani Publications.
2. Nayak sarojini and Nair Jeevan. Women's Empowerment in India. Pointer publishers.
3. Gupta Debabrata Das. (2008). Extension Education- core contents and emerging Areas. Agrobios.
4. Benerji Anitha and Sen Raj Kumar. (2000). Women and Economic Development. Deep & Deep publications Pvt. Ltd
5. Prasad Kiran. (2004). Communication and Empowerment of Women: strategies and policy insights from India. The Women Press. Delhi.
6. Ray, G.L. (1991). Extension Communication and Management. Kalyani publications.

**Course Number**      EECM 221

**Title** Extension Training Management

**Credit Hours** 3(1+2)

**General Objective** This course enables the students to understand the different training concepts, training types, analyze the training needs of an organization, assess, design and implement various methods, techniques and evaluate the training

**Specific Objectives Theory**

- i. By the end of the course, the student will be able to understand the meaning of training and types of training
- ii. The students get acquaint with designing & conducting training, training methods & training evaluation.

**Practical**

- i. By the end of the course the students will be able to acquire the skills on different training methods to be used in training .

**Theory Lecture Outlines**

1. Training: Meaning, Definition, Need and importance, Identification of training need
2. Types of training: Extension trainings: Institutional training, Non- institutional training, Comprehensive training, Organization trainings;Pre-Service training,In-service training: Induction or orientation training, Foundation Training, On-the-Job training, Promotional training, Refresher training
3. Training process: Phases of training process; Pre-training, Training, Post training
4. Training Phases and its management: Need Assessment,Training objectives,meaning and definition, Types of objectives: General, Specific; Importance of training objectives, Components, Task, Condition, Standard, Important, considerations, formulation of training objectives, Accurate action verbs, Method of writing
5. Qualities of a good trainer- communication skills, Questioning,Handling Difficult Situations,training skills, motivational skills, facilitation skills and technical skills
6. Adult learning: Characteristics of adult learner, Difference between Pedagogy and Andragogy
7. Facilitation skills in training: Facilitation role of trainer, Facilitator meaning and definition, Factors of facilitation, Trainer like qualities
8. Problem and prospects of training.
9. Steps in module designing: Introduction, Role of Training, Steps,Need assessment, Framing objectives
10. Steps in module designing (contd):Planning overall schedule of training, Planning

- detailed training sessions, Managing, training, Evaluation of training
11. Training methods: Interactive lecture, Interactive demonstration, Field trip, Group discussion
  12. Training methods: Case study, Role play, T- group training, ICT, Folk media
  13. Training evaluation: Meaning of evaluation, Areas of evaluation, Objectives, Principle Steps and indicators of training evaluation.
  14. Training evaluation: Measuring reaction, learning, behaviour and result, Tools of evaluation, Pre test /Post test, Opinion/attitude questionnaire, Trainer observation, Trainer/trainee group evaluation session, Training practice session, Follow -up evaluation
  15. Introduction to HRD: Need, Concept, Outcomes, Functions, Goal of HRD system, HRD Approaches
  16. Important training institutions in India: MANAGE, NAARM, EEI'S, NIRD, MCRHRD

### **Practical Outlines**

1. Visit to state level training institute
2. Visit to state level training institute
3. Visit to vocational training institute
4. Visit to vocational training institute
5. Hands-on-experience with need analysis and writing training objectives
6. Hands on experience with need analysis and writing training objectives
7. Hands-on-experience on training methods
8. Hands-on-experience on training methods
9. Hands-on-experience on training methods
10. Hands-on-experience on training methods
11. Hands-on-experience on training methods
12. Hands-on-experience on training methods
13. Familiarization with monitoring tools of training
14. Familiarization with evaluation tools of training
15. Familiarization with offline training module
16. Familiarization with online training module
17. Preparation of training module
18. Preparation of training module
19. Designing of training programme
20. Designing of training programme
21. Conducting of training programme
22. Conducting of training programme
23. Evaluation of training programme
24. Evaluation of training programme
25. Analysis of HRD programmes of academic institutions
26. Analysis of HRD programmes of corporate institutions

27. Interaction with HR D professionals
28. Interaction with HR D professionals
29. Presentation of reports
30. Presentation of reports
31. Final practical examination
32. Final practical examination

## References

1. Gupta, C.B. (2001). Human Resource Management. Sultan Chand and Sons.
2. Dahama, O.P. and Bhatnagar, O.P. (2003). Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd.
3. Lynton, R.P. and Pareek, V. (2008). Training for Development. Vistaar Publications.
4. Narwani, G.S. (2002). Training for Rural Development. Rawat Publication.
5. Saxena, J.P. and Kakkar, A.T. (2000). Training and Development

**Course Number** EECM 311

**Title** Project Management

**Credit Hours** 2(1+1)

**General Objective** This course facilitates the students to understand the different phases involved in project management: from the procedure of writing project proposal to review of the project.

### Specific Objectives

#### Theory

- i. By the end of the course, the student will be able to understand the meaning of project management, project proposal, concept note, project designing and project planning.
- ii. The students get acquainted with market survey, market and demand analysis, technical analysis, financial analysis and environmental impact analysis.

#### Practical

- i. By the end of the course the students will be able to acquire the skills to write project proposal, prepare budget and cash flow statement, compute break –even point etc., and also the skills to compute net working techniques.

### Theory Lecture Outlines

1. Overview of project management : Background, meaning of project, characteristics of project, meaning of Project Management and types of projects
2. Project management: Elements of management
3. Project proposal: Meaning, project designing: meaning and principles
4. Concept note: Meaning and steps in preparation
5. Project initiation: Generation of ideas, monitoring of environment, appraisal, Screening of ideas and project rating index
6. Resource allocation framework: Introduction, key criteria, investment strategies, Portfolio planning tools , strategic position and action evaluation (SPACE), interface between strategic planning and capital budgeting
7. Market and demand analysis: Market and demand analysis, situational analysis and specification of objectives, collection of secondary information and evaluation of secondary information
8. Steps in market and demand analysis: Market survey, steps in a sample survey of the market, demand forecasting, market planning
9. Environmental appraisal of projects: Concept, types and dimensions of a project, stress on environment, environmental resources / values
10. Environmental impact analysis: Meaning and scope , objectives, methodology for conducting a study, major issues, impact assessment methodologies
11. Technical analysis: Meaning, material inputs and utilities, manufacturing process / technology, product mix etc.,
12. Financial analysis: cost of project, meaning of financing, estimates of sales and production working capital requirement and its financing
13. Financial analysis : Profitability projections, break – even point, projected cash flow statements, projected balance sheets
14. Budgeting: Meaning, process, types, budget control, cost-benefit analysis
15. Terminology of networks: net work preparation, uses of networks, terms used in networks
16. Project management techniques: PERT, CPM, ASBC and Gantt chart

**Practical Outlines:**

1. Visit to technology generation project
2. Visit to technology generation project
3. Visit to transfer of technology project
4. Visit to transfer of technology project
5. Collection and screening of case studies on project management and report writing
6. Collection and screening of case studies on project management and report writing
7. Writing project proposal
8. Writing project proposal



9. Presentation of project proposals
10. Visit to funding agency
11. Visit to funding agency
12. Working on Project management techniques: PERT, CPM, WBS
13. Working on Project management techniques: PERT, CPM, WBS
14. Working on Project management techniques: PERT, CPM, WBS
15. Working on Project management techniques: PERT, CPM, WBS
16. Practical examination

References:

1. Jr. Samuel J. Mantel., Meredith jack r., Shafer Scott M., Sutton Margaret M. and Gopalan M.R. (2006). Project Management- core Text book. Wiley India (p) Ltd.
2. Adhikary M.M., Sarkar A., Acharya S.K. and Basu D. (2006). Partipatory planning and Project management in Extension Sciences. Agrotech publishing academy.
3. Baars Wouter . (2006). Project Management Handbook.
4. D. Dipak and Basavaprabha. (2010). A Handbook of Extension Education. Agrobios (India).
5. Sethi Nishi., Kaushik Sushma., Rani Seema and Goyal Ramesh K. (2009). Extension and Communication Management. Agrotech publishing academy.
6. Newton paul. (2015). principles of project management-project skills.
7. Khanka, S.S. (1999). Entrepreneurial Development. S. Chand and company Ltd.

<b>Course Number</b>	EECM 321
<b>Title</b>	Information and Communication Technology
<b>Credit Hours</b>	3(1+2)
<b>General Objective</b>	This course facilitates the students to understand the importance and scope, methods, means and tools of information technology.
<b>Specific Objectives</b>	<p><b>Theory</b></p> <ol style="list-style-type: none"> <li>i. By the end of the course, the student will be able to understand the need and importance of Instructional technology</li> <li>ii. The students get acquaint with audio visual aids, conventional communication technologies, IT tools IT enabled services and social networking.</li> </ol>

## **Practical**

By the end of the course the students will be able to acquire the skills to

- i. Prepare audio visual aids
- ii. Use conventional communication technologies
- iii. Handle the IT tools and different software
- iv. Browse social networking websites

## **Theory Lecture outlines:**

1. Information Technology – Meaning, importance and Scope
2. Communication – Process, Models, Barriers and Types of Communication
3. Conventional and New media technologies – Classification and Types
4. Conventional Communication technologies – Audio Visual Media, classification, advantages and disadvantages
5. Conventional Communication technologies – Contact methods – Individual, Group and Mass contact methods, classification, advantages and disadvantages
6. Conventional Communication technologies – Folk Media, Classification, Advantages and Disadvantages, Difference between Traditional and Modern media
7. IT Devices: CD ROM, DVD, Desktop computers, Laptops, Tablets, LCD Projector, Printers and Electronic media – Satellite Radio and Television, Internet, Intranet
8. IT tools – Synchronous and Asynchronous – Informative, Constructive, Communicative, Collaborative
9. Informative and Communicative tools – Internet, Intranet, Wikis, Emails, SMS etc
10. Constructive tools - Word processing, Power point, Photoshop, Audio video recording and editing softwares
11. Collaborative tools – Discussions and online forums etc.
12. Networking – LAN, WAN, Social networking – Facebook, Twitter
13. Social networking tools – Blogs, Websites, Wikipedia, Facebook, Twitter, You tube, Instagram, Googl, Flipped classrooms etc.
14. IT enabled services – Call centre, Helpdesks, Data warehouse/ Knowledge management and archiving, Transcription centres, GIS mapping, Customer support services and Electronic distribution
15. IT enabled services and their impact on the society
16. Criteria for selection and evaluation of ICT tools – Conventional and New media

## **Practical Outlines**

1. Understanding the communication Process
2. Orientation to types of communication
3. Orientation to Conventional communication technologies - Audio

4. Orientation to Conventional communication technologies – Visual – Posters
5. Orientation to Conventional communication technologies – Visual –charts
6. Orientation to Conventional communication technologies – Visual – Flash cards
7. Orientation to Conventional communication technologies – Visual –Flannel graphs
8. Orientation to Conventional communication technologies – Audio Visual – Talking doll, Drama and Video
9. Orientation to Conventional communication technologies – Methods of contact – individual, Group and Mass contact methods
10. Orientation to Conventional communication technologies – Methods of contact – individual contact – Personal interview
11. Orientation to Conventional communication technologies – Methods of contact – Group contact – Demonstration, Debate and Symposium
12. Orientation to Conventional communication technologies – Methods of contact –Mass contact – Puppet show and Drama on social connected topics
13. Handling of Conventional communication devices – Projectors
14. Handling of Conventional communication devices –Computers
15. Orientation to the IT tools – Informative - Internet, Intranet, Wikis etc.
16. Browsing through the internet on a selected topic through wikipedia
17. Orientation to the IT tools – Constructive – Word processing, Power point
18. Prepare a Word document on the selected topic
19. Prepare a Power point presentation on a selected topic
20. Orientation to the IT tools – Collaborative tools – Discussions and online forums etc.
21. Browsing through different blogs on a selective topic
22. Browsing through different Flipped classroom on a selective topic
23. Orientation to the IT tools – Communicative – Emails, SMS etc.
24. Open a new Email account and send information collected from the former exercises
25. Orientation to social networking sites - Open a Facebook account to use for social awareness campaign
26. Presentation of the collected information from the Internet
27. Presentation of the collected information from the Internet
28. Presentation for the opening of Email account and present the information collected
29. Presentation for the opening of Email account and present the information collected
30. Presentation of the Power point presentation on selected topic
31. Presentation of the Power point presentation on selected topic
32. Practical examination

#### **References:**

1. Dubey, V.K. (2008). Extension Education and Communication. New age international (P) Ltd.
2. Vanangamudi, K., Venkatachala, R., Ilamurugu, k., Djanaguiraman, M. and Sridevy, S. (2010).

- E-learning : An experiences. Agrobios(India).
3. Prasad Kiran. (2004). Information and communication Technology-Recasting Development. B.R. Publishing corporation.
  4. Celebic Gorana. and Rendulic Dario Ilija. (2011). ITdesk.info – project of computer e-education with open access. Open Society for Idea Exchange (ODRAZI), Zagreb.
  5. Silberschatz Abraham., Galvin Peter Baer. and Gagne Greg. Operating system concepts. Ninth edition. John wiley & sons. Inc.
  6. Tanenbaum Andrew, S. (2009). Modern operating systems. Third edition. Pearson Education, Inc.

**Course Number** EECM 322

**Title** Diffusion and adoption of Homestead Technologies

**Credit Hours** 3 (2+1)

**General Objective** This course facilitates the students to understand the homestead innovations spread among the women in the society by getting into the insights of diffusion concept and adoption process, and innovation decision process, adopter categories and their characteristics and factors influencing adoption.

**Specific Objectives**

**Theory**

- i. By the end of the course, the students will be able to understand the meaning and process of diffusion & adoption, different concepts related to diffusion & adoption process.
- ii. The students will also gain knowledge on different homestead technologies

**Practical**

- i. By the end of the course the students will be able to collect information on different homestead technologies and exposed to diffusion & adoption process in villages.

**Theory Lecture outlines**

1. Diffusion: Concepts of diffusion, innovation, innovativeness, reinvention, Communication channels and social system
2. Diffusion: Social change, social structure, adoption, rate of adoption, localite, cosmopolite, homophily, heterophily, consequences, discontinuance, opinion leadership, change agent, norms
- 3.Elements of Diffusion process: Introduction, elements of diffusion process: innovation,

- communication channels, time.
4. Diffusion process: social system: optional, collective, authority, contingent
  5. Innovation Diffusion Process: Concept, model of ID process
  6. Types of innovation–decision process
  7. Consequences of innovations: concepts
  8. Adoption: Meaning, adoption process, five stage process
  9. Factors influencing adoption : Personal, situational, social
  10. Consequences of adoption: Meaning, desirable/undesirable, functional versus dysfunctional, direct versus indirect, anticipated versus unanticipated, manifest versus latent
  11. Constraints in adoption of technologies
  12. Innovation - diffusion process: Adoption, confirmation, rejection, dissonance
  13. Innovation Decision Process: Rate of adoption, over adoption, innovativeness
  14. Discontinuance: Replacement, disenchantment, forced discontinuance, over adoption,
  15. Attributes of an Innovation and their influence in transfer of technology: Meaning of attributes, relative advantage
  16. Attributes of an innovation: Complexity, trialability, predictability, compatibility, observability
  17. Adopter categories: Concept and types
  18. Homestead Technologies: Meaning, women and technologies
  19. Homestead Technologies: Home technologies, farm technologies
  20. Characteristics of innovation with special reference to homestead technologies: Affirmative, comprehensive, drudgery free
  21. Process of homestead technology development: Technology research, generation, technology testing, adaptation, integration
  22. Channels of communication for homestead technology: Technology research, generation, testing, adaptation, integration
  23. Diffusion network: Homophily, Heterophily, Localite versus Cosmopolite Channels
  24. Social Change: Concept, theories, dimensions
  25. Social Change: Factors associated with the acceptance and resistance of change
  26. Change Agent: Sequence of change –agent roles, factors in change agent success
  27. Agencies of change: Concept, role in diffusing technologies
  28. Opinion Leadership: Meaning, Hypodermic Needle Model, The Two Step Flow Model, Monomorphic leaders, Polymorphic leaders
  29. Opinion Leadership: Selection of opinion leaders, sociometric, informants ratings, self- designating technique, observations
  30. Change Process: Factors affecting change
  31. Different homestead technologies with special reference to Home Science

## 32. Strategies for Transfer of Home Science Technology and constraints in adoption

### **Practical Outlines**

1. Collection of Homestead Technologies
2. Collection of Homestead Technologies
3. Adoption in locality- Observation
4. Adoption in locality- Observation
5. Adoption in locality- Observation
6. Visit to different entrepreneurs adopted home stead technologies for business enterprise
7. Visit to different entrepreneurs adopted home stead technologies for business enterprise
8. Visit to different successful SHGs
9. Visit to different successful SHGs
10. Categories of adopters among SHG members
11. Categories of adopters among SHG members
12. Analysis and presentation of report
13. Identification of change agents in a locality
14. Identification of change agents in a locality
15. Analysis and presentation of report
16. Practical examination

### **References :**

1. Rogers, M. (2010) Diffusion of innovations. Third Edition. Library of Congress Cataloging in Publication Data.
2. Gupta Debabrata das. (2008). Extension Education- Core contents and emerging Areas. Agrobios (India).
3. De Dipak and Basavaprabha. (2010). A Handbook of Extension Education. Agrobios (India).
4. Dubey, V.K. and Bishnoi Indira. Extension Education and communication. New Age Publications.
5. Supe, S.V. (2011). Integrated Extension Education. Agrotech publishing Academy.
6. Khan, P.M. and Somani, L.L. (2009). Fundamentals of Extension Education (Incorporating ICAR Recommended Syllabus). Agrotech publishing Academy.

<b>Title</b>	Elementary Statistics
<b>Credit Hours</b>	3 (2+1)
<b>General Objective :</b>	To impart elementary statistical methods/ tools for analyzing data in Community Science
<b>Specific Objectives :</b>	<p><b>Theory</b> By the end of the course ,the student will be able to</p> <ol style="list-style-type: none"> <li>I . Know the names of different statistical tools employed for analyzing the data associated with community science.</li> <li>2. Understand different formulae of statistical tools /method and their merits and demerits and purpose of using them.</li> <li>3. Gain knowledge of using the statistical tools /methods in different situations for different hypotheses of data.</li> </ol> <p><b>Practical</b> By the end of the Course, the student will be able to</p> <ol style="list-style-type: none"> <li>1. Learn the practice of computing measures of central tendency and dispersion given the relevant data.</li> <li>2. Learn the practice of computing the properties and fitting of Binomial,Poisson&amp; Normal distributions given the relevant data</li> <li>3. Learn the practice of computing the testing of hypotheses using different tests like t-tests,chi-square test given the relevant data.</li> <li>4. Learn the practice of computing correlation,regression ,one-way analysis of variance and drawing simple random sampling given the relevant data</li> </ol>

#### **Theory Lecture Outlines**

1. Introduction to statistics; definitions, functions, uses and limitations, Classification and tabulation of data
2. Qualitative and quantitative classification, discrete and continuous variables,
3. Frequency tables, grouped and ungrouped data.
4. Diagrammatic representation of data; One, Two and Three dimensional diagrams with applications.
5. Graphical representation of data; Histogram, frequency polygon, frequency curve, ogives.
6. Measures of central tendency; Introduction to basic concepts of logarithms,A.M.merits and demerits and uses
7. Median. Mode with merits, demerits and uses
8. G.M.and H.M. with merits and demerits,Relationship between AM, GM and HM,
9. Measures of dispersion; Range, Quartile deviation, Inter Quartile range
10. Mean deviation from AM, Median and Mode
11. Variance, Standard deviation, Coefficient of variation.
12. Moments; Raw moments, Central moments for grouped and ungrouped data, relationship between raw moments and central moments.
13. Measures of Skewness and Kurtosis;
14. Definitions of symmetrical distribution, Skewness and Kurtosis,
15. Relationship between mean, median and mode and between quartiles for symmetrical and skewed distributions.
16. Probability theory; Definition of probability, Definition of random experiment sample space, events, mutually exclusive and equally likely events and independent events
17. Addition and multiplication theorem of probability Simple problems based on probability,
18. Conditional events and independent events, Simple problems based on probability
19. Simple problems on probability based on permutations and combinations,

20. Correlation: definition of correlation its types, scatter diagrams, Karl Pearson's formula of correlation coefficients, Testing of significance of correlation coefficient,
21. Definition of regression, regression equation of Y on X
22. Regression equation of X on Y, Relationship between correlation coefficient and regression coefficients.
23. Problems based on correlation and regression.
24. Tests of significance; basic definitions, hypothesis, null and alternative hypothesis, tests statistic, testing of hypothesis,
25. One sample t-test and two sample fisher's t-test.
26. Chi-square test of goodness of fit and Chi-square test of independence of attributes.
27. Discrete and continuous probability distributions; definition of random variable, discrete and continuous random variables, probability distribution of random variable,
28. Binomial distribution & Poisson distribution
29. Normal distribution and applications.
30. Analysis of variance; definition of analysis of variance, assignable and Nonassignable factors, Analysis of one way classified data.
31. Introduction to sampling methods; definition of population, random sample, sampling, versus complete enumeration,
32. Use of random number table for selecting a simple random sample, simple random sampling with and without replacements.

#### **Practical outlines**

1. Diagrammatic representation of data
2. Graphic representation of data
3. Measures of central tendency (Ungrouped data) with calculation of quartiles,
4. Deciles and percentiles, A.M. (Ungrouped & Grouped data)
5. Median & Mode (Ungrouped & Grouped data)
6. Range, Quartile deviation (Ungrouped & Grouped data)
7. Mean deviation from A.M., Median & Mode (Ungrouped & Grouped data)
8. Variance, Standard deviation, Coefficient of variation (Ungrouped & Grouped data)
9. Moments, measures of skewness and kurtosis (Ungrouped data)
10. Moments, measures of skewness and kurtosis (Grouped data)
11. Correlation, Regression equation of Y on X
12. Regression equation of X on Y,
13. One sample t-test, Two sample Fisher's t-test,
14. Chi-square test of goodness of fit, Chi-square test of independence of attributes
15. Analysis of variance of one way classification
16. Selection of simple random sample

#### **References**

Elhance, D. N.	Fundamentals of Statistics
G.Nageswara Rao	Statistics for Agricultural Sciences
Kapoor and Saxena	Mathematical Statistics
Singh and Verma	Agricultural Statistics
Hall and Knight	Higher Algebra

**Course Number** CSBC 212

**Title** Fundamentals of Food Microbiology



**Credit Hours** 3 (2+1)

**General Objective**

- To impart knowledge of microorganisms associated with food spoilage and food poisoning and understand the growth and control of microorganisms.

**Specific Objectives**

**Theory**

By the end of the course the students will be able to

- Know names, sources, and growth of microorganisms associated with food
- Understand methods of control of microorganisms by different food processing techniques.
- Gain knowledge of spoilage caused by microorganisms and the toxic and poisonous affect on human body.

**Practical**

By the end of the course, the student will be able to

- Develop skill in using microscope, preparation of media, culturing of microorganism and preparation of slides.
- Isolate and identify different microorganisms and count the colonies in petridish.
- Assess the extent of spoilage and compare with safety levels in different food groups.

**Theory Lecture outlines**

1. Introduction and brief history of food microbiology
2. Major groups of microorganisms associated with food-Bacteria
3. Major groups of microorganisms associated with food-Yeast
4. Major groups of microorganisms associated with food-Mold
5. Sources of microbial contamination in food.
6. Factors effecting growth and survival of microorganisms in foods.-Intrinsic factors
7. Factors effecting growth and survival of microorganisms in foods.-Extrinsic factors
8. Physical methods to control microorganisms.
9. Chemical methods to control microorganisms.
10. Biological methods and natural antimicrobial compounds to control microorganisms
11. Food Fermentations, Traditional fermented foods of India and other Asian countries.
12. Probiotics,prebiotics and symbiotics.
13. Fermented foods based on milk.
14. Fermented foods based on meat.
15. Fermented foods based on grains.
16. Fermented foods based on fruits and Vegetables.
17. Fermented beverages.
18. Role of microorganisms in food spoilage.
19. Chemical changes caused by microorganisms
20. Spoilage organisms of milk.
21. Spoilage organisms of meat.
22. Spoilage organisms of grains.
23. Spoilage organisms of fruits
24. Spoilage organisms of vegetables.
25. Principles of food preservation.
26. Food poisoning
27. Food borne infections.
28. Microbial toxins.
29. Indicator organisms.
30. Rapid methods for detection of microorganisms.
31. Pre final examination

**Practical Outlines**

- 1 General laboratory practices and equipment used in food microbiology laboratory
- 2 Methods of Sterilization- Sterilization of glassware by dry heating and sterilization of

- 3 nutrient broth by moist heating
- 3 Aseptic methods- Aseptic handling of glassware and aseptic transfer of a liquid culture with an inoculation loop
- 4 Microscopic examination of bacteria
- 5 Microscopic examination of yeast
- 6 Microscopic examination of molds
- 7 Preparation of media -Agar slants and agar plates
- 8 Isolation of microorganisms-Streak plate method
- 9 Isolation of microorganisms- Spread plate method
- 10 Isolation of microorganisms- Pour plate method
- 11 Purification and maintenance of microorganisms
- 12 Detection of fecal coli form
- 13 Counting of microorganisms-Total bacterial count (TBC) and Total Mold Count(TMC)
- 14 MPN of coli forms –Counting bacteria in water using the most probable number technique
- 15 Microbiological examination of different foods- milk, grains, fruits and vegetables
- 16 Practical Examination.

**References**

1. Frazier J & Westhoff DC. 1988. Food Microbiology. 4th Ed. McGraw Hill.
2. Pelczar, *et al.* 1996. Microbiology, 5<sup>th</sup> edn
3. Banawart GJ. 1989. Basic Food Microbiology. 2nd Ed. AVI Publ.
4. Garbutt J. 1997. Essentials of Food Microbiology. Arnold Heinemann.
5. Stanier I. and Wheeler and Painter. 1992. General Microbiology. 5<sup>th</sup> ed.
6. Kapoor, T. and Yadav. 1991. An Introduction to Microbiology.

**Course Number** CSBC 221

**Title** Communication Skills and Personality Development

<b>Credit Hours</b>	3(2+1)
<b>General Objective</b>	To Help the Students in Polishing and refining their Communication Skills
<b>Specific Objectives</b>	<p><b>Theory</b></p> <p>By the end of the course the students will be able to</p> <ol style="list-style-type: none"> <li>i. Understand the theoretical aspects of Communicatio Skills.</li> </ol>

**Practical**

By the end of the course, the student will be able to Use their Communication Skills in practical life for attainin success.

**Theory Lecture outline**

1. Communication – Definition, Types
2. Communication Skills – Discussion on their importance
3. Verbal & Non- Verbal Communication – Detailed explanation
4. Listening – Exercises on listening comprehension
5. Note Taking – Situations where it is used
6. Writing Skills – Letter, paragraph & precis writing
7. Oral Presentation – Branches of oral Presentation
8. Kinesics – Study of Body Language
9. Eye Contact, Posture
10. Audience preparation, Audio- Visual Aids
11. Field Diary & Lab Record – Discussion on different Aspects

12. Indexing on Foot Note – Their Importance in Research paper
13. Bibliography -How to write a Bibliography
14. Reading – Types of reading
15. Skimming, Scanning
16. Reading Aloud, Silent Reading
17. Precis Writing – Rules of writing a good precis
18. Summarizing – Factors that go into the making of a good summary
19. Uses of Writing a summary
20. Abstracting – Discussion in detail
21. How to write an Abstract of a book
22. Public Speaking – How to prepare a speech
23. How to deliver a successful Speech
24. Group Discussion – Purpose & definition
25. How to emerge successful in a group discussion
26. Importance of Technology in Communication
27. Sources of Electronic Communication
28. A brief discussion on the use of Internet, E-mail & Fax
29. How to arrange Video Conferencing
30. Personality – Meaning & Definition
31. Development of Personality – Self Concept, Self Esteem
32. Importance of Formal & Informal Dressing

### **Practical Outlines**

1. Exercises in Listening Comprehension
2. Note Taking – Its Importance in Professional Life
3. Oral Presentation – Factors that make our Oral Presentation Effective
4. Mock Oral Presentation by Students
5. How to use Indexing & Foot note in a Dissertation
6. Preparation of Bibliography on different Topics
7. Exercises on Reading Comprehension
8. Preparing students in writing a technical Article
9. Introduction to Precis Writing, Summarizing & Abstracting
10. Questionnaire – How to Develop it
11. Importance of questionnaire in Research Writing
12. Ways of Collecting Data
13. How to Select a sample while writing a Research paper
14. Types of Report Writing
15. Case Study – Its Importance for an Individual suffering with Personality Disorders
16. Final Practical Exam

### **References**

1. Business Correspondence & Report Writing by R.S Sharma & Krishna Mohan, Tata McGraw-Hill, Publishing Company Pvt. Ltd. New Delhi
2. Developing Communication Skills by Meera Banerjee & Krishna Mohan, Orient Longman, Publishing Company, Pvt. Ltd, New Delhi
3. A Text Book of Foundation Course in English, Edited by Pushpa Rama Krishna and Published by Dr. B.R.Ambedkar Open University, Hyderabad.

**Course Number** CSBC 311

**Title** Economics and Marketing

**Credit Hours** 3(2+1)

**General Objective** To obtain a basic knowledge about the various basics of economics and marketing

**Specific Objectives****Theory**

By the end of the course the students will be able to

- I. Gaining basic knowledge of marketing, types of markets - difference between marketing, selling and merchandising, process of management, marketing organizational structure, marketing concepts, marketing process
- II. Understand the buyer behavior
- III. Learn about market segmentation and marketing mix
- IV. Know all about the product – product features, components of a product personality, product levels, product positioning and pricing strategies
- V. Study about wholesalers, retailers, channels of distribution
- VI. Know the importance of branding, advertising, packaging

**Practical**

By the end of the course, the student will be able to

- I. Obtain basic knowledge of marketing, types of markets for different types of products and marketing process
- II. Understand the buyer behaviour for various types of goods and services
- III. Learn about market surveys
- IV. Know about the product – product features, components of a product personality, product levels, product positioning and pricing strategies

**Theory Lecture outline**

1. Terms and definitions in Economics;
2. Basic Concepts of Economics. Goods and services.
3. Basic Concepts of Economics. Human wants - Characteristics and Classification.
4. Consumption – Meaning and importance in Economics
5. Nature of Economic Laws, Basic equilibrium, utility, elasticity, competition.
6. Demand and supply – meaning and laws
7. Theory of Consumer Behavior: Utility analysis-cardinal and ordinal approaches.
8. Consumer surplus and Indifference curve analysis
9. Consumer equilibrium, income, price and substitution effects.
10. Factors of production and factors affecting production
11. Gross Domestic Product (GDP) – Factors affecting GDP.
12. Role of industry sector in National GDP.
13. Marketing- Meaning and Definition,
14. Need for marketing,
15. Role of marketing,
16. Marketing process,
17. Marketing functions,
18. Classification of markets,
19. Channels of distribution – types, selection of distribution channel, Wholesalers, Retailing,
20. Brands and branding – brand equity, extension, brand management
21. Advertising – importance, classification, advertising campaign
22. Pricing and pricing policies - Price spread,
23. Marketing efficiency,
24. Integration,
25. Constraints in marketing of agricultural and other small scale industrial produce,
26. Market intelligence and marketing research
27. Bank and banking norms
28. Insurance – meaning, need and types,
29. SWOT analysis – meaning and importance ,
30. Crisis management – need and methods.

31. Techno-economic parameters for preparation of projects
32. Basic guidelines for preparation of project report.

### Practical Outlines

1. Visit to different markets for project identification.
2. Techno-economic parameters for preparation of project – Project identification through market survey
3. Techno-economic parameters for preparation of project –Identification of technical parameters
4. Techno-economic parameters for preparation of project – Analysis of technical parameters
5. Techno-economic parameters for preparation of project –Identification of Economic parameters
6. Techno-economic parameters for preparation of project – Analysis of Economic parameters
7. Preparation of final project
8. Preparation of bankable projects for various agricultural products
9. Preparation of bankable projects for various value added agricultural products.
10. Preparation of bankable projects for various small scale industrial products
11. Identification of marketing channel – Agricultural products.
12. Identification of marketing channel – Value added Agricultural products.
13. Identification of marketing channel – Small scale industrial products.
14. Calculation of price spread - Agricultural products and Value added Agricultural products
15. Calculation of price spread - Small scale industrial products
16. Identification of market structure

### References

4. Economic Theory, by Tamilnadu Textbook And Educational Services Corporation
5. Elementary Economic Theory, 2003, by K.K. Dewett, J.D. Verma, S.Chand (G/L) & Company Ltd
6. Elementary Indian Economics 2008, K.K. Dewett, J.D. Verma, S.Chand (G/L) & Company Ltd
7. Marketing, Economics & Banking by Dezy Kumari, Lucent Publications; Fifth edition (2015)
8. Mamoria C.B, 1977, Principles and Practice of Marketing in India, Kitab Mahal, Allahabad.
9. Kotler. P, 2010, Marketing Management-Analysis, Planning, Implementation and Control, 9<sup>th</sup> Edition, Prentice Hall, New Delhi.
10. Ramaswamy V.S & Namakumari S, 2010, Marketing Management, Macmillan Publishers India, New Delhi

**Course Number** CSBC 321

**Title** Elementary Human Physiology

**Credit Hours** 3(2+1)

**General Objective**

- To impart knowledge on the different parts of human body from cellular to organ systems, their structure and physiology, functioning and regulation in the human body and integration and maintenance of homeostasis

**Specific Objectives**

**Theory**

By the end of the course the students will be able to

- i. Study of the normal and regulatory mechanism of musculoskeletal, circulatory, respiratory, digestive, urinary, immune, reproductive, and endocrine organ systems
- ii. Integration of the organ systems to maintain proper internal environment
- iii. Role of the Autonomic Nervous System in regulating organ function
- iv. Understand the neural & hormonal homeostatic control mechanisms of the human body

### **Practical**

By the end of the course, the student will be able to

- i. Identify the structure of different systems in the human body.
- ii. Analyze the blood samples for biochemical investigations related to body functioning as complete blood picture.
- iii. Assess the variations in vital functions like blood pressure, pulse rate during exercise and diseases in different conditions.

### **Theory Lecture outlines**

- 1 Physiological process - Introduction.
- 2 Structural basis of human body – cells and their functions.
- 3 Structural basis of human body – tissues and their functions.
- 4 Skeletal system.
- 5 Joints.
- 6 Muscular system.
- 7 Functions of brain.
- 8 Functions of spinal cord.
- 9 Nerve impulse reflex action.
- 10 Sense organs - eyes, nose.
- 11 Sense organs – tongue, skin, ears.
- 12 Composition and functions of blood.
- 13 Composition and functions of lymph.
- 14 Structure of heart and course of blood circulation.
- 15 Blood pressure and factors affecting blood pressure.
- 16 Pulse rate and heart sounds.
- 17 Respiratory apparatus.
- 18 Mechanism of respiration.
- 19 Respiratory rates.
- 20 Volume and transport of gases.
- 21 Physiology of kidney.
- 22 Physiology of digestion.
- 23 Digestive enzymes and their functions.
- 24 Functions of liver.
- 25 Absorption from the intestine.
- 26 The location, secretions and function of various endocrine glands – pituitary, thyroid, parathyroid.
- 27 The location, secretions and function of various endocrine glands – adrenal, testes, ovaries.
- 28 The location, secretions and function of various endocrine glands – Panceas, Placenta, pineal gland.
- 29 Male reproductive organs and their functions.
- 30 Female reproductive organs and their functions.
- 31 Pregnancy, persecution and milk secretion.
- 32 Pre-Final Examinations.

### **Practical Outlines**

- 1 Demonstration of animal viscera, identification of systems and organs.
- 2 Transverse section of stomach, intestine – small and large.
- 3 Models of excretory and reproductive organs and their histology.
- 4 Estimation of hemoglobin using heamoglobinometer and colorimeter.

- 5 Estimation of RBC count by hemocytometer.
- 6 Estimation of WBC count by hemocytometer.
- 7 Differential counting of WBC using peripheral smear.
- 8 Estimation of PCV, ESR, micro and macro heamatocrit.
- 9 Estimation of bleeding and clotting time.
- 10 Measurement of pulse rate and blood pressure, its variation with exercise.
- 11 Testing for sensation.
- 12 Special sensors.
- 13 Measurement of respiratory quotient, inspiration, expiration.
- 14 Measurement of O<sub>2</sub> and CO<sub>2</sub> at various partial pressure in lungs.
- 15 Learning of Reproductive cycle-menstruation and estrous cycles.
- 16 Practical examination.

## References

1. Chatterjee C.C. 1980 Human Physiology Medical Allied, Calcutta
2. Ganong W.L. 1995 Review of Medical Physiology Norwalk Simon & Schuster
3. Rahul P Phate (2013) Anatomy and Physiology and Health Education. Career Publications, Nasik.
4. Arthur J. Vanders. Human Physiology- The mechanisms of body function, Tata McGraw Hill Publishing Company, New Delhi.
5. Samson Wright. Applied Physiology. 10th edn. Revised by Keele, C.A. and Neil, B. Oxford University Press, New York

**Course Number**        RMCS 211

**Title**                      Financial Management and Consumer Education

**Credit Hours**            2(2+0)

**General Objective**      Applying the consumer education practices in the daily life of the consumer

**Specific Objectives**    **Theory**

By the end of the course the students will be able to

- i. To create awareness on the importance of consumer education and management at individual and family levels
- ii. To understand the financial levels. Banking, crediting etc by the consumer
- iii. To create awareness among the consumers about their problems, rights, responsibilities and food adulteration.

**Theory Lecture outlines**

1. Family finance - Concepts, importance, objectives and major aspects
2. Income concepts: productive income, hidden income, money income, real income, psychic income.
3. Family – as income producing and utilizing unit, factors affecting in the use of family income
4. Analyzing income: income profiles
5. Analyzing income: methods of handling income and account keeping systems
6. Family budget: steps of budget making, factors influencing the budget making, advantages of budget making
7. Engel’s law of consumption, standard of living
8. Credit- needs types, uses and sources
9. Planning for financial security of families, credit institutions
10. Savings and Investment- types of savings / investment
11. Saving institutions and its importance
12. Investment plans and criteria for judging family investments
13. Taxation- objectives, characteristics
14. Classification of Taxes in India
15. Consumer – definition and role, concept of consumer and consumer economics
16. Market and merchandising – definition
17. Market and merchandising – importance of merchandising.
18. Consumer problems urban areas: unfair trade practices, adulteration, faulty weights and measures
19. Consumer problems in rural areas: unfair trade practices, adulteration, faulty weights and measures
20. Consumer problems in e- marketing
21. Consumer rights and responsibilities
22. Consumerism and its growth
23. History of consumer movement in the developed and developing countries
24. Consumer protection Act and Govt. legislation and order
25. NGO’s for consumer protection and welfare
26. Standard and standardization – need, importance and types of standards for various products
27. Standard and standardization - legislative measures for regulating quality in Consumer durables
28. Standard and standardization - legislative measures for Foods
29. Sources of consumer information – Advertisements - definition, importance, and types - advertisements
30. Sources of consumer information – Product Labels – definition, importance, and types
31. Sources of consumer information – Product packaging etc. – definition, importance, and types
32. Consumer and the environment



## References

1. Rice, Nickel and Tucker. (1976). Management in Family Finance. John Wiley and Sons., New York
2. Seetharaman P. Sethi M. (2002). Consumerism Strategies and Tactics. CBS Publishers and Distributors. New Delhi.
3. Verghese, M.N. Ugale, W. N. and Srinivasan, K. (1997). Home Management, New Delhi: New Age International.

**Course Number** RMCS 221

**Title** Housing and Space Management

**Credit Hours** 3(2+1)

**General Objective** Gain an understanding of the basic principles of planning a house and designing life space

**Specific Objectives** **Theory**

By the end of the course the students will be able to

- i. Recognize the family's needs in relation to housing
- ii. Gain knowledge on housing issues and building services
- iii. gain practical knowledge in designing space for different family needs

**Practical**

By the end of the course the students will be able to

- i. To learn the basics of architectural symbols and plans
- ii. To learn about the efficient arrangement of space in interiors
- iii. To learn to develop the house plans including furniture

## Theory Lecture outlines

1. Housing – importance, characteristics and effects of insufficient housing
2. Housing needs at different stages of family life cycle.
3. Factors to be considered in selection of family housing, selection of site,
4. Types of house plans – floor plan, site plan, cross sectional plan, perspective plan, elevation plan and landscape plan.
5. Advantages and disadvantages of renting and owning a house
6. Economy in housing construction
7. Principles of house planning: orientation and aspect
8. Principles of house planning: privacy, grouping, roominess, prospect
9. Principles of house planning: flexibility, circulation, sanitation
10. Principles of house planning: furniture requirement and practical considerations
11. Space management based on functional areas – Living room / Drawing room
12. Space management based on functional areas – Bedrooms for different people
13. Space management based on functional areas – Kitchen
14. Space management based on functional areas – Dining
15. Space management based on functional areas – Storage
16. Space management based on functional areas – other areas like pooja, study etc
17. Space management and Interior types based on functional needs – interiors for youth,
18. Space management and Interior types based on functional needs – interiors for elderly
19. Space management and Interior types based on functional needs – other special needs
20. Housing problems – rural and urban housing problems in India
21. Housing legislation and regulation - Building Act 1984, Defective Premises Act 1972, Disability Discrimination Act 1995, Environment Protection Act etc.
22. Housing policies - government and non- government housing policies and housing schemes.
23. Housing finance - government and non- government finance institutes.
24. Housing schemes - government and semi- government
25. Housing standards – sanitary facility, food preparation and refuse disposal
26. Housing standards – space and security

27. Housing standards – thermal environment, illumination and electricity
28. Housing standards – structure and material, interior air quality
29. Housing standards – water supply
30. Housing standards – access, site and sanitary condition
31. Technology in housing – advanced technology in housing construction
32. Low cost building technology, low cost building materials.

### **Practical Outlines**

1. Learning and comprehending architectural symbols
2. Lettering design and techniques
3. Planning Space arrangement-Living and Dining Rooms
4. Planning Space arrangement -Bed and Bath rooms
5. Types of Kitchen-Single wall, Double wall, L-shape
6. Types of Kitchen -U-shape, Island
7. Designing of kitchen and bathroom for special needs
8. Planning Space saving storage solutions
9. Drawing of House plan for EWS and LIG
10. Drawing of house plan for MIG
11. Drawing of house plans for Rural families
12. Drawing a house plan indicating electrical wiring and fixtures
13. Drawing a house plan indicating plumbing and water supply
14. House plan for renovation according to needs of residents
15. Market survey to study the available building materials in the local market
16. Final Practical Examination

### **References**

1. Mathur, G.C. (1993). Low Cost Housing in Developing Countries. New Delhi: Mohan Primlani, Oxford and IBH.
2. Tesis Agan, M.S. (1970). The House. New Delhi: Oxford and IBH
3. S.Renuka, Mahalakshmi V Reddy. Housing & Space Management. Indian Council Agricultural

<b>Course Number</b>	RMCS 222
<b>Title</b>	Ergonomics and Appropriate Technologies
<b>Credit Hours</b>	2 (1+1)
<b>General Objective</b>	To impart knowledge about ergonomics, care of household appliances and low cost energy saving devices
<b>Specific Objectives</b>	<p><b>Theory</b> By the end of the course, the students will be able to understand</p> <ol style="list-style-type: none"> <li>i. The tools and techniques of ergonomic evaluation and drudgery reduction.</li> <li>ii. Methodologies for work simplification and energy saving and management.</li> </ol> <p><b>Practical</b> By the end of the course the students will be able to carry out</p> <ol style="list-style-type: none"> <li>i. Ergonomic evaluation of electric and non-electric tools and equipment</li> <li>ii. Techniques for care and maintenance of household appliances</li> <li>iii. Demonstration of use, care and maintenance of low cost energy saving devices</li> </ol>

### **Theory Lecture outlines**

1. Introduction and definition of ‘Ergonomics’
2. Principles of Ergonomics- Anthropometrics
3. Work simplification – meaning and importance, techniques
4. Mundel’s classes of changes
5. Work, worker and workplace relationship

6. Ergonomic tools and techniques
7. Ergonomic evaluation equipment
8. Household drudgery- definition, Drudgery reduction
9. Household equipment- introduction, definition and classification
10. Impact of household equipment on work, worker and environment
11. Equipment design and its effect on body posture
12. Energy management: Significance, Energy costs of Home making tasks, techniques and apparatus in measuring Energy costs, management process applied to energy
13. Energy management – efforts used in home making activities
14. Renewable energy saving technologies
15. Non renewable energy saving technologies
16. Ways and methods in the reduction of energy consumption in household, farm and community

### **Practical Outlines**

1. Learning Anthropometric dimensions for various purposes
2. Ergonomic evaluation of selected task using pathway chart
3. Ergonomic evaluation of tools and equipment by using operation chart
4. Ergonomic evaluation of tools and equipment by using process chart
5. Use, care and maintenance of common household appliances – Kitchen tools – Non Electric
6. Use, care and maintenance of common household appliances – Kitchen tools – Electric
7. Use, care and maintenance of common household appliances – minor non electric equipment
8. Use, care and maintenance of common household appliances – minor electric equipment
9. Use, care and maintenance of common household appliances – refrigerator , washing machine
10. Use, care and maintenance of common household appliances – Vacuum cleaner, Oven
11. Demonstration, use, care and maintenance of low cost energy saving devices: Solar Dryer
12. Demonstration, use, care and maintenance of low cost energy saving devices: Solar cooker
13. Demonstration, use, care and maintenance of low cost energy saving devices: insulation box cooker
14. Demonstration, use, care and maintenance of low cost energy saving devices: steam cooker
15. Demonstration, use, care and maintenance of low cost energy saving devices: Low cost food preservation devices
16. Demonstration, use, care and maintenance of low cost energy saving devices: Zero energy cool chamber

### **References**

1. Grandjean, E. (1981). Ergonomics of the Home. Taylor and Francis Ltd. New York.
2. Grandjean, E. and Kroemer, K.H.E. (1999). Fitting the Task to the Human a Text Book of Occupational Ergonomics. Taylor and Francis, New York.
3. Peet, I.J and Arnold, M.G. (1993). Household Equipment. John Wiley, New York.
4. Kroemer KHE. 2008. Fitting the Human-Introduction to Ergonomics. Taylor and Francis Ltd. New York.

<b>Course Number</b>	RMCS 311
<b>Title</b>	Residential and Commercial Space Design
<b>Credit Hours</b>	3(2+1)
<b>General Objective</b>	To enable the student to develop theoretical knowledge in designing space for family living and commercial spaces
<b>Specific Objectives</b>	<p><b>Theory</b></p> <p>By the end of the course the students will be able to</p> <ol style="list-style-type: none"> <li>i. To enable the student to develop knowledge in designing space for family living.</li> <li>ii. Exposure to design and decorate residential spaces</li> <li>iii. To gain managerial skills and handle space efficiently for multiple functions</li> <li>iv. Study building codes, fire safety and barrier – free designs as essential</li> </ol>

- components of laying out interior space
- v. Learn use of presentation boards to assist clients in visualizing the design project.

### **Practical**

By the end of the course the students will be able to

- i. Get exposed to different types of residential buildings
- ii. Learn to put the detailed drawings of residential designs on paper
- iii. Develop skills to create a functional, ergonomic and beautiful design for clients with interior spaces.
- iv. Practice and gain experience to design residential and commercial environments that promote, sustain and inspire health and healthy
- v. To explain the sequence of procedures used in completing a design project, including conducting interviews, creating and presenting design concept.
- vi. To determine cost estimates, making purchases of products and services, supervising the work and completion of services.
- vii. Able to develop good portfolio.

### **Theory Lecture outlines**

1. Residential building types and characteristics
2. Commercial buildings- types and design issues
3. Factors influencing building design
4. Residential Interior Design Standards – living spaces
5. Residential Interior Design Standards – service spaces
6. Commercial Interior Design Standards – service spaces
7. Commercial Interior Design Standards – lighting and other environmental parameters
8. Design Process - Steps
9. Approaches to planning - residential spaces
10. Approaches to planning - commercial spaces
11. Design and space organization, analysis of different spaces of independent houses of different income groups.
12. Design and space organization, analysis of different spaces of independent houses of different income groups.
13. Design and space organization, analysis of apartments and flats.
14. Understanding building bye laws, regulations - residential buildings.
15. Understanding building bye laws, regulations - commercial buildings.
16. Specifications essential for building and service management
17. Selecting materials and finishes for interiors.
18. Cost of Estimation - fittings, fixtures, furniture, lighting and materials for residential buildings and commercial buildings
19. Technical services required for residential and commercial buildings
20. Services - mechanical, computer and communication system
21. Space needs in commercial buildings.
22. Design and space organization of commercial interiors for business establishments- retail stores
23. Design and space organization of commercial interiors for hotels/restaurants,
24. Design and space organization of commercial interiors for hospitals,
25. Design and space organization of commercial interiors for educational buildings- schools/ colleges
26. Design and space organization of commercial interiors for recreational centers - theaters, museums, parks
27. Design and space organization of commercial interiors for public service buildings
28. Functional Designing for physically challenged in commercial and residential buildings
29. Indoor climate and Landscaping for commercial and residential
30. Tenders and work contracts
31. Professional issues and ethics in management of projects
32. Commercial window displays

### **Practical Outlines**

1. Visit to residences to study space allocation and utility
2. Analysis of Interior Space organization

3. Visit to different commercial buildings and to study design concept
4. Evaluation of commercial buildings
5. Develop conceptual drawings and floor plans for various income groups.
6. Develop layouts of furniture, lighting, electrical and plumbing for various income groups.
7. Practical applications of design and space organization of apartments and flats and analysis.
8. Cost estimation for designing interiors of various income groups.
9. Designing and developing a layout for a small residential project
10. Evolving interior decoration details with material sample for the small residential project.
11. Designing and developing a layout for a residential project in coastal areas
12. Evolving interior decoration details with material sample for coastal areas
13. Presentation of the detailed work done for small residential project and coastal areas
14. Designing and developing a layout for a small commercial project
15. Evolving interior decoration details with material sample for a small commercial project
16. Presentation of the detailed work done for a small commercial project.

## References

1. Bonda P. and Sonsnowchik K. (2007). Sustainable Commercial Interiors. John Wiley and Sons Publication.
2. Crafts. (2004). The office – Designing for Success. 2004. Images Publication
3. Francis, D. (1997). The New Office. Conran Octopus Publication
4. Harmon. S and Kennon, K. The Codes guidebook for Interiors. Fifth Edition. John Wiley and Sons Publication.

**Course Number** RMCS 321

**Title** Entrepreneurship Development and Business management

**Credit Hours** 3(2+1)

### General Objective

To create an awareness about various aspects of Entrepreneurship development and Business management

### Specific Objectives

#### Theory

By the end of the course the students will be able to

- i. To create awareness on the aspects of goal setting, career formation, portfolios, financial management etc
- ii. To help in understanding the client and designer relationships, and setting up a design studio
- iii. To understand the ethics and professional conduct in business environment

#### Practical

By the end of the course the students will be able to

- i. *To get information about the different firms, different designers and designing software*
- ii. Application of skills of arranging portfolio effectively
- iii. Apply the various elements of art and principles of design and design process in developing plans
- iv. Making and displaying of different specifications of material and finishes mount boards

### Theory Lecture outlines

1. Development of entrepreneurship, motivational factors, social factors, environmental factors
2. Characteristics of entrepreneurs, entrepreneurial attributes / competencies.
3. Concept, need and importance of entrepreneurial development. Process of entrepreneurship development.
4. Evolution of entrepreneurship
5. Objectives of entrepreneurial activities,

6. Types of entrepreneurs, functions of entrepreneurs,
7. Environment scanning and opportunity identification - need for scanning – spotting of opportunity-scanning of environment
8. Identification of product / service – starting a project; factors influencing sensing the opportunities.
9. Infrastructure and support systems- Good policies, schemes for entrepreneurship development
10. Role of financial institutions, and other agencies in entrepreneurship development.
11. Types of Enterprises and their characteristics. Steps involved in functioning of an enterprise - Selection of the product / services
12. Steps involved in functioning of an enterprise - Selection of form of ownership; registration - capital sources
13. Steps involved in functioning of an enterprise - Acquisition of manufacturing know how
14. Steps involved in functioning of an enterprise - Packaging and distribution.
15. Steps involved in functioning of an enterprise – Advertising and marketing
16. Planning of an enterprise - Project identification
17. Planning of an enterprise - Selection and formulation of project proposal
18. Planning of an enterprise - Project report preparation
19. Planning of an enterprise - Enterprise Management.
20. Production management – Product, levels of products
21. Production management – Product mix
22. Production management – Quality control
23. Production management – Cost of production
24. Production management – Production controls
25. Material management – Raw material costing, inventory control.
26. Personal management – manpower planning, labour turn over, wages / salaries.
27. Financial management /accounting – funds, fixed capital and working capital,
28. Financial management /accounting – Costing and pricing, long term planning and short term planning
29. Financial management /accounting – Book keeping, journal, ledger, subsidiary books, annual financial statement
30. Financial management /accounting – Taxation.
31. Marketing management- market, types, marketing assistance, market strategies.
32. Crisis management- raw material, production, leadership, market, finance, natural etc.

### **Practical Outlines**

1. Practical exercises on entrepreneurship motivation training – micro lab
2. Practical exercises on Thematic Apperception Test (TAT), Entrepreneurship motivation training – Tower Building
3. Interface with successful entrepreneurs
4. Visits to Government agencies for appraisal on policies
5. Visit to Non-government institutions promoting entrepreneurship
6. Market survey for identification of products
7. Product Selection
8. Product cost estimation
9. Project formulation and Project report writing
10. Critical analysis of financial institutions – government and non-government
11. Preparation of Financial Statements and financial analysis of projects prepared
12. Learning product promotion techniques through market survey and literature
13. Developing brand name and label
14. Appraisal on packaging materials and techniques
15. Analysis of advertisements
16. Personal management – Team building

### **References**

1. Khanka,S.S(1996):Marketing of small industries products ,prabandh July-september
2. Gupta,C.B and N.P.Srinivasan(1992):Entrepreneurship Development in India, Sultan &Chand sons, New Delhi
3. Newmann, summer and warren (1976): The process of Management, print ice-Hall of India private Limited, New Delhi.



## NAME OF DEPARTMENT FOODS AND NUTRITION

**Course Number** FDNT 211

**Title** Community Nutrition and Education

**Credit Hours** 3 (2+1)

**General Objective** To develop an insight into nutritional problems of community and improve the situation by imparting nutrition education and drive community to utilize Govt. services.

### Specific Objectives

#### Theory

By the end of the course the students will be able to:

- i. Acquire knowledge of nutritional assessment techniques.
- ii. Visualize the types of malnutrition prevailing in the community.
- iii. Assess the need for Nutrition education for the community.
- iv. Understand Nutrition Policy and Nutrition programmes in operation in the country.

#### Practicals

By the end of the course the students will be able to:

- i. Assess nutritional status of population by anthropometry, clinical and diet survey techniques.
- ii. Understand the organizational set up and functioning of different of the Govt. nutrition programmes.
- iii. Prepare illustrative audio-visual aids on nutritional problems and treatment.
- iv. Provide nutrition education to the community and bring changes in the dietary habits of community to improve health.

### Theory Lecture outlines

1. Importance of community nutrition.
2. Nutrition education- objectives and methods, principles.
3. Malnutrition- definition and causes.
4. PEM – Marasmus.
5. PEM – Kwasiorkor.
6. Vicious cycle of malnutrition.
7. Vicious cycle of malnutrition
8. Assessment of nutritional status – Anthropometry.
9. Anthropometry
10. Biochemical tests
11. Clinical assessment
12. Diet survey - types , methods.
13. Major nutritional problems prevalent world wide.
14. Anaemia, Vitamin A deficiency, Iodine deficiency disorders, obesity, hypertension, diabetes mellitus - prevalence in India.
15. National programmes and role of national and international agencies in improving nutritional status of the community – Introduction.
16. Integrated Child Development Service (ICDS).
17. Supplementary Nutrition Program (SNP), Applied Nutrition Program (ANP).
18. Mid Day Meal Program (MDMP).
19. Vitamin A Prophylaxis Program.
20. Anaemia Prophylaxis Programme.
21. Food and Agricultural Organization (FAO).
22. World Health Organization (WHO).
23. United Nations Children’s Emergency Fund (UNICEF).
24. UNDP, CARE



25. Voluntary and Government Agencies.
26. Nutrition education – Objectives, methods, principles.
27. Nutrition education on anemia, vitamin A deficiency.
28. Nutrition education on iodine deficiency.
29. Nutrition education on obesity.
30. Nutrition education on hypertension and atherosclerosis.
31. Nutrition education on diabetes mellitus.
32. Prefinal examination.

### Practical Outlines

1. Assessment of nutritional status of preschool children using nutritional anthropometry.
2. Assessment of nutritional status of women using nutritional anthropometry.
3. Household diet survey by weighment method.
4. Household diet survey by 24 hour recall method.
5. Clinical method of assessment.
6. Analysis of anthropometric, diet survey and clinical assessment data and report writing.
7. Collection of vital statistics from secondary source and interpretation of data.
8. Development of visual aids for nutrition education – posters and charts.
9. Development of visual aids for nutrition education - flip charts, books, flash cards.
10. Demonstration in the community on preparation of low cost supplementary foods using local resources.
11. Planning, of nutrition education programme for school children.
12. Practical on nutrition education to school children using the developed visual aids.
13. Planning, of nutrition education programme for the community.
14. Visit to an ICDS block, anganwadi center
15. Visit to industry producing supplementary food for ICDS.
16. Practical Examination

### References

1. Bamji M. S, Prahlad Rao N. & Vinodini reddy (2003). *Text book of Human Nutrition* (p-p 197-201), New Delhi. Oxford & IBH Publishing Co. PVT. LTD.
2. Michael C Latham, *Human Nutrition in the Developing World*. Ithaca, New york, USA
3. Srilakshmi.B (2005). *Nutrition Science* (pp 3-14), New Delhi. New Age International (P) Limited.
4. Derrick. B. Jelliffe (1966), *The assessment of the nutritional status of the community (With special reference to field surveys in developing regions of the World)*. World Health Organization, Geneva
5. Sehgal, S. and Raghuvanshi, R.S. (2007) *Text Book of Community Nutrition*. ICAR, New Delhi.

**Course Number** FDNT 212

**Title** Food and Nutrition Policy and Agriculture

**Credit Hours** 2 (2+0)

**General Objective**

- To impart knowledge on food and nutrition situation in India and associate food resources, farming systems, socio economic status, Govt. policies with food security and malnutrition issues.

### Specific Objectives

#### Theory

By the end of the course the students will be able to

- i. Gain knowledge of food production, distribution and consumption trends of population in India.
- ii. Understand the vicious cycle of poverty, low food production and malnutrition.
- iii. Acquire insights of agricultural production, marketing,

- postharvest processing and food security at family and national level.
- iv. Gain awareness of agriculture and nutrition policies/programmes of the country and analyze critically.
  - v. Identify resources and organizations working for agriculture and food security.

### Theory Lecture outlines

- 1 Food situation in India and in the world.
- 2 Food production and consumption trends, food balance sheets.
- 3 Role of nutrition in agricultural planning and national development.
- 4 Linkages between agricultural practices.
- 5 Food production, food distribution and nutritional status.
- 6 Food crop failure and malnutrition.
- 7 Poverty and vicious cycle of low food production.
- 8 Agricultural development and its effect on food availability.
- 9 Effect of food production and economic policies on food availability.
- 10 Impact of physical resources, farming systems, cropping system.
- 11 Inputs and manipulation, agricultural marketing system.
- 12 Post harvest processing of foods on food and nutrition situation.
- 13 Food distribution systems.
- 14 Food security. Concepts and definitions agriculture and food security.
- 15 Food security - nutrition and health urbanisation Food security and food systems and food security.
- 16 Macroeconomic policies Employment and cash income, markets and food prices.
- 17 Effect of urban agriculture on the nutritional status of vulnerable groups.
- 18 Innovative approaches to enhance local food production.
- 19 Innovative approaches to improve food distribution systems.
- 20 Innovative and effective approaches to manage health risks of urban agriculture.
- 21 Implications for urban policies and programmes.
- 22 Food and nutrition security at national level.
- 23 Food and nutrition security at household level.
- 24 Nutrition policy implementation.
- 25 Nutritional impact of agricultural programmes.
- 26 Nutritional impact of agricultural programmes.....contn.
- 27 Food price control and consumer subsidy.
- 28 Contribution of national organizations for agricultural development.
- 29 Contribution of national organizations for agricultural development.....contn.
- 30 Contribution of international organization for agricultural development.
- 31 Contribution of international organization for agricultural development.....contn.
- 32 Pre final examination.

### References

1. Textbook on Economics of Agricultural Development by George W. Norton, Jeffrey Alwang, and my Friedman School colleague
2. William A. Masters. Nutrition policies and programmes FAO publications 2015
3. Bhatia MS. (1991). Agricultural Statistics at a Glance. Ministry of Agriculture, Govt. of India, New Delhi.
4. Census (1981, 1991, 2001).
5. India (2001). A Reference Annual. Publication Division, Ministry of Information about Broad casting, Govt. of India.
6. UNICEF (1999). The State of World's Children. Oxford University Press

**Course Number** FDNT 221

**Title** Normal and Therapeutic Nutrition

**Credit Hours** 4(3+1)

**General Objective**

- To impart knowledge of nutrient requirements for different age and physiological groups, dietary modifications in different diseases and plan balanced diets applying principles of nutrition.

**Specific Objectives**

**Theory**

By the end of the course the students will be able to

- i. Acquire basic knowledge of food groups, nutrient requirements, and principles of meal planning for different age groups and physiological conditions.
- ii. Gain insight in to the nature and scope of therapeutic nutrition for dietary modification to suit the disease conditions.
- iii. Understand the etiology, incidence, nature, clinical symptoms, diagnosis, and dietary management of fevers, diseases of gastrointestinal tract, liver, heart, and metabolic syndromes like diabetes and obesity.

**Practical**

By the end of the course, the student will be able to

- i. Formulate food exchange system and application in planning nutritional balanced diets
- ii. Develop practical skills in planning and preparation of diets for the different age groups under normal/ physiological conditions keeping in mind the principles of dietary planning.
- iii. Plan and prepare therapeutically modified foods
- iv. Develop practical skills in planning and preparation of modified diets for fevers, diseases of gastrointestinal tract, liver, heart, and metabolic syndromes like diabetes and obesity.

**Theory Lecture outlines**

1. Determination of nutritional requirements.
2. Determination of nutritional requirements.
3. Determination of nutritional requirements.
4. Recommended dietary allowance, calorie consumption unit.
5. Recommended dietary allowance, calorie consumption unit
6. Food exchange list method.
7. Physiological changes during pregnancy.
8. Maternal nutrition - nutritional requirements during pregnancy.
9. Complications in pregnancy
10. Process of lactation.
11. Nutritional requirement during lactation.
12. Infancy - growth, development and nutritional requirement
13. Infancy - growth, development and nutritional requirement
14. Importance of breast feeding; Bottle Feeding.
15. Weaning and supplementary foods.
16. Pre-school children -growth and development, food habits and nutritional requirements.
17. School age child - growth and development, food habits and nutritional

- requirements.
18. Adolescents- food habits and nutritional requirements and problems.
  19. Geriatric nutrition -physiological and psychological changes during old age,
  20. Nutritional requirements and consideration for diet planning for old age
  21. Importance and modification of normal diet to therapeutic diets.
  22. Importance and modification of normal diet to therapeutic diets.
  23. Methods of feeding - Normal and Tube feeding.
  24. Parenteral feeding
  25. Acute fevers - aetiology, Symptoms, Dietary management.
  26. Chronic Fevers- aetiology, Symptoms, Dietary management.
  27. Chronic Fevers- aetiology, Symptoms, Dietary management.
  28. Dietary management in gastrointestinal disorders - Diarrhoea- aetiology, Symptoms, Dietary management.
  29. Dietary management in gastrointestinal disorders - Diarrhoea- aetiology, Symptoms, Dietary management.
  30. Dietary management in gastrointestinal disorders - Constipation- aetiology, Symptoms, Dietary management.
  31. Dietary management in gastrointestinal disorders - Peptic ulcer -aetiology, symptoms, Dietary management.
  32. Liver – functions and role in digestion
  33. Dietary management in gastrointestinal disorders - Peptic ulcer -aetiology, symptoms, Dietary management
  34. Dietary management in liver diseases -Hepatitis- aetiology, symptoms and dietary management.
  35. Dietary management in liver diseases -Jaundice- aetiology, symptoms and dietary management.
  36. Dietary management in liver diseases - Cirrhosis of liver- aetiology, symptoms and dietary management.
  37. Cardiovascular disease - Atherosclerosis -aetiology, symptoms.
  38. Dietary management in atherosclerosis.
  39. Cardiovascular disease -Hypertension- aetiology, symptoms.
  40. Dietary management in hypertension.
  41. Coronary artery disease - aetiology, symptoms
  42. Diabetes mellitus- Types of diabetes, aetiology, symptoms.
  43. Dietary management in Diabetes mellitus.
  44. Complications in Diabetes mellitus
  45. Problems of weight control - Overweight and obesity.
  46. Dietary management in obesity.
  47. Complications in obesity
  48. Pre final examination.

### **Practical Outlines**

- 1 Introduction to food exchange list, uses and application.
- 2 Planning, preparation and evaluation of balanced diet for an adult man and woman.
- 3 Planning, preparation and evaluation of balanced diet for a pregnant woman.
- 4 Planning, preparation and evaluation of balanced diet for a lactating woman.
- 5 Planning, preparation and evaluation of supplementary foods for infants.
- 6 Planning, preparation and evaluation of balanced diet for a preschool child.
- 7 Planning, preparation and evaluation of balanced diet for a school age child.
- 8 Planning, preparation and evaluation of balanced diet for adolescents.
- 9 Planning, preparation and evaluation of balanced diet for an elderly person.
- 10 Planning and preparation of modified diets – liquid, semi solid and solid diets.

- 11 Planning and preparation of diets during fevers.
- 12 Planning and preparation of diets during diarrhea and constipation.
- 13 Planning and preparation of diets for hepatitis.
- 14 Planning and preparation of diets for overweight/obesity.
- 15 Planning and preparation of diets for hypertension and diabetes.
- 16 Practical Examination.

## References

1. Corinne H. Robinson, Marilyn R. Lawler, Wanda L. Chenoweth, Ann E. Garwick. (1982). *Normal and Therapeutic Nutrition*. (pp- 1-16). New York, Macmillan Publishing Company.
2. Srilakshmi.B, (2012). *Dietetics*. (pp-275-281). Fourth Edition, New Delhi, New Age International (P) Limited.
3. Ravi Chada & Pulkit Mathur (2015) Text book of Nutrition - A life cycle approach. Orient Blackswan Pvt Ltd, New Delhi
4. Raghuvanshi, R.S. and Mittal, M. (2014). Food Nutrition and Diet Therapy. Westvills Publication Delhi.
5. Agarwal, A and Udipi, S. (2014). Text Book of Human Nutrition. Jaypee Medical Publication Delhi

**Course Number** FDNT 222

**Title** Food Standards and Quality Control

**Credit Hours** 3(2+1)

**General Objective**

- To Impart knowledge on food safety , quality testing by objective and subjective evaluation and food hazards.
- To bring awareness about food adulteration and identification and the different standards laid by the food regulation authorities.

## Specific Objectives

### Theory

By the end of the course the students will be able to

- i. Understand the importance of food safety and quality and its contribution to the productivity and countries development.
- ii. The various quality factors that influence the food quality
- iii. Gain knowledge on the various laws that are governing food safety and quality including the latest FSSAI 2006 of India
- iv. Understand various types food toxicants and hazards
- v. Gain knowledge on chemical subjective and objective methods of evaluation of foods
- vi. Understand the food safety management systems
- vii. Acquire knowledge the role of HACCP, Sanitary and Phyto sanitary (SPS) agreements, WTO in agricultural and food trade

### Practical

By the end of the course, the student will be able to

- i. Acquire hands on experience on sampling procedure for quality assessment
- ii. Gain skill in techniques of physical, chemical and microbiological examination of food
- iii. Judge food quality specifications to be maintained for trade
- iv. Identification of food adulteration at different levels of trade using different techniques.

## Theory Lecture outlines

- 1 Importance of quality control and assurance.
- 2 Food laws and regulations. Prevention of Food Adulteration Act.

- 3 Food laws and regulations- Fruit Product Order.
- 4 Food laws and regulations- AGMARK.
- 5 Food laws and regulations- Essential Commodity Act.
- 6 Food laws and regulations- Consumer Protection Act.
- 7 Food laws and regulations- Bureau of Indian Standards.
- 8 Food laws and regulations- Codex Standards.
- 9 Food laws and regulations- FSSAI.
- 10 FSSAI....contn.
- 11 FSSAI....contn
- 12 Specifications and application of food standards for raw materials.
- 13 Specifications and application of food standards for food products.
- 14 Food additives.
- 15 Preservatives.
- 16 Coloring agents.
- 17 Antioxidants.
- 18 Emulsifying agents.
- 19 Leavening agents.
- 20 Stabilizing agents.
- 21 Various methods for the assessment of quality of different foods – subjective methods.
- 22 Subjective methods.....contn.
- 23 Various methods for the assessment of quality of different foods – objective methods.
- 24 Objective methods.....contn.
- 25 Food safety, risks and hazards – HACCP, GRAS, GMP etc.
- 26 Food safety, risks and hazards – HACCP, GRAS, GMP etc.....contn.
- 27 Food adulteration.
- 28 Prevention of food adulteration.
- 29 Food packaging – principles and advantages.
- 30 Packaging material – Metal and Glass.
- 31 Packaging material – Paper, Plastic and other materials.
- 32 Pre final examination.

### **Practical Outlines**

- 1 Sampling techniques for collection of agriculture, horticulture, animal foods and food products for examination.
- 2 Collection of food samples from different sources.
- 3 Physical examination and grading of grain, spices etc. for quality.
- 4 Exercise of identification of basic tastes – sweet, sour, salty, bitter.
- 5 Sensory evaluation techniques – triangle test.
- 6 Sensory evaluation techniques – duo- trio test.
- 7 Development of a score card for evaluation of a food product.
- 8 Sensory evaluation of a food product.
- 9 Demonstration of objective tests for quality evaluation.
- 10 Detection of food adulteration in grain samples.
- 11 Detection of adulteration in fats, oils and milk.
- 12 Detection of adulteration in spices.
- 13 Collection of food products with artificial colouring and checking for quality.
- 14 Evaluation of microbiological quality of foods and water.
- 15 Visit to a quality control lab.
- 16 Practical examination.

### **References:**

1. Potter, N.N. (1996). Food Science. The AVI Publishing Company Inc., Westport, Connecticut.
2. Jellinek, G. (1985). Sensory Evaluation of Foods: Theory and Practice. Ellis Horwood Ltd. Chichester, England.
3. Manual of Food Standards and Quality Control. (2014). Dept. of Foods and Nutrition, CCS HAU, Hisar.

**Course Number** FDNT 311

**Title** Food Hygiene and Sanitation

**Credit Hours** 2 (1+1)

**General Objective**

- To impart knowledge on food and water hygiene, sources of contamination, food spoilage, food poisoning and hygienic practices for prevention of contamination.

**Specific Objectives**

**Theory**

By the end of the course the students will be able to

- i. Gain knowledge of importance and principles of food and water hygiene.
- ii. Develop awareness of water purifying techniques and criteria for standards.
- iii. Acquire e knowledge of cause and sources of contamination of food and water.
- iv. Gain knowledge of types of food spoilage, food poisoning and health complications associated.

**Practical**

By the end of the course, the student will be able to

- i. Identify food contamination through microbial analysis.
- ii. Develop skills in techniques of water purification
- iii. Learn hygienic food and water handling practices during food processing.
- iv. Identify insanitary / adulterated food samples from vendors and collect and test for quality parameters.

**Theory Lecture outlines**

- 1 Meaning and Principle of food hygiene.
- 2 Water requirement and use, sources of water supply, potable water and its quality.
- 3 Purification of water.
- 4 Purification of water.....contn.
- 5 Criteria and standards, hardness of water and its treatment, defluoridation of water.
- 6 Food hygiene: Contamination of foods from various sources.
- 7 Green plants and fruits, animals, sewage and their health hazards.
- 8 Soil, air and water and their health hazards.
- 9 Food spoilage due to unhygienic handling practices.
- 10 Sanitary procedures for preparation, handling and storage of foods.
- 11 Bacterial sources for food poisoning - *Salmonella*, *Staphylococcal poisoning*, *Botulinum*, *Clostridium perfringens* and *B.cerus*.
- 12 Food poisoning - incubation period for food poisoning caused by different bacteria, mechanism of action.
- 13 Food Poisoning – investigation of food poisoning, prevention and control.
- 14 Food poisoning caused by agents other than microorganism.
- 15 Poisonous plants, animals, chemicals, metals and pesticides etc.
- 16 Pre final examination.

**Practical Outlines**

- 1 Orientation to importance of food hygiene and sanitation.
- 2 Identification of microorganisms (slides).
- 3 Slide preparation .
- 4 Preparation of different media.
- 5 Preparation of different media.
- 6 Inoculation of sample.
- 7 Testing of water for physical quality.
- 8 Testing of water for bacteriological quality.
- 9 Importance of personal hygiene practices.

- 10 Hand washing SOP.
- 11 Practice of hygiene in Cooking practices.
- 12 Survey of hygiene and sanitary conditions in different food shops and food vendors and collection of food and water samples.
- 13 Identification of microbial contamination in food and water samples.
- 14 Visit to Food Corporation of India godown.
- 15 Visit to Food testing laboratory.
- 16 Practical examination.

### References

1. "Food Toxicants, Naturally Occurring" in *ECT* 3rd ed., Vol. 11, by F. H. Hoskins, Louisiana State University.
2. IUFoST Scientific Information Bulletin, October 2008 The microbiological safety and quality of food, Volume 2 By Barbara M. Lund, Tony C. Baird-Parker, Grahame Warwick Gould.
3. Adams M.K. and Moss M.O. (2000). Food Microbiology, New Delhi: Panima Corp.
4. Longree K.L. and Blaker G.C. (1982). Sanitary Techniques in Food Service. New York: John Wiley and Sons.
5. Park, K. (1997). Textbook of Preventive and Social Medicine. 1<sup>st</sup> Ed. Jabalpur: Banarsidas Bhanot

**Course Number** FDNT 312

**Title** Food Analysis

**Credit Hours** 3(1+2)

**General Objective**

- To impart knowledge on principles, methods, and techniques of qualitative and quantitative physical, chemical and biological analyses of foods

**Specific Objectives**

#### Theory

By the end of the course the students will be able to

- i. Understand the principles behind analysis of each of the proximate nutrients, minerals and vitamins present in food.
- ii. Learn different tests suitable for evaluation the quality of carbohydrate, protein, lipids for both fresh and shelf life studies.

#### Practical

By the end of the course, the student will be able to

- i. Handle equipment and instruments..
- ii. Analyze each of the proximate nutrients , minerals and vitamins present in food
- iii. Demonstrate practical proficiency in a food analysis laboratory.

### Theory Lecture outlines

- 1 Sampling and sampling techniques.
- 2 Proximate analysis- moisture, ash.
- 3 Crude fat, crude fiber.
- 4 Crude protein and carbohydrates by difference, Determination of starch.
- 5 Principles and methods of food analysis. Basic principles: Refractometry, polarimetry, densitometry.
- 6 Principles and methods of food analysis. Basic principles: HPLC.
- 7 Basic principles of food analysis in GLC.
- 8 Basic principles of food analysis in spectrophotometry.
- 9 Principles and methods of food analysis. Basic principles: electrophoresis, automatic amino acid analyzer.



- 10 Test for unsaturation of fats, rancidity of fats.
- 11 Quantitative analysis of protein by Biuret method, Ninhydrin method, Lowry's method and Dye-binding method.
- 12 Bioassays for protein quality of grains Chemical, microbiological, flurometric and colorimetric methods of analysis of fat soluble and water soluble vitamins.
- 13 Principles and methods for estimation of minerals: Atomic absorption spectroscopy.
- 14 Principles and methods for estimation of minerals: colorimetry, titrimetry.
- 15 Principles and methods for estimation of minerals: gravimetric methods.
- 16 Methods for determining physical and rheological properties of food.

### Practical Outlines

- 1 Handling of equipment and instruments.
- 2 Preparation of samples.
- 3 Preparation of samples.
- 4 Preparation of solutions buffers.
- 5 Preparation of buffers.
- 6 Estimation of moisture in food stuffs.
- 7 Estimation of moisture in food stuffs.
- 8 Estimation of bulk density of foods.
- 9 Estimation of colour using spectrophotometer.
- 10 Physical analysis-specific gravity.
- 11 Quantitative estimation of proximate principles-Ash.
- 12 Quantitative estimation of proximate principles-Minerals.
- 13 Quantitative estimation of proximate principles-Fibre.
- 14 Quantitative estimation of proximate principles-Fat.
- 15 Estimation of free fatty acids.
- 16 Quantitative estimation of proximate principles-Protein.
- 17 Estimation of sugars-reducing .
- 18 Estimation of sugars-non-reducing.
- 19 Estimation of starch digestibility.
- 20 Quantitative estimation of vitamins by use of colorimetry.
- 21 Quantitative estimation of minerals by use of UV spectrophotometer.
- 22 Quantitative estimation of amino acids by use of paper chromatography.
- 23 Quantitative estimation of vitamins by use of HPLC.
- 24 Quantitative estimation of vitamins by use of HPLC.
- 25 Quantitative estimation of fatty acids by use of GC.
- 26 Quantitative estimation of pesticide residues by use of GC.
- 27 Quantitative estimation of minerals by use of atomic absorption spectrophotometer.
- 28 Quantitative estimation of minerals and vitamins by use of photofluorometry.
- 29 Estimation of food adulteration.
- 30 Estimation of food adulteration.
- 31 Estimation of food adulteration.
- 32 Practical Examination.

### References

1. Ranganna, S., 1986. Handbook of analysis of quality control for fruit and vegetables products. New Delhi. Tata Mc.Graw Hill Book Co.
2. Food Analysis (Food Science Text Series) 4th ed. 2010, Corr. 3rd printing 2014 Edition by Suzanne Nielsen (Editor).
3. AOAC (2000) Association of Official Analytical Chemists. Washington, DC.
4. Pearson, D. (1973). Laboratory Techniques in Food Analysis. Butterworths and Co., London
5. Pomeranz and Yeshajahu. (1987). Food Analysis Theory and Practice. 2<sup>nd</sup> ed. AVI Publ.Company, Westport.
6. Joslyn, M.A. (1970). Methods in Food Analysis: Physical, Chemical and Instrumental Methods of Analysis. Academic Press. New York
7. NIN. (2003). A Manual of Laboratory Techniques.

**Course Number** FDNT 321

**Title** Clinical Nutrition and Dietetics

**Credit Hours** 3(2+1)

**General Objective** To impart knowledge on pathological changes associated with nutritional deficiencies, metabolic and motility disorders and apply nutritional management principles for prevention and treatment of diseases.

**Specific Objectives**

**Theory**

By the end of the course the students will be able to

- i. Understand clinical changes in different nutritional deficiencies, metabolic and motility disorders.
- ii. Understand the etiology, incidence, nature, clinical symptoms, diagnosis, and dietary management of kidney disorders.
- iii. Acquire the knowledge of clinical changes in cancer and burns, and nutritional management.
- iv. Interpret interaction between nutrients, infection and drugs.

**Practical**

By the end of the course, the student will be able to

- i. Estimate blood, serum, urine samples for glucose, haemoglobin, lipid profile, kidney and liver functioning tests.
- ii. Observe biochemical changes from the reports and compare with normal /safe/cut-off levels and evaluate the complexity of the disease or improvement.

**Theory Lecture outlines**

- 1 Clinical Nutrition- Introduction, nutritional status and disease, common deficiency diseases.
- 2 Pathogenesis of nutritional deficiency diseases - macronutrient and micronutrient.
- 3 Protein calorie malnutrition.
- 4 Vitamin A deficiency.
- 5 Anemia, iodine deficiency disorders.
- 6 Gastro intestinal tract diseases- Introduction, different organs and diseases, diagnostic procedure.
- 7 Diseases of mouth and oesophagus.
- 8 Diseases of stomach and duodenum.
- 9 Diseases of small and large intestine - diverticulitis, malabsorptive syndrome and tropical sprue.
- 10 Diarrhoea- Symptoms of diarrhea, causes, types.
- 11 Constipation- symptoms, causes, types of constipation, dietary treatment.
- 12 Diseases of liver-Jaundice.
- 13 Hepatitis.
- 14 Cirrhosis of liver.
- 15 Pancreatitis.
- 16 Chronic obstructive pulmonary disease.
- 17 Diabetes mellitus.
- 18 Cardio vascular disease: risk factors, lipo and apo proteins.
- 19 Role of nutrients in preventing atherosclerosis.
- 20 Major enzymes used for diagnosis of congestive heart failure.
- 21 Hypertension.
- 22 Renal disease - Functions of the kidney, nephritis.
- 23 Urinary calculi.
- 24 Types of renal failure.
- 25 Dialysis.
- 26 Cancer- Causes of cancer cell development.
- 27 Impact of tumor on host metabolism, systematic effects of cancer.
- 28 Dietary management in cancer.

- 29 Burns. Physical destruction of skin, metabolic aberrations.
- 30 Alteration in nutritional requirement in burns.
- 31 Interaction between nutrients, infection and drugs.
- 32 Pre final examination.

### Practical Outlines

- 1 Estimation of albumin in urine.
- 2 Estimation of glucose in urine.
- 3 Estimation of ketone bodies in urine.
- 4 Estimation of creatinine & creatine in urine.
- 5 Determination of bile pigments in urine.
- 6 Analysis of bile salts in urine.
- 7 Analysis of blood glucose level.
- 8 Estimation of total protein in blood.
- 9 Estimation of albumin and globulin in blood.
- 10 Estimation of serum hemoglobin.
- 11 Estimation of blood urea.
- 12 Estimation of total cholesterol.
- 13 Analysis of HDL cholesterol.
- 14 Analysis of LDL cholesterol.
- 15 Estimation of serum triglycerides.
- 16 Practical examination.

### References

1. Davidson S.S and R. Passmore R. (1996). *Human Nutrition and Dietetics*. Third edition. (pp- 430-435). Baltimore. The Williams and Wilkins Company.
2. Weinsier and Butterworth. (1981). *Hand book of clinical Nutrition*. London Published by C V Mosby Company.
3. Benjamin Torun and Francisco Chew. (1994). *Modern Nutrition in Health and Disease*. Edited by Shills M E, Olson J A & Moshe Shike. (pp- 950-974). USA: Publishers Wilhams & Wilkins
4. ICCIDD/UNICEF/WHO. (2001). Assessment of IDD and monitoring their elimination. A guide for programme managers.
5. Bamji, S.M., Rao, P.N., and Reddy, V. (2003). Textbook of Human Nutrition. Oxford and IBH Publishing Co Pvt Ltd.
6. Bhavana, S. (1999). Nutrition and clinical care. New Delhi Commonwealth Publishers.
7. Gibney M.J, Margetts BM, Kearney J.M and Arab L. (2004). Public Health Nutrition. Publishers Blackwell Science.
8. Jean-FZ. (2005). Clinical Nutrition. UK Blackwell Publishing Company.
9. Jim M. and Stewart TA (2007). Essentials of Human Nutrition. 3<sup>rd</sup> edn. New York, Oxford University Press.
10. Miguel, A.G. and Eduard, C. (2005). Clinical Nutrition. UK, Blackwell Publishing Company.
11. Weinsier and Butterworth (1981). Hand Book of Clinical Nutrition. London, C V Mosby Company.

<b>Course Number</b>	APTX211
<b>Title</b>	Techniques of Fabric Construction
<b>Credit Hours</b>	3 (1+2)
<b>General Objective</b>	To impart comprehensive knowledge on various techniques involved in making fabrics

**Specific Objectives Theory**

By the end of the course the students will be able to

- I. Gain in depth understanding of weaving, looms and their basic mechanics
- II. Understand in detail about the woven fabric structures
- III. Attain a thorough understanding of the basic weaves and their variations
- IV. Study in detail about the complex weaves
- V. Know about knitting and the machinery used to produce knits
- VI. Become familiar with other forms of fabric construction like macramé, crochet and felts

**Practical**

By the end of the course, the student will be able to

- I. Identify common fabric structures
- II. Identify weaves and be able to represent them graphically
- III. Study about handloom and be able to understand the parts and their functionality
- IV. Prepare samples of basic weaves
- V. Know about stitches used in knitting and be able to make samples of plain, knit & purl stitches
- VI. Make a sample of macramé with various knots
- VII. Prepare a crochet sample with various stitches
- VIII. Understand the process of manual felting

**Theory Lecture outlines**

1. History of weaving and looms
2. Woven fabrics - simple woven structures and compound woven structures; characteristics of woven fabric
3. Classification of looms on basis of mechanics, means of running loom, structure and means of weft insertion
4. Parts of loom; loom accessories and their function
5. Mechanism of weaving: primary, secondary and tertiary motions
6. Basic weaves: Plain and its variations
7. Basic weaves: Twill and its variations
8. Basic weaves: Satin and its variations
9. Complex weaves: extra yarn fabrics, pile fabrics, leno
10. Complex weaves: damask and jacquard
11. Knitting: Terminology and principle of knitting
12. Knitting machine: parts and their function; types of knitting machine
13. Knitting stitches: plain, rib and purl; types of knit fabrics
14. Macramé: Tools and materials
15. Crochet: Tools and materials
16. Felt: Manufacturing process, properties and end uses.

**Practical Outlines**

1. Observation of fabric structures under magnifying glass (2)
2. Graphical representation of woven design (3)
3. Handloom and its parts (1)

4. Weaving calculations (1)
5. Yarn preparation for plain weave (1)
6. Setting of loom and weaving of plain weave fabric (2)
7. Sample preparation of different fabric constructions (6)
8. Knitting machine and its parts (1)
9. Hand knitting- plain, rib, purl (6)
10. Macramé – types of knots (3)
11. Crochet –types of stitches (5)
12. Manual felting (1)

## References

1. Kaur, N (2011) Fashion Concepts, Comdex: Fashion Design Vol I, Dreamtech Press.
2. Gokarneshan N (2009) Fabric Structure & Design, 2nd Edition, New Age International (P) Ltd
3. Hollen, N. and Saddler, J. 1968. Textiles. New York. Macmillan Company.
4. Joseph, M. L. 1986. Introductory Textile Science. 5th ed. New York. CBS College Publishing.
5. Wynne A (1997) Textiles The Motivate Series, Macmillan
6. Kadolph S J (2013) Textiles: Pearson New International Edition, Pearson Education Ltd, Asia

<b>Course Number</b>	APTX 221
<b>Title</b>	Textile Finishes
<b>Credit Hours</b>	2 (1+1)
<b>General Objective</b>	To impart comprehensive knowledge on various ways of finishing textiles.
<b>Specific Objectives</b>	<p><b>Theory</b></p> <p>By the end of the course the students will be able to</p> <ol style="list-style-type: none"> <li>I. Understand in detail about the various textiles finishes</li> <li>II. Study in detail about basic textile finishes, surface finishes, functional finishes</li> <li>III. Know about basics of dyes and pigments</li> <li>IV. Gain an understanding of dyeing techniques for fibre, yarn and fabric</li> <li>V. Learn about styles and methods of printing</li> </ol> <p><b>Practical</b></p> <p>By the end of the course, the student will be able to</p> <ol style="list-style-type: none"> <li>I. Understand the pre-preparatory process of preparing the fabric for dyeing</li> <li>II. Learn to tie dye cotton fabrics with various types of dyes</li> <li>III. Prepare tie dyed and batik samples</li> <li>IV. Learn to print on cotton with blocks, screen &amp; heat transfer</li> </ol>

## Theory Lecture outlines

1. Textile finishing: Definition and its importance; Classification of textile finishes: Chemical, mechanical, temporary, permanent, durable, renewable, semi permanent, reactive and additive finishes;
2. Processes of removing impurities from fabrics: Scouring, desizing, degumming, carbonizing, souring
3. Basic finishes that alter hand or texture: Fulling/milling, felting, singeing, stiffening, decatizing
4. Surface finishes: Bleaching, delustering, calendering, beetling, napping, flocking
5. Surface finishes: burnt out design, acid design, plisse design, tentering, shearing and brushing
6. Functional finishes: Water proof and water repellent finish, shrinkage control, wrinkle resistance
7. Functional finishes: Anti-static finish, anti-microbial finish, durable press and flame retardant finish
8. Dyes and pigments, classification of dyes
9. Application of dyes: direct, acid, basic

10. Application of dyes: vat, azoic, mordant, sulphur, reactive and disperse dyes
11. Dyeing techniques and equipment: Solution dyeing, fibre dyeing; tow and stock dyeing
12. Dyeing techniques and equipment: Yarn dyeing; skein and package dyeing and piece dyeing
13. Styles of printing: Direct, discharge and resist printing
14. Printing methods and equipment: Block, screen, stencil
15. Printing methods and equipment: Roller, heat transfer printing,
16. Tie and dye and batik

### Practical Outlines

1. Finishing of cotton fabric: Scouring
2. Finishing of cotton fabric: Bleaching
3. Finishing of cotton fabric: Mercerization
4. Tying and dyeing of cotton fabric with direct dye (3)
5. Fabric designing by batik technique with naphthol dye (3)
6. Printing of cotton fabric using Stencil (2)
7. Printing of cotton fabric using Block (2)
8. Printing of cotton fabric using Screen (2)
9. Printing of cotton fabric using Heat transfer

### References

1. Hemalatha Jain (2010) Techniques of Dyeing and printing, Ane Books Pvt, Ltd
2. Kadolph S J (2013) Textiles: Pearson New International Edition, Pearson Education Ltd, Asia
3. Shailaja D Naik Jacquie Wilson, Shailaja D. Naik (2006) Surface Designing of Textile Fabrics
4. Alex Russell (2011) The Fundamentals of Printed Textile Design, A&C Black
5. Charu Swami, (2011) Textile Design: Theory and Concepts, New Age International
6. Kaur, N (2011) Fashion Concepts, Comdex: Fashion Design Vol I, Dreamtech Press
7. Cheryl Rezendes (2013) Fabric Surface Design, Storey Publishing.

**Course Number**      APTX 311

**Title**                      Garment and Accessory Designing

**Credit Hours**          3(0+3)

**General Objective**      To impart comprehensive knowledge on designing of garments and accessories.

**Specific Objectives**      **Practical**

By the end of the course, the student will be able to

- I. Gain in depth understanding of garment designing for men, women and children.
- II. Learn to design and construct garments suitable for men, women and children.
- III. Know how to design accessories for men, women and children.
- IV. Prepare accessories one each for men, women and children.

### Practical Outlines

1. Selection of figure template for men,
2. Selection of figure template for women
3. Selection of figure template for children
4. Designing of garments for women using different construction features: collar,
5. Designing of garments for women using different construction features: sleeve neckline
6. Designing of garments for men using different construction features: shoulder yoke, collar,
7. Designing of garments for men using different construction features: sleeve, cuff
8. Designing of garments for children using different construction features: Yoke, gather, pleats, tucks
9. Designing of garments for children using different construction features: shirring, smocking,

trimmings

10. Selection of one children garment (fancy frock) design from the above catalogue
11. Sourcing of material for designed frock
12. Drafting of fancy frock
13. Laying and cutting the fabric for fancy frock
14. Construction of fancy frock
15. Finishing of fancy frock and preparation of cost sheet
16. Finishing the garment and Selection of any one of the ladies garment -kameez (ladies) night dress/ gown and designing
17. Drafting the designed garment and material estimation
18. Sourcing for the designed ladies garment
19. Cutting the garment
20. Stitching the garment
21. Stitching the garment
22. Finishing the garment
23. Preparation of cost sheet and evaluation.
24. Accessories: introduction and classification- footwear, hand bags, belt, jewelery, gloves, hats, scarves and umbrella
25. Survey on types of material available in the market for different accessories for women, men and children
26. Designing of accessories for women
27. Designing of accessories for women- specs sheet
28. Selection of any one accessory
29. Selection of material for the accessory
30. Construction of accessory
31. Construction of accessory
32. Finishing the accessory
33. Designing of accessories for men
34. Designing of accessories for men- specs sheet
35. Selection of any one accessory
36. Selection of material for the accessory
37. Construction of accessory
38. Construction of accessory
39. Finishing the accessory
40. Designing of accessories for children
41. Designing of accessories for children- specs sheet
42. Selection of any one accessory
43. Selection of material for the accessory
44. Construction of accessory
45. Construction of accessory
46. Finishing the accessory
47. Cost estimation and developing cost sheet for accessories developed
48. Display of garments and accessories

#### References

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

**Course Number**      APTX 312

**Title**                      Retailing and Merchandising-Textiles and Apparel

**Credit Hours** 2(2+0)

**General Objective**

- I. To acquire knowledge regarding retailing & merchandising aspects with respect to textiles & apparels
- II. To know the significance of merchandising in the apparel industry
- III. To study retail organisations and their set up & types of retail organizations

**Specific Objectives**

**Theory**  
By the end of the course the students will be able to

- I. Gain information regarding trends in retailing and merchandising styles and patterns
- II. Understand the process flow in the apparel industry
- III. Be aware of the career opportunities in fashion and apparel retailing field
- IV. Know the export import procedures and export promotion organisations

#### **Theory Lecture outlines**

1. Retailing and merchandizing- Terminology, concept and principles
2. Retailing - retail life cycle, apparel merchandising
3. Retailing in India- market segmentation, key players
4. Evolution of retail and retail formats
5. Classification of retail units / retail formats – store or onsite retailers (2)
6. Classification of retail units / retail formats – store or onsite retailers (2)
7. Classification of retail units / retail formats –non store or off-site retailers
8. Merchandising - Factors affecting merchandizing
9. Role and responsibilities of merchandiser
10. Merchandizing for buying house, departmental stores and export houses
11. Marketing research: Meaning, scope and classification
12. Steps involved in marketing research
13. Role of marketing research in product planning
14. Sale promotion and promotion mix: advertising (2)
15. Sale promotion techniques
16. Personal selling and publicity
17. Pricing methods and pricing of textiles (2)
18. Export and Import
19. Channels of distribution
20. Starting of export and import business and its procedure
21. Organizations involved in export promotion in India (2)
22. Visual Merchandising (VM) – Functions and elements of VM
23. Visual Merchandising (VM) – Techniques of VM display; types of window display settings
24. Visual Merchandising (VM) – Display presentations, store layouts
25. Visual Merchandising (VM) – Fixtures and accessories, trends in VM
26. WTO and its impact on retailing and merchandizing in textile and apparel industry (2)

#### **References**

1. Dickerson K.G,(2009) “Inside the fashion business” II Edition, Pearson Education
2. Kishan Kumar (2010) “Apparel Merchandising”, Abhishek Publications
3. Jeremy A. Rosenau, David L. Wilson (2014) “Apparel Merchandising: The Line Starts Here”, A&C Black
4. John Donnellan (2013) “Merchandise Buying and Management”, A&C Black.
5. Kincade D.H & Gibson (2012) “Merchandising of Fashion Products” Pearson education

**Course Number** APTX 321



<b>Title</b>	Traditional Textiles and Costumes of India
<b>Credit Hours</b>	3(2+1)
<b>General Objective</b>	To impart comprehensive knowledge on traditional textiles and costumes of various Indian states.
<b>Specific Objectives</b>	<p><b>Theory</b> By the end of the course the students will be able to</p> <ol style="list-style-type: none"> <li>I. Know about the traditional woven, printed, painted and embroidered textiles popular in all the states in India</li> <li>II. Learn in detail about the traditional costumes and textiles of all the states of India</li> </ol> <p><b>Practical</b> By the end of the course, the student will be able to</p> <ol style="list-style-type: none"> <li>I. Collect, document and develop scrap book of traditional motifs used in various traditional embroideries</li> <li>II. Learn to make samples of traditional embroideries of Punjab, West Bengal, UP, Gujarat &amp; Karnataka.</li> <li>III. Collect, document and develop scrap book of woven textiles of India</li> <li>IV. Collect, document and develop scrap book of traditional of various states of India</li> <li>V. Design contemporary costumes for men, women and children by taking inspiration from traditional costumes.</li> </ol>

#### **Theory Lecture outlines**

1. History of Traditional woven textiles of India
2. Woven Textiles: Dacca muslin and Calico Printing
3. Woven Textiles: Brocades
4. Traditional sarees of India: Jamdani, Baluchari
5. Traditional sarees of India: Pochampalli, Patola and Ikat
6. Traditional sarees of India: Kanjivaram, Chanderi, Maheshwari
7. Traditional sarees of India: Bomkai, Sambhalpuri, Vichitrapuri
8. Traditional sarees of India: Paithani, Kota Doria
9. Traditional sarees of India: Gadwal, Venkatagiri, Narayanpet
10. Traditional sarees of India: Irkal, Kasavu, Tanchoi
11. Traditional woven and embroidered shawls of India: Shawls of Kashmir, Himachal Pradesh, Gujarat
12. Traditional woven and embroidered shawls of India: North Eastern States
13. Printed textiles: Dabu printing, Bagru printing, Sanganeri printing, Bagh printing
14. Tie and dyed textiles of Rajasthan and Gujarat
15. Painted textiles: Kalamkari, Madhubani, Warli, Patchitra
16. Painted textiles: Phad and Pichhawai
17. Embroideries of different states of India: Kashida of Kashmir, Phulkari and Bagh of Punjab
18. Embroideries of different states of India: Chamba Rumal, Chikankari and Zari work of Uttar Pradesh
19. Embroideries of different states of India: Embroideries of Gujarat, Embroidery and Rabari work of Bihar
20. Embroideries of different states of India: Kantha of Bengal, Kasuti of Karnataka
21. Embroideries of different states of India: Pipli work of Orissa, Manipuri Embroidery
22. Geographical Indications obtained for traditional Indian textiles
23. Traditional costumes of Jammu and Kashmir, Himachal Pradesh, Punjab
24. Traditional costumes of Haryana, Rajasthan and Gujarat
25. Traditional costumes of Uttar Pradesh, Madhya Pradesh and Bihar.
26. Traditional costumes of Maharashtra and
27. Traditional costumes of Orissa, West Bengal
28. Traditional costumes of seven north east states
29. Traditional costumes of seven north east states

30. Traditional costumes of Tamilnadu, Andhra Pradesh, Telangana,
31. Traditional costumes of Karnataka and Kerala
32. Importance and market scenario of traditional Indian textiles and their impact on modern textiles industry

### **Practical Outlines**

1. Documentation of motifs of traditional Indian embroideries
2. Sample preparation of traditional Indian embroideries - Phulkari of Punjab
3. Preparation of sample with Kantha work of Bengal.
4. Preparation of sample with Chikankari of Uttar Pradesh.
5. Preparation of sample with Kasuti of Karnataka
6. Preparation of sample with Kutch work of Gujarat.
7. Documentation of woven textiles of India
8. Adaptation of traditional motifs and designs in contemporary textiles
9. Sketches and development of scrap book
10. Development of scrap book of traditional costumes of different states
11. Creating contemporary costumes for men by taking inspiration from traditional costumes
12. Creating contemporary costumes for women by taking inspiration from traditional costumes
13. Creating contemporary costumes for children by taking inspiration from traditional costumes
14. Visit to museum
15. Visit to art gallery
16. Report submission

### **References**

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

**NAME OF DEPARTMENT****EXTENSION EDUCATION COMMUNICATION  
MANAGEMENT****Course Number** EECM 211**Title** Women in Agriculture**Credit Hours** 3(2+1)**General Objective** This course motivates the students to understand the status of women specifically in agriculture and thereby instigates them to find out ways and means to tackle the problems of women in agriculture, different programmes, policies, institutions and agripreneurship**Specific Objectives Theory**

- iv. By the end of the course, the students will be able to understand the status of women in agriculture and identify the factors associated with the poverty of women and measures to reduce poverty.
- v. They can comprehend the meaning of feminization of agriculture and gender issues and meaning of empowerment and the government programmes for women.
- vi. They can recognize the occupational health hazards and drudgery of women in agriculture and the preventive measures. They can understand the technological needs of women in agriculture and strategies of transfer of technology to fill the gaps.

**Practical**

- ii. By the end of the course the students will get exposure to the role of women in agriculture, get familiarized with the women friendly tools and devices, agripreneurship & farm women training.

**Theory Lecture outline**

- 33. Evolution of agriculture in India: Introduction, evolution of agriculture
- 34. General agricultural production activities: Introduction, meaning , concepts
- 35. Agricultural and allied sectors in rural India: Introduction, meaning , concepts
- 36. Role of women in agricultural sector: Introduction, participation, role of women
- 37. Role of women in allied sectors: Introduction,, Participation, role of women
- 38. Socio economic status of farm women: Concept & meaning, measures for socio-economic development
- 39. Health & nutrition status of women in agriculture: Introduction, Major causes for poor health and nutritional status, Effects of poor health and nutritional status
- 40. Women & Poverty: Meaning ,causes and reasons

41. Feminization of Agriculture – Issues: Gender segregated and segmented labor force, Flexible labor force, Wages and benefits, Training and skills, women in small and marginal farms, women as independent farmers, feminization and empowerment, data gaps in coverage on women's labor, constraints
42. Categorisation of women in agriculture: Introduction, Characteristics and categorization of women in agriculture
43. Women in Organized & Unorganized sectors: women in the work force, women in unorganized sector, contribution and composition in economy, occupational profile of unorganized labour, need for social security for women in unorganized sector
44. Occupational Health Hazards: Occupational health hazards & women, workplace hazards to women's reproductive health, causes of health hazards, remedial measures
45. Types of Occupational Health Hazards: Activity specific, casual factors
46. Pesticides related health hazards and preventive measures
47. Women and drudgery: Introduction, indicators of drudgery, drudgery reducing tools and implements
48. Technological needs of farm women: Identification of technological needs -life cycle approach, knowledge empowerment technologies, drudgery reduction, value addition technologies, gainful and additional employment technologies,
49. Income generation technologies: Introduction and types
50. Women friendly tools and implements: Types of tools and implements
51. Gender issues in agriculture and allied sectors: Gender issues in agriculture, livestock management, forestry and fishing, gender & ICT and Media, access to resources or ownership of assets, Household Headship, Migration
52. Government programmes for women: District rural development agency (DRDA), Schemes of the ministry of women and child development: Swa-Shakti, Swayamsiddha, Swawlamban Programme, Support to Training and Employment Program, Institutional services, Balika mandals, Girl child protection scheme, Rashtriya Mahila Kosh (RMK), Swarnajayanthi Gram Swarozgar Yojana (SGSY)
53. Institutions for women in agriculture: Agricultural Technology Management Agency (ATMA), Directorate of Research on Women in Agriculture (DRWA)
54. Empowerment of Women :Concept & Indicators
55. Empowerment of women: Dimensions & Ways
56. Agripreneurship and training to farmwomen.: Meaning, concepts of Agripreneurship
57. Government organizations for promoting entrepreneurship: MANAGE, NISIET, SISI, NIRD
58. Non-Government organizations for promoting entrepreneurship: ALEAP
59. Programmes and schemes for promoting enterprises : Farm based
60. Programmes and schemes for promoting enterprises :Nonfarm based
61. Programmes and schemes for promoting enterprises : Trade related.
62. Strategies for Transfer of Technologies: Technology transfer, types of technology, Nature of technology, Salient features in development of rural technologies, Strategies for transfer of technologies
63. National Commission For Women: A brief history, Mandate of the and constitution of the commission, Publications
64. National Policy for Women in Agriculture: Mission , Background, Objectives

### **Practical Outlines**

17. Field visit to observe the role of women in agriculture
18. Field visit to observe the role of women in agriculture
19. Field visit to observe the role of women in agriculture
20. Field visit to observe the role of women in agriculture
21. Visit to farm machinery unit to observe women friendly tools and devices
22. Visit to farm machinery unit to observe women friendly tools and devices
23. Visit to an agripreneurship unit
24. Visit to an agripreneurship unit
25. Visit to a farm women training institution
26. Visit to a farm women training institution
27. Collection of success story
28. Collection of success story
29. Presentation of success story

30. Presentation of success story
31. Practical examination
32. 16. Practical examination

### References

7. Kiran, S. and Vasantha, R. (2012). Extension Education- New Horizons. Kalyani Publications.
8. Nayak sarojini and Nair Jeevan. Women's Empowerment in India. Pointer publishers.
9. Gupta Debabrata Das. (2008). Extension Education- core contents and emerging Areas. Agrobios.
10. Benerji Anitha and Sen Raj Kumar. (2000). Women and Economic Development. Deep & Deep publications Pvt. Ltd
11. Prasad Kiran. (2004). Communication and Empowerment of Women: strategies and policy insights from India. The Women Press. Delhi.
12. Ray, G.L. (1991). Extension Communication and Management. Kalyani publications.

**Course Number** EECM 221

**Title** Extension Training Management

**Credit Hours** 3(1+2)

**General Objective** This course enables the students to understand the different training concepts, training types, analyze the training needs of an organization, assess, design and implement various methods, techniques and evaluate the training

### Specific Objectives **Theory**

- iii. By the end of the course, the student will be able to understand the meaning of training and types of training
- iv. The students get acquaint with designing & conducting training, training methods & training evaluation.

### **Practical**

- ii. By the end of the course the students will be able to acquire the skills on different training methods to be used in training .

### **Theory Lecture Outlines**

17. Training: Meaning, Definition, Need and importance, Identification of training need
18. Types of training: Extension trainings: Institutional training, Non- institutional training, Comprehensive training, Organization trainings; Pre-Service training, In-service training: Induction or orientation training, Foundation Training, On-the-Job training, Promotional training, Refresher training
19. Training process: Phases of training process; Pre-training, Training, Post training
20. Training Phases and its management: Need Assessment, Training objectives, meaning and definition, Types of objectives: General, Specific; Importance of training objectives, Components, Task, Condition, Standard, Important, considerations, formulation of training objectives, Accurate action verbs, Method of writing
21. Qualities of a good trainer- communication skills, Questioning, Handling Difficult Situations, training skills, motivational skills, facilitation skills and technical skills
22. Adult learning: Characteristics of adult learner, Difference between Pedagogy and Andragogy
23. Facilitation skills in training: Facilitation role of trainer, Facilitator meaning and definition, Factors of facilitation, Trainer like qualities
24. Problem and prospects of training.
25. Steps in module designing: Introduction, Role of Training, Steps, Need assessment, Framing objectives
26. Steps in module designing (contd): Planning overall schedule of training, Planning detailed training sessions, Managing, training, Evaluation of training
27. Training methods: Interactive lecture, Interactive demonstration, Field trip, Group discussion
28. Training methods: Case study, Role play, T- group training, ICT, Folk media

29. Training evaluation: Meaning of evaluation, Areas of evaluation, Objectives, Principle Steps and indicators of training evaluation.
30. Training evaluation: Measuring reaction, learning, behaviour and result, Tools of evaluation, Pre test /Post test, Opinion/attitude questionnaire, Trainer observation, Trainer/trainee group evaluation session, Training practice session, Follow -up evaluation
31. Introduction to HRD: Need, Concept, Outcomes, Functions, Goal of HRD system, HRD Approaches
32. Important training institutions in India: MANAGE, NAARM, EEI'S, NIRD, MCRHRD

### **Practical Outlines**

33. Visit to state level training institute
34. Visit to state level training institute
35. Visit to vocational training institute
36. Visit to vocational training institute
37. Hands-on-experience with need analysis and writing training objectives
38. Hands on experience with need analysis and writing training objectives
39. Hands-on-experience on training methods
40. Hands-on-experience on training methods
41. Hands-on-experience on training methods
42. Hands-on-experience on training methods
43. Hands-on-experience on training methods
44. Hands-on-experience on training methods
45. Familiarization with monitoring tools of training
46. Familiarization with evaluation tools of training
47. Familiarization with offline training module
48. Familiarization with online training module
49. Preparation of training module
50. Preparation of training module
51. Designing of training programme
52. Designing of training programme
53. Conducting of training programme
54. Conducting of training programme
55. Evaluation of training programme
56. Evaluation of training programme
57. Analysis of HRD programmes of academic institutions
58. Analysis of HRD programmes of corporate institutions
59. Interaction with HR D professionals
60. Interaction with HR D professionals
61. Presentation of reports
62. Presentation of reports
63. Final practical examination
64. Final practical examination

### **References**

6. Gupta, C.B. (2001). Human Resource Management. Sultan Chand and Sons.
7. Dahama, O.P. and Bhatnagar, O.P. (2003). Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd.
8. Lynton, R.P. and Pareek, V. (2008). Training for Development. Vistaar Publications.
9. Narwani, G.S. (2002). Training for Rural Development. Rawat Publication.
10. Saxena, J.P. and Kakkar, A.T. (2000). Training and Development

**Course Number** EECM 311

**Title** Project Management

**Credit Hours** 2(1+1)

**General Objective** This course facilitates the students to understand the different phases involved

in project management: from the procedure of writing project proposal to review of the project.

### **Specific Objectives**

#### **Theory**

- iii. By the end of the course, the student will be able to understand the meaning of project management, project proposal, concept note, project designing and project planning.
- iv. The students get acquainted with market survey, market and demand analysis, technical analysis, financial analysis and environmental impact analysis.

#### **Practical**

- ii. By the end of the course the students will be able to acquire the skills to write project proposal, prepare budget and cash flow statement, compute break –even point etc., and also the skills to compute net working techniques.

### **Theory Lecture Outlines**

1. Overview of project management : Background, meaning of project, characteristics of project, meaning of Project Management and types of projects
2. Project management: Elements of management
3. Project proposal: Meaning, project designing: meaning and principles
4. Concept note: Meaning and steps in preparation
5. Project initiation: Generation of ideas, monitoring of environment, appraisal, Screening of ideas and project rating index
6. Resource allocation framework: Introduction, key criteria, investment strategies, Portfolio planning tools, strategic position and action evaluation (SPACE), interface between strategic planning and capital budgeting
7. Market and demand analysis: Market and demand analysis, situational analysis and specification of objectives, collection of secondary information and evaluation of secondary information
8. Steps in market and demand analysis: Market survey, steps in a sample survey of the market, demand forecasting, market planning
9. Environmental appraisal of projects: Concept, types and dimensions of a project, stress on environment, environmental resources / values
10. Environmental impact analysis: Meaning and scope, objectives, methodology for conducting a study, major issues, impact assessment methodologies
11. Technical analysis: Meaning, material inputs and utilities, manufacturing process / technology, product mix etc.,
12. Financial analysis: cost of project, meaning of financing, estimates of sales and production working capital requirement and its financing
13. Financial analysis : Profitability projections, break – even point, projected cash flow statements, projected balance sheets
14. Budgeting: Meaning, process, types, budget control, cost-benefit analysis
15. Terminology of networks: net work preparation, uses of networks, terms used in networks
16. Project management techniques: PERT, CPM, ASBC and Gantt chart

### **Practical Outlines:**

1. Visit to technology generation project
2. Visit to technology generation project
3. Visit to transfer of technology project
4. Visit to transfer of technology project
5. Collection and screening of case studies on project management and report writing
6. Collection and screening of case studies on project management and report writing
7. Writing project proposal
8. Writing project proposal
9. Presentation of project proposals
10. Visit to funding agency
11. Visit to funding agency

12. Working on Project management techniques: PERT, CPM, WBS
13. Working on Project management techniques: PERT, CPM, WBS
14. Working on Project management techniques: PERT, CPM, WBS
15. Working on Project management techniques: PERT, CPM, WBS
16. Practical examination

References:

1. Jr. Samuel J. Mantel., Meredith Jack R., Shafer Scott M., Sutton Margaret M. and Gopalan M.R. (2006). Project Management- core Text book. Wiley India (p) Ltd.
2. Adhikary M.M., Sarkar A., Acharya S.K. and Basu D. (2006). Participatory planning and Project management in Extension Sciences. Agrotech publishing academy.
3. Baars Wouter . (2006). Project Management Handbook.
4. D. Dipak and Basavaprabha. (2010). A Handbook of Extension Education. Agrobios (India).
5. Sethi Nishi., Kaushik Sushma., Rani Seema and Goyal Ramesh K. (2009). Extension and Communication Management. Agrotech publishing academy.
6. Newton Paul. (2015). Principles of Project Management-Project Skills.
7. Khanka, S.S. (1999). Entrepreneurial Development. S. Chand and Company Ltd.

<b>Course Number</b>	EECM 321
<b>Title</b>	Information and Communication Technology
<b>Credit Hours</b>	3(1+2)
<b>General Objective</b>	This course facilitates the students to understand the importance and scope, methods, means and tools of information technology.
<b>Specific Objectives</b>	<p><b>Theory</b></p> <ul style="list-style-type: none"> <li>iii. By the end of the course, the student will be able to understand the need and importance of Instructional technology</li> <li>iv. The students get acquainted with audio visual aids, conventional communication technologies, IT tools IT enabled services and social networking.</li> </ul> <p><b>Practical</b></p> <p>By the end of the course the students will be able to acquire the skills to</p> <ul style="list-style-type: none"> <li>v. Prepare audio visual aids</li> <li>vi. Use conventional communication technologies</li> <li>vii. Handle the IT tools and different software</li> <li>viii. Browse social networking websites</li> </ul>

**Theory Lecture outlines:**

17. Information Technology – Meaning, importance and Scope
18. Communication – Process, Models, Barriers and Types of Communication
19. Conventional and New media technologies – Classification and Types
20. Conventional Communication technologies – Audio Visual Media, classification, advantages and disadvantages
21. Conventional Communication technologies – Contact methods – Individual, Group and Mass contact methods, classification, advantages and disadvantages
22. Conventional Communication technologies – Folk Media, Classification, Advantages and Disadvantages, Difference between Traditional and Modern media



23. IT Devices: CD ROM, DVD, Desktop computers, Laptops, Tablets, LCD Projector, Printers and Electronic media – Satellite Radio and Television, Internet, Intranet
24. IT tools – Synchronous and Asynchronous – Informative, Constructive, Communicative, Collaborative
25. Informative and Communicative tools – Internet, Intranet, Wikis, Emails, SMS etc
26. Constructive tools - Word processing, Power point, Photoshop, Audio video recording and editing softwares
27. Collaborative tools – Discussions and online forums etc.
28. Networking – LAN, WAN, Social networking – Facebook, Twitter
29. Social networking tools – Blogs, Websites, Wikipedia, Facebook, Twitter, You tube, Instagram, Googl, Flipped classrooms etc.
30. IT enabled services – Call centre, Helpdesks, Data warehouse/ Knowledge management and archiving, Transcription centres, GIS mapping, Customer support services and Electronic distribution
31. IT enabled services and their impact on the society
32. Criteria for selection and evaluation of ICT tools – Conventional and New media

### **Practical Outlines**

33. Understanding the communication Process
34. Orientation to types of communication
35. Orientation to Conventional communication technologies - Audio
36. Orientation to Conventional communication technologies – Visual – Posters
37. Orientation to Conventional communication technologies – Visual –charts
38. Orientation to Conventional communication technologies – Visual – Flash cards
39. Orientation to Conventional communication technologies – Visual –Flannel graphs
40. Orientation to Conventional communication technologies – Audio Visual – Talking doll, Drama and Video
41. Orientation to Conventional communication technologies – Methods of contact – individual, Group and Mass contact methods
42. Orientation to Conventional communication technologies – Methods of contact – individual contact – Personal interview
43. Orientation to Conventional communication technologies – Methods of contact – Group contact – Demonstration, Debate and Symposium
44. Orientation to Conventional communication technologies – Methods of contact –Mass contact – Puppet show and Drama on social connected topics
45. Handling of Conventional communication devices – Projectors
46. Handling of Conventional communication devices –Computers
47. Orientation to the IT tools – Informative - Internet, Intranet, Wikis etc.
48. Browsing through the internet on a selected topic through wikipedia
49. Orientation to the IT tools – Constructive – Word processing, Power point
50. Prepare a Word document on the selected topic
51. Prepare a Power point presentation on a selected topic
52. Orientation to the IT tools – Collaborative tools – Discussions and online forums etc.
53. Browsing through different blogs on a selective topic
54. Browsing through different Flipped classroom on a selective topic
55. Orientation to the IT tools – Communicative – Emails, SMS etc.
56. Open a new Email account and send information collected from the former excercises
57. Orientation to social networking sites - Open a Facebook account to use for social awareness campaign
58. Presentation of the collected information from the Internet
59. Presentation of the collected information from the Internet
60. Presentation for the opening of Email account and present the information collected
61. Presentation for the opening of Email account and present the information collected
62. Presentation of the Power point presentation on selected topic
63. Presentation of the Power point presentation on selected topic
64. Practical examination

## References:

7. Dubey, V.K. (2008). Extension Education and Communication. New age international (P) Ltd.
8. Vanangamudi, K., Venkatachala, R., Ilamurugu, k., Djanaguiraman, M. and Sridevy, S. (2010). E-learning : An experiences. Agrobios(India).
9. Prasad Kiran. (2004). Information and communication Technology-Recasting Development. B.R. Publishing corporation.
10. Celebic Gorana. and Rendulic Dario Ilija. (2011). ITdesk.info – project of computer e-education with open access. Open Society for Idea Exchange (ODRAZI), Zagreb.
11. Silberschatz Abraham., Galvin Peter Baer. and Gagne Greg. Operating system concepts. Ninth edition. John wiley & sons. Inc.
12. Tanenbaum Andrew, S. (2009). Modern operating systems. Third edition. Pearson Education, Inc.

**Course Number** EECM 322

**Title** Diffusion and adoption of Homestead Technologies

**Credit Hours** 3 (2+1)

**General Objective** This course facilitates the students to understand the homestead innovations spread among the women in the society by getting into the insights of diffusion concept and adoption process, and innovation decision process, adopter categories and their characteristics and factors influencing adoption.

### Specific Objectives

#### Theory

- iii. By the end of the course, the students will be able to understand the meaning and process of diffusion & adoption, different concepts related to diffusion & adoption process.
- iv. The students will also gain knowledge on different homestead technologies

#### Practical

- ii. By the end of the course the students will be able to collect information on different homestead technologies and exposed to diffusion & adoption process in villages.

### Theory Lecture outlines

1. Diffusion: Concepts of diffusion, innovation, innovativeness, reinvention, Communication channels and social system
2. Diffusion: Social change, social structure, adoption, rate of adoption, localite, cosmopolite, homophily, heterophily, consequences, discontinuance, opinion leadership, change agent, norms
3. Elements of Diffusion process: Introduction, elements of diffusion process: innovation, communication channels, time.
4. Diffusion process: social system: optional, collective, authority, contingent
5. Innovation Diffusion Process: Concept, model of ID process
6. Types of innovation–decision process
7. Consequences of innovations: concepts
8. Adoption: Meaning, adoption process, five stage process
9. Factors influencing adoption : Personal, situational, social
10. Consequences of adoption: Meaning, desirable/undesirable, functional versus dysfunctional, direct versus indirect, anticipated versus unanticipated, manifest versus latent
11. Constraints in adoption of technologies
12. Innovation - diffusion process: Adoption, confirmation, rejection, dissonance
13. Innovation Decision Process: Rate of adoption, over adoption, innovativeness
14. Discontinuance: Replacement, disenchantment, forced discontinuance, over adoption,
15. Attributes of an Innovation and their influence in transfer of technology: Meaning of

- attributes, relative advantage
16. Attributes of an innovation: Complexity, trialability, predictability, compatibility, observability
  17. Adopter categories: Concept and types
  18. Homestead Technologies: Meaning, women and technologies
  19. Homestead Technologies: Home technologies, farm technologies
  20. Characteristics of innovation with special reference to homestead technologies: Affirmative, comprehensive, drudgery free
  21. Process of homestead technology development: Technology research, generation, technology testing, adaptation, integration
  22. Channels of communication for homestead technology: Technology research, generation, testing, adaptation, integration
  23. Diffusion network: Homophily, Heterophily, Localite versus Cosmopolite Channels
  24. Social Change: Concept, theories, dimensions
  25. Social Change: Factors associated with the acceptance and resistance of change
  26. Change Agent: Sequence of change –agent roles, factors in change agent success
  27. Agencies of change: Concept, role in diffusing technologies
  28. Opinion Leadership: Meaning, Hypodermic Needle Model, The Two Step Flow Model, Monomorphic leaders, Polymorphic leaders
  29. Opinion Leadership: Selection of opinion leaders, sociometric, informants ratings, self- designating technique, observations
  30. Change Process: Factors affecting change
  31. Different homestead technologies with special reference to Home Science
  32. Strategies for Transfer of Home Science Technology and constraints in adoption

### **Practical Outlines**

- 1.Collection of Homestead Technologies
- 2.Collection of Homestead Technologies
3. Adoption in locality- Observation
- 4.Adoption in locality- Observation
- 5.Adoption in locality- Observation
- 6.Visit to different entrepreneurs adopted home stead technologies for business enterprise
- 7.Visit to different entrepreneurs adopted home stead technologies for business enterprise
- 8.Visit to different successful SHGs
- 9.Visit to different successful SHGs
- 10.Categories of adopters among SHG members
- 11.Categories of adopters among SHG members
- 12.Analysis and presentation of report
- 13.Identification of change agents in a locality
- 14.Identification of change agents in a locality
- 15.Analysis and presentation of report
- 16.Practical examination

### **References :**

7. Rogers, M. (2010) Diffusion of innovations. Third Edition. Library of Congress Cataloging in Publication Data.
8. Gupta Debabrata das. (2008). Extension Education- Core contents and emerging Areas. Agrobios (India).
9. De Dipak and Basavaprabha. (2010). A Handbook of Extension Education. Agrobios (India).
10. Dubey, V.K. and Bishnoi Indira. Extension Education and communication. New Age Publications.
11. Supe, S.V. (2011). Integrated Extension Education. Agrotech publishing Academy.
12. Khan, P.M. and Somani, L.L. (2009). Fundamentals of Extension Education (Incorporating ICAR Recommended Syllabus). Agrotech publishing Academy.



**Course Number** HDFS 211

**Title** Marriage and Family Dynamics

**Credit Hours** 3 (2+1)

**General Objective** To impart knowledge about goals, functions, forms of marriage and family, family life cycle, changing trends in roles, areas of readiness for marriage, marital adjustments, family crisis events, coping strategies, importance of marital counseling.

**Specific Theory**

**Objectives** By the end of the course the students will be able to understand

- Different concepts related to marriage and family, gender roles, alternative forms of marriage and family , stages of family life cycle and developmental tasks
- Gain insight on different areas of readiness to marriage, techniques of marital adjustments , causes for marital dissolution, divorce and their effects
- Understand about family crisis, family stress and coping strategies
- Know the need and importance of premarital, marital, family counseling and family life education
- Aware of different laws related to marriage

**Practical**

By the end of the course the students will be able to

- Study the roles across family life cycle
- Analyze the leading factors for mate selection in different cultures
- Study the alternative forms and crisis events existing in the family
- Identify the adjustment techniques and coping strategies adopted by families
- Aware of various issues related to marital and family counseling

**Theory Lecture outlines**

1. Marriage- Definition, views, goals, functions
2. Types/forms of marriage in India- Ancient forms and prevalent forms in India
3. Rituals and ceremonies of marriage in different religions of India- Muslim, Hindu, Christian, Sikh, Parses'
4. Readiness for marriage– Definition, need and importance, areas of readiness for marriage – Psychological, Physiological, Intellectual, Social, Emotional, Spiritual-Moral, Economic readiness.
5. Mate selection- meaning, field of mate selection, guidelines for mate selection, ways of mate selection in tribal India.
6. Theories of mate selection- Role theory, Value theory, Exchange theory, Complementary theory, Sequential theories, Factors responsible for mate selection.
7. Engagement and its importance, premarital counseling – objectives, Need and areas
8. Marital roles and behaviors - Definition and importance of marital roles, marriage as status and role transition, determinants of marital role behaviour,
9. Concepts related to gender roles- Bipolar gender roles, androgynous gender roles, Sex role transcendence, factors responsible for change in gender roles, Role conflict
10. Marital adjustment- definition, Areas of marital adjustment, factors influencing marital adjustment, types of marital relations and adjustments
11. Marital adjustments across the family life cycle, obstacles in marital adjustment, marital adjustment techniques
12. Marital success, criteria of marital success, marital education- goals
13. Marital dissolution- definition, types and factors- personal, societal, demographic, life

- course, family process factors, Separation distress- factors, factors responsible for refraining from divorce after marriage failure
14. Divorce- Social process of marital failure and divorce- grounds, No-fault divorce
  15. Consequences of divorce on families, adjustments to divorce
  16. Alternatives to marriage- singlehood, heterosexual cohabitation/ consensual union, homosexual union, reasons, merits and demerits
  17. Family- Definition, characteristics, functions
  18. Family structure and relationships in India- forms/types of family- based on organization, blood relationship, group affiliation, forms, authority, residence, descent
  19. Pattern of changes in family structure and relationships in India -Familial (education and employment of women) and Extra Familial Factors (technology, peer group, society) responsible for the changes and consequences of these changes on the family life and society
  20. Family life cycle- Definition, importance, stages and developmental tasks
  21. Typical and alternative forms of families- Characteristics of Single parent families, female headed families, childless families, adoptive families, dual earner families, reasons behind alternative forms of family and its merits and demerits
  22. Family Stress – Definition, types/ categories of stressors, variables affecting family's response to stress
  23. Family Stress- Causes of family stress, effects/ impact of family stress, manifestations/ recognizing symptoms of family stress, stress coping strategies, correlates of family stress
  24. Family crises- Definition, when does stress becomes a crisis, hill's ABCX model of family crisis and conditions for crisis
  25. Family Crisis- Stages of a crisis, characteristics of crisis events, effects of crises
  26. Factors affecting crisis, adjustment to crisis, general things to do in times of crisis
  27. Laws and Acts regarding marriage in India
  28. Laws and Acts regarding adoption and divorce in India, Laws and Acts regarding inheritance in India
  29. Marital Counseling – nature, objectives and importance, types- premarital and marital, role of a marital counsellor
  30. Premarital counseling- Need, premarital relationships and its consequences, sex education
  31. Family life education- Concept, Types of family planning methods- Natural and Artificial methods
  32. Family Counselling – Interpersonal relationships and role conflict resolutions

### **Practical Outlines**

1. Study on Hindu / Christian/ Muslim/ Parsi/ Jain marriage ceremonies
2. Study on gender roles and stereotypes
3. Study on Selection of partner
4. Study on perceptions related to premarital relationships
5. Visit to marriage bureau
6. Visit to Marriage and family counseling center
7. Visit to Family court
8. Comparative study on nuclear and joint families
9. Case study on atypical family
10. Case study of an alternative forms of family
11. Study on marital roles and adjustments
12. Study on families under Crisis
13. Study on families stress and its impact
14. Study on coping strategies adopted by families under Stress
15. Compilation and Presentation of reports
16. Preparation of resource file on latest laws and acts related to marriage and family

### **References**

1. Ahuja, R. (2005). Indian social system. Rawat publication. Delhi.
2. Benokraitis.V.N. (2014). Marriage and families. 8<sup>th</sup> ed. Pearson publication.

3. Blood, R.O. (1969). *Marriage*. New York: The Free Press.
4. Goode, W.J. (1989). *The family*. New Delhi: Prentice Hall of India Private Limited.
5. Bryan Strong (1992). *The Marriage and Family Experience*. USA, West publishing company.
6. Kapadia. K.M. (1966). *Mariage and family in India*. 3<sup>rd</sup>ed. Oxford university press, Kolkata.

<b>Course Number</b>	HDFS 221
<b>Title</b>	Developmental Challenges in Children
<b>Credit Hours</b>	3 (2+1)
<b>General Objective</b>	To impact knowledge about special education, different types of disabilities, etiology, classification, diagnosis, treatment and educational implications, rights and provisions, intervention programmes for children with different disabilities.
	<b>Theory</b>
<b>Specific Objectives</b>	By the end of the course, the student will be able to <ol style="list-style-type: none"> <li>i. Understand the concept of Special Education</li> <li>ii. Learn different types of disabilities</li> <li>iii. Study the rights, provisions and intervention programmes of children with special needs</li> </ol>
	<b>Practical</b>
	<ol style="list-style-type: none"> <li>i. Learn how to identify children with special needs</li> <li>ii. Study the vocational and rehabilitation programmes for children with special needs</li> <li>iii. Understand planning, preparation and implementation of various activities for children with special needs</li> </ol>

#### **Theory Lecture outlines**

1. Special needs and special education – Concept and definition, Objectives of special education, Principles of special education, Types of special education services
2. History of special education – Special education in different countries, The fall and the rise of special education, Influence of other disciplines, Development of special education in India
3. Current trends and issues in special education – Issues – categorization, normative and non normative categories, selection and social problem classes, Integration, Dilemmas
4. Mainstreaming – Concept, components, uniting factors, efficacy, issues in mainstreaming on children with special needs
5. Children with developmental challenges - Concepts, types or classification of developmental challenges
6. Physical disabilities – Orthopedic impairment - Definition, types of Physical Disabilities, diagnosis and treatment
7. Physical disabilities – Neuro-motor Impairment – Concept, Causes, Types of Neuro-motor impairments, Diagnosis and Treatment, educational considerations
8. Health Impairment – Concept, causes, types, treatment, educational considerations
9. Intellectual impairment - Mental Retardation – Definition, classification, etiology of Mental Retardation, prevalence, characteristics, tests used
10. Down’s syndrome- concept, causes, characteristics, associated problems, treatment - therapies
11. Educational considerations and services for children with intellectual impairment
12. Learning Disabilities – Concept, definition, prevalence, causes and diagnosis, types, characteristics, educational considerations for Learning Disabled
13. Slow learners- Characteristics, identification, educational considerations
14. Emotional Disorders – Definition, Classification, Prevalence, Causes, Characteristics, problems associated with emotional disorders, treatment methods and educational considerations
15. Autism spectrum disorders – Concept, causes, characteristics, diagnosis and

- treatment, educational considerations
16. Attention Deficit Disorders, Attention Deficit Hyperactive disorders – Definition, causes, symptoms, characteristics, treatment, educational strategies
  17. Communication, Speech and Language Disorders – Definition, Causes, Characteristics, Types
  18. Communication, Speech and Language Disorders – Educational considerations and managing Communication, Speech and Language Disabled children in school
  19. Hearing Impairment – Concepts, causes, classification, characteristics, diagnosis
  20. Hearing Impairment – Educational considerations and managing Hearing Impaired child in school
  21. Visual Impairment – Concept, causes, classification, characteristics of Visual Impairment, types of visual defects ,
  22. Visual Impairment –Educational considerations for Partially sighted and Blind
  23. Giftedness – Definition, prevalence, classification, characteristics, identification
  24. Giftedness – Educational considerations for gifted children – aims, modifications in the learning environment, modifications of content, teaching cognitive strategies, role of teacher
  25. Multiple and Severe Disabilities – Concept of Severe Disabilities, characteristics, concept of Multiple Disabilities, characteristics, causes, diagnosis, implications
  26. Rights and provisions for children with special needs in India
  27. Organizations working for children with special needs
  28. Intervention – Concept, methods, process, Early Intervention Plan
  29. Instructional methods and strategies used in intervention - Instructional Methods - Enrichment, direct instruction, Incidental teaching, Activity based, Response contingent learning- Instructional Strategies – Shaping, chaining, prompting, cueing, extinction, timeout, restrain
  30. Family centered intervention – Concept, need and importance, Individualized Family Service Plan
  31. Early intervention services for children with developmental challenges- types, service delivery approaches used in intervention
  32. Roles and responsibilities of professionals in intervention

### **Practical Outlines**

1. Observational visit to institutes for children with special needs - Institute for Mentally challenged children
2. Observational visit to institutes for children with special needs - Institute for Visually Impaired children
3. Observational visit to institutes for children with special needs - Institute for Speech and Communication Disorder children
4. Observational visit to institutes for children with special needs - Institute for Hearing Impaired children
5. Observational visit to institutes for children with special needs - Institute for Orthopedically Impaired children
6. Observational visit to institutes for children with special needs - Institute for Multiple Disabled children
7. Observational visits to Vocational & Rehabilitation center for developmentally challenged children
8. Observational visits to Vocational & Rehabilitation center for developmentally challenged children
9. Identification of children with developmental delays
10. Planning education programmes for families of children with special needs
11. Planning educational material for identification of disabilities
12. Preparation of educational material for identification of disabilities
13. Planning stimulation material for children with disabilities
14. Preparation of stimulation material for children with disabilities
15. Developing resource files on children with developmental challenges
16. Final Practical Examination

### **References**



1. Dash M. (2005). Education of Exceptional children. Atlantic Publications
2. Hallahan, D.P. and Kauffman, J.M. (1991). Introduction to exceptional children. 5th ed. Allyn and Bacon, Boston.
3. Jampala Madhubala, Digunarti Bhaskara Rao. (2004). Methods of teaching exceptional children. Discovery Publications House, Delhi.
4. Janet.W. Lerner, Barbara Lowenthal, Rosemary W. Egan. (2003). Preschool Education with special needs. Pearson Education.
5. Philip.L.Safford. (1989). Integrated Teaching in Early Childhood. Longman Inc.
6. Uttam Kumar Singh and A.K.Nayak. (1997). Special Education. Common Wealth Publications
7. Venkatesan.S. (2004). Children with developmental disabilities. Sage Publications, New Delhi.

<b>Course Number</b>	HDFS 311
<b>Title</b>	Family Counselling and Welfare
<b>Credit Hours</b>	3(2+1)
<b>General Objective</b>	To impart knowledge about various aspects of Family Counselling and Welfare

<b>Specific Objectives</b>	<p><b>Theory</b></p> <p>By the end of the course, the students will be able to</p> <ol style="list-style-type: none"> <li>i. Know the history of counselling, concept, goal and scope of counselling, levels, classification, functions, principles and areas of counselling</li> <li>ii. Learn characteristics of counselor, counselling approaches, skills, problems and limitations in counselling</li> <li>iii. Know the role of millennium development goals on family welfare, situational analysis, current issues and challenges, constitutional provisions, legislations, policies related to children, youth, women, elderly</li> </ol> <p><b>Practical</b></p> <p>By the end of the course, the students will be able to</p> <ol style="list-style-type: none"> <li>i. plan and conduct counselling sessions to members of various age groups in family</li> <li>ii. study the organizations working for the welfare of children, youth, women and elderly</li> </ol>
----------------------------	--

#### **Theory Lecture outlines**

1. History of counselling – Before and after 20<sup>th</sup> century
2. Concept and nature of counselling-Meaning, nature of counselling
3. Goal and scope of counselling-Purpose, Goals and Objectives
4. Levels of counselling- Informal, Non Specialist counselling, Professional counselling
5. Classification of counselling-Based on time -Surface, Prolonged, Therapeutic; Based on relationship –Personal, Couple, workplace & Family
6. Functions of counselling-Adjustmental, Orientational and Developmental
7. Principles and need of family counselling
8. Thrust areas in family counselling- Educational, Vocational, Social, Health, Moral, , Personal, Premarital and Marital
9. Role of counselor and Characteristics of counselor –Personal & Professional
10. Counselling techniques-Directive/Counsellor centered, Non- directive/Client centered and Eclectic Counselling
11. Counselling approaches – Insight theories-Psychoanalytic counselling, Gestalt counselling, Adlerian counselling; Action Theories –Behavioural counselling therapy, Rational Emotive Behaviour therapy (REBT)
12. Action Theories-Realty therapy, Expressive therapy, Family therapy and Strategic

- counselling
13. Process of Counselling-Process, Conditions, Aspects, Dimensions and Fundamentals of counselling
  14. Counselling skills-Diagnostic, Exploration, Relationship, Understanding, Action, Attending and Group process: Evaluation skills
  15. Stages of counselling –Beginning phase, Middle phase and Ending phase
  16. Problems and limitations in family counselling; Ethical Issues and dilemmas in counselling
  17. Role of Millennium Development Goals on family welfare; UN Rights of children
  18. Prevalence of children, youth, women and elderly, disabled and reserved category in India and in the world- Census
  19. Current issues and challenges in child welfare – child abuse, child labour, trafficking, neglect, Juvenile delinquency
  20. Current issues and challenges in youth welfare – delinquency, drug abuse, sexual abuse
  21. Current issues and challenges in women welfare- trafficking, abuse, domestic violence, gender discrimination
  22. Child welfare- definition and need, schemes, policies and programmes for children
  23. Classification child Welfare services – Residential services-Children’s home, Adoption, SOS village, Foster care, Short stay home; Protective services-CGC,CGB, Child Line, Juvenile home
  24. Classification child Welfare services- Recreational services – Bal Bhavan, Holiday homes, Youth hostel
  25. Women welfare- definition, need, services and schemes, policies and programmes for women
  26. Youth welfare- definition, need, services and schemes, policies and programmes for youth
  27. Elderly welfare- definition, need, services and schemes, policies and programmes for elderly
  28. Welfare of disabled- definition, need , services and schemes
  29. Policies and programmes for disabled
  30. Reserved category welfare- definition, need, services and schemes
  31. National organizations and agencies working for the welfare of children, women, youth, elderly and disabled:
  32. International organizations and agencies working for the welfare of children, women, youth, elderly and disabled.

### **Practical Outlines**

1. Visit to Family counselling center
2. Studying the areas of Family counselling
3. Identifying the needy areas and planning suitable counselling sessions for parents with infant babies
4. Identifying the needy areas and planning suitable counselling sessions for parents with preschoolers
5. Identifying the needy areas and planning suitable counselling sessions for parents with school age children
6. Identifying the needy areas and planning suitable counselling sessions for parents with adolescents
7. Identifying the needy areas and planning suitable counselling sessions for adult women
8. Identifying the needy areas and planning suitable counselling sessions for elderly
9. Visit to Children’s home
10. Visit to Balbhavan
11. Visit to Child Guidance Bureau
12. Visit to SOS Village
13. Visit to State home
14. Visit to Child/Women protection Cell
15. Visit to Old age home

### References

1. Indira, M. (2000). Guidance & Counselling. New Delhi: Authors Press.
2. Narayana Rao, S. (1997). Counseling & Guidance. New Delhi: Tata Mc.
3. Paul Chowdary, D. (1985). Child Welfare & Development. Atmaram & Sons: Delhi Graw-Hill Publishing company Limited.
4. Srivastava, K.K. (2003). Principles of guidance & counseling). New Delhi: Kanishka Publishers.
5. Vasantha, R. P. (2001). Counselling Psychology. New Delhi: Authors Press.

**Course Number** HDF5 321

**Title** Educational Psychology and Early Childhood Education

**Credit Hours** 3(2+1)

**General Objective** To impart knowledge about Educational Psychology, learning theories, learning traits, relationship of motivation with learning and performance, techniques of discipline and punishment in learning, different tests used in classroom evaluation, importance of Early Childhood Education, philosophies of ECE, steps and types of ECE programme planning, curriculum planning and activities to promote all round development of children during ECH period and roles and responsibilities of an early childhood personnel

**Specific Theory**

**Objectives** By the end of the course the students will be able to get the knowledge about

- i. History of Educational Psychology and its importance, process of learning, different learning theories and learning traits, importance of motivation with learning and performance, techniques of discipline and punishment in learning and different tests used in classroom evaluation.
- ii. Importance of Early Childhood Education, steps and types of ECE programme planning, curriculum planning and activities to promote all round development of children during ECH period, roles and responsibilities of an early childhood personnel.

### Practical

By end of the practical course the students

- i. Gain skills on analyzing effect of reinforcement, motivation, discipline on learning
- ii. Get knowledge on application of different theories of classroom teaching
- iii. Gain knowledge on administering procedures of classroom evaluation tests
- iv. Get an opportunity to observe the programme in ECE center
- v. Gain knowledge as well as skills required for planning and implementing
- vi. programmes in early childhood education by using thematic approach
- vii. Get practical knowledge on planning and preparation of suitable teaching learning materials used for preschool children.

### Theory Lecture outlines

1. Educational psychology-Meaning, History, nature, aims of Educational Psychology, recent trends.
2. Learning- definition, concept, process, types and factors.

3. Learning traits- sensation, perception, imagination, attention: Definition, nature and importance.
4. Learning traits - Memory - meaning, types, disorders, signs of good memory; Remembering and forgetting - meaning and benefits of forgetting.
5. Learning traits - Meaning of intelligence, definition, nature of intelligence, measurement of intelligence, factors affecting intelligence; Reasoning-definition, kinds of reasoning.
6. Learning traits - Thinking-definition, types and forms of thinking; Temperament-meaning and attributes of temperament.
7. Learning traits- problem solving, information processing learning environment- Problem solving- stages in problem solving, process in problem solving, human factors of problem solving; Information processing learning environment- Information- processing model of memory.
8. Theories of Learning: Association theories – Trial and Error theory of learning or connectionism- Thorndike, Stimulus – response theory by Watson
9. Theories of Learning: Association theories – Classical conditioning theory- Pavlov, Operant conditioning theory by B.F.Skinner
10. Theories of Learning - Cognitive theories – Gestalt theory of learning – characteristics and principles, Rober Gangne theory - Hierarchical learning
11. Motivation-definition, classification or types of motivation, modes of motivation-contingency contract, token economy; Relationship of motivation with learning and performance-techniques of motivation in classroom learning.
12. Discipline- Meaning, need, functions, types or techniques of discipline, factors influencing choice of disciplinary techniques.
13. Learning theories of Jerome Bruner, Jean Piaget and Erik Erikson
14. Learning theories of Lev Vygotsky and Lawrence Kohlberg.
15. Meaning and ways of evaluation of student's performance-Introduction, steps of evaluation, types of evaluation.
16. Methods of evaluation – Class room / teacher made tests and standardized tests – Differences and tools of evaluation.
17. Early childhood education- Concept, Need and importance, objectives, history of early childhood education in India.
18. Early Childhood Care Centers - Need for ECE centers and basic requirements for an ECE center, types of ECE centers.
19. Curriculum planning in ECE -Definition, types and steps of curriculum planning.
20. Curriculum planning in ECE-Characteristics and factors related to curriculum planning.
21. Bloom's taxonomy of Educational Objectives for curriculum planning-The cognitive domain, the affective domain, the psycho-motor domain.
22. Curriculum goals in ECE-Aims and objectives of curriculum goals and activities to promote all round development of children during ECH period.
23. Educational philosophies in ECE-Indian educators - M.K.Gandhi, Tagore, Sri Aurobindo, Zakor Hussain, Jiddu Krishnamurthi, Tarabai Modak, Gijubhai Badeka.
24. Educational philosophies in ECE-Western educators - Johann Amos commonius, Jean Jacques Rousseau, Henry Pestalozzi, Froebel, Maria Montessori, Susan Issacs .
25. The play-way method for ECE- Origin, selection, types, principles and advantages and its application to progressive teaching methods.
26. Play activities in ECE centers-Introduction, nature of play, purpose and functions, need and Importance of development of skills during Early Childhood.
27. Play activities in ECE centers – different types of play activities and their values
28. Records and Reports maintained in ECE center-Values, types of records, techniques of collection of information and cumulative record,
29. Parental participation in the ECE programme – need and importance and methods
30. Principles of teaching in ECE-General, Sociological and Psychological principles.
31. Classroom management in ECE- Principles, techniques and tips for effective classroom management.
32. Roles and responsibilities of an early childhood personnel - Characteristics and qualities of a preschool teacher.

<b>STUDENT READY PROGRAMME</b>		<b>40(0+40)</b>
<b>VII SEMESTER</b>		
<b>READY- 411</b>	<b>Experiential Learning Programme (Any 2modules out of 4 with 10 credits each)</b>	<b>20(0+20)</b>
Module -1	Event management	10 credits
Module - 2	Media products development for marketing promotion	10 credits
Module - 3	Nutraceuticals and health foods	10 credits
Module - 4	Value added textiles and Apparel	10 credits

#### **Practical Outlines**

1. Study on the effect of reinforcement on learning
2. Study on effect of motivation on learning
3. Study on effect of discipline on learning
4. Planning the different methods of classroom teaching
5. Implementing different methods of classroom teaching
6. Administering the classroom evaluation tests – teacher made test
7. Administering the classroom evaluation tests – standardized test
8. Observation of Programme in ECE center
9. Preparation of curriculum plans in ECE
10. Developing activities to promote all round development-Gross and fine motor skill, cognitive skills
11. Developing activities to promote all round development- language skills, creativity and socio emotional skills
12. Conducting developed activities to promote all round development- Gross and fine motor skill, cognitive skills
13. Conducting developed activities to promote all round development- language skills, creativity and socio emotional skills
14. Planning and preparation of suitable teaching learning materials used for preschool children
15. Organizing programme for Parent participation
16. Final Practical Examination

#### **References**

1. Chauhan,S.S (1983).Advanced Educational Psychology. Vikas publishing house, PVT ltd.
2. Dash B.N.(2008).A text book of Educational Psychology. Dominant publishers and distributors, New Delhi.
3. Gupta, M.Sen (2009). Early Childhood Care and Education.PHI learning private limited, NewDelhi.
4. Mazur, J.E. (1986). Learning and behaviour. Prentice Hall, New Delhi.
5. Wortham,S.C(2012).Assessment in Early Childhood Education.Pearson.

#### **Module -1 Event Management**

<b>STUDENT READY PROGRAMME</b>		<b>40(0+40)</b>
<b>VII SEMESTER</b>		
<b>READY- 411</b>	<b>Experiential Learning Programme (Any 2modules out of 4 with 10 credits each)</b>	<b>20(0+20)</b>
Module -1	Event management	10 credits
Module - 2	Media products development for marketing promotion	10 credits
Module - 3	Nutraceuticals and health foods	10 credits
Module - 4	Value added textiles and Apparel	10 credits
<b>EL Activity</b>		<b>No. of Credits</b>
		<b>Marks</b>

<b>Particulars</b>	<b>1<sup>st</sup> month (30 days)</b>	<b>2<sup>nd</sup> month</b>	<b>3<sup>rd</sup> month</b>
Orientation	2 days		
Developing a business plan	3 days		
Training in Advance Skills	25* days		
Plan for production	3 days		
Production		55 days	
Sales			
Documentation and reports			5 days
Presentation and oral examination			2 days
<b>Orientation</b>			
<b>Developing a Business Plan/ Project proposal</b>			
Identification of the product to be manufactured, Market Survey, Analysis of the existing status of the identified product and targeted market and customer, Innovativeness and Creativity, Preparation of the project proposal with supply chain of inputs, personnel plan, production plan, finance plan etc. and its preparation			1
<b>Plan for the Production</b>			
Organization of resources, Organizing Utility, Sequential grouping of activities, Packaging and storage, Product pricing physical inputs, man hours, depreciation etc.			1
<b>Production</b>			5
Regularity in production, Adhering to production plan, Product quality assessment, Maintenance of production records, Team work			250
<b>Sales</b>			2
Sales strategy, sales strategy, sales volumes, assessment of sales performance, profit generated including C/B ratio, payback period, etc.			100
<b>Documentation and Report Presentation and Evaluation</b>			1
<b>Total Credit</b>			<b>10</b>
			<b>500</b>

**Module – 2 Media products development for marketing promotion**

<b>Particulars</b>	<b>First</b>	<b>Second</b>	<b>Third</b>
Orientation	2 days		--
Developing business plan	--	Market survey and analysis	--
Training in advance skills	<ul style="list-style-type: none"> <li>• Content development, design and analytics</li> <li>• Web development and promotion for higher rating</li> <li>• Social media designing, development and management</li> </ul>		--

	<ul style="list-style-type: none"> <li>• Social marketing campaigns</li> <li>• Enterprise planning and management training</li> </ul>	
Plan for the production	--	Business plan, production
Sales	--	Marketing
Documentation and reports		Collection of metrics and ratings
Presentation and oral examination		Evaluation-Presentation and Viva

EL Activity	No. of Credits	Marks
Orientation		
<b>Developing a Business Plan/ Project proposal</b>	1	50
Identification of the product to be manufactured, Market Survey, Analysis of the existing status of the identified product and targeted market and customer, Innovativeness and Creativity, Preparation of the project proposal with supply chain of inputs, personnel plan, production plan, finance plan etc. And its preparation		
<b>Plan for the Production</b>		
Organization of resources, Organizing Utility, Sequential grouping of activities, Packaging and storage, Product pricing physical inputs, man hours, depreciation etc.	1	50
<b>Production</b>	5	250
Regularity in production, Adhering to production plan, Product quality assessment, Maintenance of production records, Team work		
<b>Sales</b>	2	100
Sales strategy, sales strategy, sales volumes, assessment of sales performance, profit generated including C/B ratio, payback period, etc.		
<b>Documentation and Report Presentation and Evaluation</b>	1	50
<b>Total Credit</b>	<b>10</b>	<b>500</b>

### Module - 3 Nutraceuticals and Health foods (Millet Biscuits)

Particulars	1 <sup>st</sup> month	2 <sup>nd</sup> month	3 <sup>rd</sup> month
<b>Orientation</b>	Orientation - 2 days	---	---
<b>Developing a Business plan</b>	Business plan - 1 day	---	---
<b>Training in Advance Skills</b>	Hands on training - 5 days	---	---
<b>Plan for the production</b>	Raw material procurement – 2 days	Machine Calibration Procuring raw material 2 days	Machine Calibration Procuring raw material 2 days
<b>Production</b>	Pre preparation - 3 days Production of biscuits – 14 Days Packing - 2 days	Pre preparation - 9 days Production of biscuits - 17 days	Pre preparation 9 days Production of biscuits 16 days
<b>Sales</b>	Bulk supply of biscuits – 1 day	Bulk supply of biscuits – 1 day	Bulk supply of biscuits – 1 day

<b>Documentation and Reports</b>	--		Documentation - 1day Report writing - 2 days
<b>Presentation and Oral Examination</b>	--	---	Presentation and VIVA - 1 day

<b>EL Activity</b>	<b>No. Of Credits</b>	<b>Marks</b>
Orientation		
<b>Developing a Business Plan/ Project proposal</b>	1	50
Identification of the product to be manufactured, Market Survey, Analysis of the existing status of the identified product and targeted market and customer, Innovativeness and Creativity, Preparation of the project proposal with supply chain of inputs, personnel plan, production plan, finance plan etc. And its preparation		
<b>Plan for the Production</b>		
Organization of resources, Organizing Utility, Sequential grouping of activities, Packaging and storage, Product pricing physical inputs, man hours, depreciation etc.	1	50
<b>Production</b>	5	250
Regularity in production, Adhering to production plan, Product quality assessment, Maintenance of production records, Team work		
<b>Sales</b>	2	100
Sales strategy, sales strategy, sales volumes, assessment of sales performance, profit generated including C/B ratio, payback period, etc.		
<b>Documentation and Report Presentation and Evaluation</b>	1	50
<b>Total Credit</b>	<b>10</b>	<b>500</b>

#### Module – 4 Value added textiles & apparel

<b>Particulars</b>	<b>1st Month</b>	<b>2<sup>nd</sup> Month</b>	<b>3<sup>rd</sup> Month</b>
Orientation	2 days		
Developing a Business plan	3 days		
Training in Advance Skills	8 days		
Plan for the production	2 days		
Production		60 days	
Sales			
Documentation and Reports			7 days
Presentation and Oral Examination			7 days

<b>EL Activity</b>	<b>No. of Credits</b>	<b>Marks</b>
Orientation		
<b>Developing a Business Plan/ Project proposal</b>	1	50
Identification of the product to be manufactured, Market Survey, Analysis of the existing status of the identified product and targeted market and customer, Innovativeness and Creativity, Preparation of the project proposal with supply chain of inputs, personnel plan, production plan, finance plan etc. And its preparation		
<b>Plan for the Production</b>		
Organization of resources, Organizing Utility, Sequential grouping of activities, Packaging and storage, Product pricing physical inputs, man hours, depreciation etc.	1	50



<b>Production</b>	5	250
Regularity in production, Adhering to production plan, Product quality assessment, Maintenance of production records, Team work		
<b>Sales</b>	2	100
Sales strategy, sales strategy, sales volumes, assessment of sales performance, profit generated including C/B ratio, payback period, etc.		
<b>Documentation and Report Presentation and Evaluation</b>	1	50
<b>Total Credit</b>	<b>10</b>	<b>500</b>

<b>VIII SEMESTER</b>		
READY-421	RAWE	10(0+10)
READY-422	Skill Development Training/Internship	10(0+10)
	Total	20(0+20)