UNIVERSITY OF RAJASTHAN
JAIPUR

SYLLABUS

M.SC. Home Science

(i) Human Development & Family
(ii) Foods & Human Nutrition
(iii) Development Communication & Extension

Semester Scheme

I/II Semester Examination 2016-2017
III/IV Semester Examination 2017-2018
Scheme of Examination:

1. Each theory paper EoSE shall carry 100 marks. The EoSE will be of 3 hours duration. Part ‘A’ of the theory paper shall contain 10 Short Answer Questions of 20 marks, based on knowledge, understanding and applications of the topics/texts covered in the syllabus. Each question will carry two marks for correct answer.

2. Part “B” of paper will consist of four questions as suggested below except in cases where a different scheme is specified in the syllabus.

   - First question will contain 6 parts out of which 4 to be answered carrying weightage of 5 mark each. Word limit for each answer will be 50-70 words.
   - There shall be 3 questions (with internal choice) of 20 marks each. The word limit for each answer will be 1000 words.

3. Each laboratory EoSE will be of four/six hours duration and involve laboratory experiments/exercise and viva-voce examination with weightage in ratio of 75:25.

Course Structure:
The details of the courses with code, title and the credits assigned are as given below.

Abbreviations used:
Course category:
CCC: Compulsory Core Course
ECC: Elective Core Course
SSECC: Self Study Elective Core Course
SSCCC: Self Study Compulsory Core Course
DIS: Dissertation

Contact hours
L: Lecture
T: Tutorial
P: Practical
## FIRST SEMESTER

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<td>Life Span Development - I</td>
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<td>7.</td>
<td>HDF A11</td>
<td>Skill Training in Development of Children</td>
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<td>8.</td>
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<td>Innovative and Creative Skills in Children</td>
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<td>Approaches to Human Study</td>
<td>ECC</td>
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CCC (18), ECC (18)
# FIRST SEMESTER

**HISTORY AND THEORIES OF HUMAN DEVELOPMENT-I (THEORY)**

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<td>Credits:</td>
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<td>Total Teaching Workload:</td>
<td>60 Hours /Semester</td>
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## Objectives:
1. To acquaint the students with the basic knowledge and concepts of theories on personality and socialization.
2. Help students gain insights into understanding complex psychological influences.

## Contents:
### Unit-I
1. Historical perspectives and the trends in theoretical and empirical approaches to child/human study and its relevance for pedagogy, psychotherapy and Intervention programmes.
2. Principles, basic concepts, critique, implications and comparative analysis of the following theories:
   - Psycho-analytic theory of Sigmund Freud
   - Psycho-social theory of Erik Erikson
   - Carl-Jung’s theory of personality

### Unit-II
3. Principles, basic concepts, critique, implications and comparative analysis of the following theories: - Theories by Neo-Freudians
   - Karen Horney
   - Harry Stack Sullivan
   - Eric Fromm
   - Anna Freud

### Unit-III
4. Allport’s theory of personality
   - Adler’s theory
   - Maslow’s theory of Self-actualization

## References:

<table>
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<th>FOUNDATIONS OF HUMAN DEVELOPMENT (THEORY)</th>
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<tr>
<td>1. To enable students to understand the principles and processes of genetic reproduction, causes and characteristics of genetic Anomalies</td>
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<td>2. To understand recent advances, importance of critical period, growth and human development.</td>
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<thead>
<tr>
<th>Contents:</th>
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<tbody>
<tr>
<td>UNIT–I</td>
</tr>
<tr>
<td>1. Principle of Human Development</td>
</tr>
<tr>
<td>2. Basic of Human Development: Genes and Chromosomes, Heredity and Environment, Meaning and Interactions of Heredity and Environment, Chromosomal Anomalies, Recent Advances in Genetics, Genetics counseling.</td>
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<tr>
<th>UNIT–II</th>
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<tr>
<td>3. Basic themes in Human Development</td>
</tr>
<tr>
<td>a) Active Vs Passive organism</td>
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<td>b) Continuity Vs Discontinuity in development</td>
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<td>c) Learning Vs Maturation</td>
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<td>d) Cognition Vs Language</td>
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<th>UNIT–III</th>
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<tr>
<td>5. Stages of prenatal development, prematurity and low birth weight babies. Factors Affecting Growth and Development.</td>
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| References:                              |

**EARLY CHILDHOOD CARE AND EDUCATION (THEORY)**

**Paper Code:** HDF 703  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 hours/week  
**Total Teaching Workload:** 60 hours/semester

**Objectives:**
1. To gain knowledge and insight regarding early childhood care and education.
2. To develop the skills and techniques to plan activities and implement in ECCE Centres i.e. crèches and day-care centres, preschool and anganwadi centres.
3. To gain knowledge and skills of positive discipline, behaviour modification and role of special educator.
4. The students will also learn to evaluate ECCE centers.

**Unit I**
1. Need and importance of early childhood care and education (ECCE)  
2. Goals of ECCE: Theoretical and empirical perspectives.  
4. Effective Teaching and Learning Strategies in ECCE. Different Curriculum models in ECCE

**Unit II**
5. Developmentally appropriate curriculum/programme (DAC/DAP) and Program planning. Principles of planning, long and short term planning, small group and large group planning. Selection of activities and teachers’ role to facilitate learning of different concepts such as language, Rhythm, Mathematics, Science, 3R’s, Sensory experiences.
6. Organizational Set Up: Preschool building, site and location, plans for various types, learning centers, space allotment for Indoor and outdoor play.  
   a) Criteria of selection of Preschool staff and their qualifications

Characteristics of a quality ECCE Program.
Unit III

7. Planning of developmentally appropriate ECCE activities: Goals, significance, objectives, criteria.

References:


EARLY CHILDHOOD CARE AND EDUCATION (Practical)

Paper Code: HDF 711
Credits: 6
Max. Marks: 100
Teaching Hours: 3 practicals/week (3 hours/practical)
Total Teaching Workload: 45 practicals/semester

Objectives:
1. To develop the skills and plan and implement activities in ECCE Centres i.e. crèches and day-centres, preschool and anganwadi centres.
2. The students will also learn to evaluate ECCE centres.

Contents:
1. Visits to various centres of early childhood care and education (ECCE).
2. Planning Programme and activities for Children’s all round Development: Preparing Teaching Aids.
3. Arranging of learning centres to facilitate learning of different concepts.
4. Placement and Observation in different Early Childhood Education and Day Care Centres.
5. Organising Parent Teacher Meets, Celebration of festivals/functions, workshops and open house for parent involvement.
# RESEARCH METHODOLOGY (THEORY)

**Paper Code:** HDF A01  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours/Week  
**Total Teaching Workload:** 60 Hours/Semester

## Objectives:
1. To understand the basic concepts of research methodology.  
2. To be able to understand the various steps of research methods.  
3. To enable the students to understand various research designs, sampling techniques, methods of collecting data.  
4. To enable the students to prepare and present report for dissertation purpose.

## Contents:

### UNIT- I
1. Research purpose and objectives.  
2. Definition and Identification of research problem, selection of problem, hypotheses, basis assumption and limitation of problem.  
3. Review of literature: Importance, sources and writing review of literature.  
4. Research designs: Purpose and types.

### UNIT-II
5. Technique of sampling- Census and sampling methods, probability and non-probability sampling procedures, sample size.  
6. Data gathering instruments, measurements and scales, reliability and validity of measuring instruments- Questionnaire, Schedule, Score card, Checklist.  
7. Methods of collecting data: Questionnaire, interview technique, observation, case study, focus group discussion.

### UNIT-III
8. Planning, executing and analysis of large scale surveys with special emphasis of surveys in Home Science.  

## References:

**LIFE SPAN DEVELOPMENT – 1 (THEORY)**

**Paper Code:** HDF AO2  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours /Week  
**Total Teaching Workload:** 60 Hours/Semester

**Objectives:**

1. To acquaint students regarding the prenatal developmental processes and prenatal and neonatal assessment.
2. To help students gain an understanding of the growth and development from infancy to late childhood.

**Contents:**

**UNIT –I**

1. **Infancy:**
   - Developmental tasks/ milestones
   - The Neonate (Birth to 4 weeks) – Reflexes, Physical, Physiological, Sensory
   - Perceptual Capabilities.
   - 4 weeks up to 2 years: Physical and Motor, Social, Emotional, Language and
   - Cognitive Development.

**UNIT –II**

2. **Early Childhood Years**
   - Physical and Motor Development, and Handedness, Emotional and Social
   - Development, Cognitive, Language and Moral Development of Children in Early Childhood Years.

3. **Middle and Late Childhood Years**
   - Physical and Motor Development, Emotional and Social development, Cognitive, Language and Moral Development of children in Middle Childhood Years.

**Unit- III**

4. **Adolescence: Development and Challenges**
   - Characteristic of pubertal changes.
   - Period of Storm and Stress; Physical changes, Hormonal and Physiological changes.
• Growth spurt, Individual Differences and Early versus Late Maturation. Reproductive and
• Sexual Development.
• Social Development of Adolescents, Significance of Peers and Family; Heterosexual
• Attractions, Homosexuality, Parent – Child relationships and Discipline/freedom.
• Understanding Adolescents' Emotional, Cognitive and Moral Development.

References:

1. Narang D; Chabra N&Koradia K (2010). Adolescent girls: awareness rights and
reproductive health, Pointer publishers, Jaipur
2. Moorjani J; Narang D&Manika (2009). Bal Vikas Ka Manovigyan, ShriKavitaPrakashan,
Jaipur
Iowa.
New Delhi.
Jaipur
Adolescence( 7th Ed). Thompson Wadsworth. Australia
Research and Applications. Sage Publications. New Delhi:

SKILL TRAINING IN DEVELOPMENT OF CHILDREN (PRACTICAL)

Paper Code: HDF A11
Credits: 4
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/Semester

Objectives:
1. To a quaint student to gain knowledge regarding the development processes during neonatal
period.
2. To help students gain understanding of the assessment of developmental task from infancy to late
childhood.

Contents:
1. Observation of Neonatal Reflexes.
2. Anthropometric Measurement and Assessment of Children in Different Age Groups and Settings: Plotting and interpretation of Growth Charts.
3. Assessment of various Developments of Infants.
6. In-depth Case Study of a Selected Child.

**INNOVATIVE AND CREATIVE SKILLS IN CHILDREN (PRACTICAL)**

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<td>Total Teaching Workload: 30 Practicals/Semester</td>
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**Objectives:**
1. To help students understand, plan and develop activities for children in ECCE centres.
2. To develop creative skill among students for the overall assessment of Child Care centres.

**Contents:**
1. Meaning, Definition and Significance of Play and Creativity in Growth and Development of children.
2. Types of Play: Exploratory, Solitary, Parallel, Symbolic, Constructive, Dramatic/role play, Cooperative play, individual play, Group Play, Sports, Games.
3. Components of Creativity: Fantasy, Imagination, Giftedness, Fluency, Flexibility, Originality, Celebration and Curiosity.
5. Planning and Implementation of Play and Creative Activities with Children in Different Age Groups.
6. Preparation of Materials and Aids to Promote Play and Creativity.

**APPROACHES TO HUMAN STUDY (PRACTICAL)**

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<td>Univ. Appt. Comm. JAIPUR</td>
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</table>
**Objectives:**
1. To help the students gain knowledge of methods of Human Study.
2. Apply these methods with different age groups, hence covering the life span stages of human development.

**Contents:**
1. Needs and Importance of Human Study. Different Approaches to Human Study: Cross sectional approach, longitudinal approach, and sequential approach.
2. Methods of Human study: observation, survey, interview, questionnaire, experiment, case study, sociometry, and focus group discussion – Merits and Demerits.
3. Quantitative and Qualitative Approaches to Human Study.
4. Applications of Methods in Different Stages of Life.
### SECOND SEMESTER

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CCC(18), ECC(18)
SECOND SEMESTER

HISTORY AND THEORIES OF HUMAN DEVELOPMENT – II (THEORY)

Paper Code: HDF 801
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester

Objectives:
1. To acquaint the students with the basic knowledge and concepts of theories on learning, cognition, intelligence, culture and morality.
2. To help them to gain insights into understanding of complex psychological influences.

Unit -I

Principles, basic concepts, critique, implications and comparative analysis of the following theories:
2. Learning Theories with reference to Pavlov, Watson, Skinner, Harlow, Bandura and Sears.

Unit -II

3. Field theory of Levin.
4. Gardner's theory of Multiple Intelligence.
5. Ecological Theory by Bronfen Brenner.

Unit -III

7. Chomsky’s theory of language.

References:

PHILOSOPHIES, IDEOLOGIES AND APPROACHES OF ECCE (THEORY)

Paper Code: HDF 802
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester
**Objectives:**
1. To gain knowledge and insight regarding Philosophies of early childhood care and education
2. To understand the contributions of Indian thinkers and educators for ECCE.
3. To gain knowledge regarding types of ECCE programmes.

**Unit - I**
1. Historical perspectives of ECCE in the West and in India.
2. Philosophies and contributions of Western Thinkers and Educators
   - Plato
   - Commonius
   - Rousseau
   - Mcmillan Sisters
   - Froebel
   - John Dewey
   - Maria Montessori

**Unit - II**
3. Philosophies and contributions of Indian thinkers and educators.
   - M.K. Gandhi
   - Rabindranath Tagore
   - Annie Besant
   - Gijubhai Badheka
   - Tarabai Modak and Anutai Wagh

**Unit - III**
4. Types of ECCE programmes
   - Head start
   - Balwadi
   - ICDS / Anganwadi
   - Nursery school
   - Day care centre and crèches

**References:**
EARLY CHILDHOOD CARE AND EDUCATION (THEORY)

| Paper Code: HDF 803 |
| Credits: 4 |
| Max. Marks: 100 |
| Teaching Hours: 4 hours /week |
| Total Teaching Workload: 60 hours /semester |

Objectives:
1. To gain knowledge and insight regarding early childhood care and education.
2. To develop the skills and techniques to plan activities and implement in ECCE Centres i.e. crèches and day-care centres, preschool and anganwadi centres.
3. To gain knowledge and skills of positive discipline, behaviour modification and role of special educator.
4. The students will also learn to evaluate ECCE centres.

Unit - I

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<tr>
<td>1.</td>
<td>Focus on Early Childhood Care and Education in five years plans.</td>
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<tr>
<td>2.</td>
<td>Organisation and management of ECCE centres.</td>
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<tr>
<td>3.</td>
<td>Planning and execution of developmentally appropriate activities for infants and preschoolers in: (a) Crèches and day-care centres (b) Preschools and Anganwadis</td>
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Unit - II

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<td>5.</td>
<td>Need and Importance of involvement of parents/grandparents in ECCE centres e.g. as substitute teacher, celebration of festivals and functions, open house, as an expert etc.</td>
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<tr>
<td>6.</td>
<td>Techniques of Parent Education i.e. PTM, Home Visits, Workshops, Lectures, Telephonic calls, Demonstrations, PTAs and any other relevant technique.</td>
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Unit - III

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<td>9.</td>
<td>Role of special educators in ECCE Centres to facilitate inclusive education.</td>
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<td></td>
<td>Evaluation: - Definitions and meaninad types of evaluation, Informal / Ongoing evaluation, Formative and Summative evaluation. Techniques/tools for evaluation: Observations, structured interviews, work records, checklists and rating scales, self-evaluation, standardized tests i.e. norm referenced tests and criterion-referenced tests.</td>
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References:


**PARENTHOOD AND FAMILY (THEORY)**

**Paper Code:** HDF 804  
**Credits:** 2  
**Max. Marks:** 100  
**Teaching Hours:** 2 hours/week  
**Total Teaching Workload:** 30 hours/semester

**Objectives:**
1. To gain knowledge and insight regarding responsible parenthood and fatherhood.  
2. To gain knowledge of reproductive health and rights, family planning techniques and services.

**Unit-I**
1. Parenthood: meaning and different theoretical views.  
2. Changing concept of parenthood with special focus on fathering and responsible parents.

**Unit-II**
3. Contribution of different agencies and centers in parenthood:  
   - Family planning centers, Hospitals, Maternity and child welfare centers.  
4. Reproductive and child health programs and reproductive rights of women.

**Unit-III**
5. Birth control measures: abstinence, breast feeding, pills, sponge, condom, IUD, spermicide, tubectomy, vasectomy, cervical cap, diaphragm and other advanced measures.  
6. Planned Parenthood services: safe abortion, HIV testing, pregnancy testing, general health care, STD testing: treatment and vaccines.

**References:**

**ASSESSMENT AND EVALUATION OF PSYCHOLOGICAL TESTING (PRACTICAL)**

**Paper Code:** HDF 811  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 2 Practicals/Week (3 Hours/Practical)  
**Total Teaching Workload:** 30 Practicals/semester

**Objectives:**
1. The students will be able to understand the use of psychological tools.  
2. The students will be able to develop instruments/ psychological tools.  
3. The students will be able to administer score and interpreter the various psychological tests.
Contents:

1. Definition of Measurement, Assessment and Evaluation.
2. Characteristics and use of psychological testing and tools.
3. Common statistical notations and definitions – constant, variable, population, sample, parameter, etc.
4. Standardized tests – meaning, characteristics, types, item analysis, basic concepts of measurement and interpretation.
5. Steps for tool construction and standardization.
   • Reliability-meaning, types-retest; parallel-form, internal consistency.
   • Validity-meaning, types-content, criterion, construct.
   • Norms and interpretation of test score.
6. Administration of test and report writing:
   The Wechsler battery of tests, TAT, CAT, Draw a man test, house- tree-person, Ravens Progressive Matrices, Self-Esteem Inventory, Sex-role Inventory, Myers Briggs type indicator etc.

References:


STATISTICS (THEORY)

Paper Code: HDF B01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives

1. To understand the basic concepts of statistics.
2. To enable the students to understand various types of statistical tools and their interpretation

Contents:

UNIT I

1. Statistics: meaning, scope and importance in research
2. Classification and Tabulation
3. Measures of Central Tendency and Dispersion (Mean, Median, Mode, Quartiles, Range and Standard Deviation).
4. Graphic and Diagrammatic representation of data (Frequency, Histogram, Graphs, Bar-diagram and Pie charts).

UNIT II

6. Elements of testing a Statistical Hypothesis- Formulation of the problem, Definition of type I and II errors. Level of Significance, t-test, Z-test.
UNIT-III

7 Design of Experiment: Analysis of Variance
8 Correlation and Regression: Correlation and its interpretation. Product moment and Rank order. Correlation Coefficient Regression Equations (without derivation) and its interpretations, use of prediction.
9 Non-parametric Inference: Sign, Mann Whitney and Chi square test (as goodness of fit and independence of attributes in 2*2 and r*c contingency tables).
10 Use of computers for statistical analysis using SPSS.

References:

LIFE SPAN DEVELOPMENTS -II (THEORY)

Paper Code: HDF BO2
Credits: 4
Max. Marks: 100
Teaching Hours: 4 hours/week
Total Teaching Workload: 60 hours/semester

Objectives:
1. To acquaint students regarding the prenatal developmental processes and prenatal and neonatal assessment.
2. To help students gain an understanding of the growth and development from infancy to late childhood.

Unit- I

1. Late Adolescence
   • Problems and challenges of late adolescence.
   • Understanding adolescence emotional, cognitive, and moral development.
   • Adolescence: Erikson and Maria’s model.
   • Significant issues in Adolescence: Rebellion and Conflict with Home and School Authorities.
Delinquency and Psycho – emotional Problem, Educational and career Choices and Curricular Interests.

2. Early Adulthood:
   - Understanding developmental tasks of early adulthood (18-40 years)
   - Period of youth (18-25 years) and its challenges
   - Choices in career and marriage
   - Interpersonal and Intrapersonal adjustments
   - Preparation for Parenthood and child rearing, roles and responsibility
   - Significant issues in adulthood: Live-in-relationship, Being single, Divorce, Remarriage, Gay marriage, DINKS, Adoption and single parent adoption.

Unit - II

3. Middle Adulthood/Middle age
   - Challenges, adjustments and developmental tasks of middle adulthood (40-60 years)
   - Onset of climacteric changes: Menopause and Andropause, mid life crises
   - Adjustment and management of health needs, increasing status and pressure in work and career;
   - Familial stage of “empty nest”
   - Social responsibilities and leisure time activities.
   - Preparation of settlement of children and retirement.

Unit - III

4. Late Adulthood and Aging:
   - Challenges and Adjustment during late adulthood and aging (60-onwards).
   - Declining physical/motor, memory and sensory capacities.
   - Adjustment with changes in familial situation, losing of life partner or significant others and facing grief and loss;
   - Financial adjustment, organizing social life and activities.
   - Factors to “successful aging”.

References:

COMPUTER APPLICATION (PRACTICAL)

Paper Code: HDF B11
Credits: 2
Max. Marks: 100
Teaching Hours: 1 Practical/Week (3 Hours/Practical)
Total Teaching Workload: 15 Practicals/Semester

Objectives:
1. To understand the basic fundamentals of computers and role of computers in research application.
2. To enable the students to handle computers for the purpose of data communication and internet browsing.
3. To enable the students to use MS office and basic concepts in SPSS

Contents:

Introduction
1. Classification of computers and computer memory.
2. Types of software: Application and System software, Operating System and Types: Single user, multiuser.

Data Communication and Networks
3. Data communication concept
4. Internet, web-e-mails
5. Search engines- Enterprises: e-communication and e-collaboration

MS Office and its Application
6. File handling in windows
7. MS Word: Text formatting
8. MS Excel: Features, various formula and functions
9. MS Power Point: Creating presentation and adding effects

Statistical Software for Social Sciences (SPSS)
10. Introduction to SPSS: Definition, objectives and features.
11. Data analysis using SPSS: Data entry, creating variables, switching to data labels.
12. Data analysis: frequencies, recording into different variables, cross tabulation and layers.

References:

ADOLESCENT AND ADULT ISSUES (PRACTICAL)

Paper Code: HDF B12
Credits: 4
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/Semester

Objectives:
1. To acquaint students to gain knowledge regarding the development processes during adolescent period.
To help students gain an understanding of the assessment of social, emotional, psychological and other significant issues related to adolescence, adulthood and ageing years.

**Contents:**

1. Formulation of questionnaire to assess adolescent problems and conflicts
2. Plan and organize FGD for adolescents for healthy and responsible psycho social behavior. Preparation of interview schedule for adults taking into account their developmental tasks.
3. Organising interactive session and focus group discussions on significant issues of adulthood.
4. Conversations and interviews and case study with elderly to highlight their concerns, anxieties, adjustment and other problems. Planning and organising social activities with elderly.

**SKILL DEVELOPMENT IN WELFARE AGENCIES (PRACTICAL)**

**Paper Code:** HDF B13  
**Credits:** 4  
**Max.Marks:** 100  
**Teaching Hours:** 2 Practicals/Week  
**Total Teaching Workload:** 30 Practicals/Semester (3 Hours/Practical)

**Objectives:**

1. The students will visit and be acquainted to functioning of different welfare agencies working for children, women and elderly.
2. They will also participate and be enabled to produce a blue print for the same.

**Contents:**

1. Preparation of a checklist to assess: administration, management, infrastructure facilities and functions of child, women and elderly people welfare institution (Govt. and NGOs).
2. Preparation of a checklist to assess governmental provisions and polices on child, women and elderly people welfare.
3. Organising field visits (5-6) to various welfare organisations working for Children, Women and ageing adults.
4. Critical analysis of any two welfare institutions through participatory approach and Preparation of a blue print with suitable recommendations.
## THIRD SEMESTER

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CCC (18)  ECC (18)
THIRD SEMESTER

CHILDREN WITH DEVELOPMENTAL DISABILITIES (THEORY)

Paper Code: HDF 901
Credits: 4
Max.Marks:100
TeachingHours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives:
The student will be able to
1. Summarize causes, incidence and characteristics of exceptionalities related to the domains of development.
2. Define areas of exceptionality and special education.
3. Identification of exceptionality as to genetic and/or environmental causes
4. Discuss prevalence and/or incidence of different categories of exceptionalities.
5. Describe possible signs or characteristics of each area of exceptionality.

Contents:
UNIT–I
1. Meaning and definition of developmental disabilities.
2. Definition, causes, types, treatment, and rehabilitation of children with Neurological disorders-Intellectual disability, Autism, Down’s syndrome, fragile X syndrome, Cerebral palsy, Epilepsy.

UNIT–II
3. Definition, causes, types, treatment, and rehabilitation of children with sensory disabilities- visual impairment, auditory impairment, speech impairment.
4. Definition, causes, types, treatment, and rehabilitation of children with metabolic and degenerative disorders-phenylketonuria, hypothyroidism, Rett syndrome
5. Learning disabilities

UNIT–III
6. Inclusive, integrated and special schools
7. Rights, programs, policies and acts of children with developmental abilities.

References:

RIGHTS, LAWS AND POLICIES FOR CHILDREN, WOMEN AND ADULTS (THEORY)

Paper Code: HDF 902
Credits: 4
Max.Marks:100
TeachingHours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives:
1. To develop awareness of constitutional provisions and legislations for women and children.
2. To acquire critical knowledge of the adequacy and relevance of prevalent social policies and programs as they relate to women, elderly and children.
3. To gain in depth understanding of the “Rights and Laws”
### Contents:

**UNIT – I**


**UNIT – II**

2. Laws and Legislative Rights Pertaining to Women:
   - Hindu Marriage Act
   - Dowry Prohibition Act
   - Hindu Succession Act
   - Child Adoption Act
   - Juvenile Justice Act
   - Right to Education Act 2009
   - Right to Information Act
   - PNDT 1994
   - Other relevant laws related to women and children (in brief)

**UNIT – III**

4. Welfare Programmes and concerned Issues in South Asian Countries, with focus on India.

### References:


### GUIDANCE AND COUNSELLING (THEORY)

**Paper Code:** HDF 903  
**Credits:** 4  
**Max.Marks:** 100  
**Teaching Hours:** 4 Hours/Week  
**Total Teaching Workload:** 60 Hours/Semester

### Objectives:

1. To develop basic counseling skills  
2. To develop different approaches to counseling

### Contents:

**UNIT – I**

1. Meaning, Aim, Scope and Principles of Guidance  
2. Areas of guidance – educational, vocational and personal  
3. Guidance services

**UNIT – II**

4. Meaning, aim, scope and principles of counselling  
5. Approaches to counselling- person centred, Gestalt, Psychoanalytic, cognitive, Trait factors, Behavioural and eclectic approach  
6. Goals of counselling – counselling process – characteristics of a counsellor
UNIT -III

7. Assessment Techniques - Important Factors – Tools of Assessment
8. Special areas of counselling
9. Counselling with special children
10. Recording and interpretation of a counselee from a holistic perspective

References:

DEVELOPING ENTREPRENEURIAL SKILLS (PRACTICAL)

Paper Code: HDF 911
Credits: 4
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals /Semester

Objectives:
1. To orient students for various Entrepreneurial Skills.
2. To help students to learn the planning, organizing and executing Entrepreneurial Skills.
3. Students will be able to use these skills in future.

1. Preparing teaching/play materials:
   • Story, Rhymes, Poems, Song booklets etc.
   • Puppets and Mobiles.
   • Art and Crafts.
   • Low cost Musical Instruments.
2. Planning and organizing activities like BalMela, PTM, Sports day, Annual day etc.
3. Publicity, display and exhibition of prepared materials.

AGENCY PLACEMENT (PRACTICAL)

Paper Code: HDF 912
Credits: 2
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals /Semester

Objectives:
1. Students are required to be placed in an agency for a full semester.
2. Students will observe, learn and participate in selected agencies of children, women and elderly persons.
3. Students will require evaluating the working of the agency; highlighting strengths and weaknesses making recommendations.
Contents:
1. Visit to child, women and elderly welfare agencies/shelter homes (minimum 2 each)
2. Plan, prepare and implement program for overall development, recreation and education of inmates the agency.
3. Placement experience - report writing and presentation

SCIENTIFIC WRITING (THEORY)

Paper Code: HDF C01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives:
1. To be able to appreciate and understand the importance of writing scientifically
2. To develop competence in writing and abstracting skills for different writing needs
3. To develop the writing ability and to review different types of scientific literature

Content

UNIT - I

1. Overview of different types of scientific writing for:-
   a. Dissertation
   b. Research Article/ Scientific paper
   c. Abstract
   d. Review paper

Reports and Monographs

2. Formulating outlines as a starting device and filling in the outlines-
   a. Topic outline
   b. Conceptual outline
   c. Theme outline

3. Tables and illustrations and systematic means of presenting data-
   a. Table, flowcharts, footnotes
   b. Graph, diagrams.

UNIT - II

4. Components of scientific writing-
   a. Introduction and objectives
   b. Review of literature
   c. Methods and materials
   d. Results and discussion
   e. Summary and conclusion
   f. Limitations, recommendations and future Scope
UNIT- III

Preventing drafts and improving drafts for Scientific writing-

a. Research Article/ Scientific paper
b. Abstract
c. Review paper
d. Reports

Writing and presenting a research proposal for grants-

da. Background information
b. Justification
c. Rationale and importance
d. Pilot study
e. Research proposal
f. Time-frame
g. Outcome of the study and its implications
h. Budgeting
i. Summary

References-


FAMILY DYNAMICS (THEORY)

Paper Code: HDF CO2
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester

Objectives:
1. To understand family as a component of socio-cultural milieu and context, to familiarize students with developmental perspective in family life cycle.
2. To understand variations in family life patterns.
3. To create awareness regarding philosophy, structure, function, needs and strengths of families with specific reference to the Indian Family.

Contents:
UNIT-I

UNIT-II

UNIT-III
7. Major Factors Affecting Personality, Impact of deprivation on the child.

References:

GUIDANCE AND COUNSELLING (PRACTICAL)

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Objectives:
1. The students will be able to develop a tool.
2. The students will be able to counsel different age groups.
Contents:
1. Visit to psychological counseling cell
2. Writing and compiling articles on various aspects of guidance and counselling.
3. Need assessment of individual guidance and counseling by suitable tool.
4. Prepare an interview schedule for an effective Counseling.
5. Visit a guidance centre and write a report about its organization and functions.
6. Case profile of an individual.

References:

Dissertation- 1 (Practical)

Paper Code : HDF C12
Credit: 6
Maximum Marks: 100
Teaching Periods: 3 Practicals/Week
Teaching Load: 45 Practicals/Semester

Objectives:
1. To enable student to make and present a plan for research
2. To impart systematic and practical knowledge of research and its applied aspects
3. To develop scientist quality in student

Contents:
1. Identification, analysis and selection of research problem and its relevance
2. Collecting relevant review and research paper regarding to research problem
3. Synopsis writing and power point presentation
   - Introduction
   - Rationale of the study
   - Objectives
   - Review of literature (minimum 20 references should be cited)
   - Brief methodology
   - Plan of action
   - Bibliography

References:
1. Refer available journals, research studies and abstract books
## FOURTH SEMESTER

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CCC (18), ECC (14), SSECC (4)
**FOURTH SEMESTER**

**ADMINISTRATION AND MANAGEMENT OF WELFARE AGENCIES (THEORY)**

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**Objectives:**
1. To make students aware about administration and management of various government and non-government agencies, programs and policies related to nutrition, care and educational status of children in India.
2. To teach them about demographic profile of Indian population.

**Contents:**

**UNIT-I**

2. Welfare programs in India in five year plans.

**UNIT-II**

3. Existing Government organisations looking for welfare of children and women in India ICCW, CSWB, NIPCCD, NCERT, TNIP, EPAI, ICWS, CHEB, CRY, Helpage India.

**UNIT-III**

6. NGOs – Bodh, I-India, Digant, Vatsalya, Mother Teresa home and other existing nongovernmental organisations.

**References:**


**PSYCHOLOGICAL DISORDERS (THEORY)**

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Objectives:
1. The students will be able to describe the diagnosis and classification process.
2. The students will be able to describe mood disorders.
3. The students will be able to identify the different personality disorders.
4. The students will be able to discuss the characteristics and traits associated with the different personality disorders.

Contents:
UNIT – I
1. Meaning, definition of psychopathological disorders.
2. Childhood and adolescence psychiatric disorders-conduct disorders, ADHD.

UNIT – II
3. Mood disorders-depression, bipolar disorder.
4. Neurotic and psychotic disorders-phobia, obsessive compulsive disorder, schizophrenia, paranoia, hysteria.

UNIT – III
5. Personality Disorders:
   (a) Dissociative (b) Impulsive (c) Anti-Social (d) Borderline
   (e) Avoidance (f) Dependent Personalities.

References:
**CONTEMPORARY ISSUES IN HUMAN DEVELOPMENT (THEORY)**

Paper Code: HDF X03  
Credits: 4  
Max. Marks: 100  
Teaching Hours: 4 Hours/Week  
Total Teaching Workload: 60 Hours/Semester  

Objectives:  
1. To become aware of the current issues involved in Human Development.  
2. To gain knowledge, insight and to analyze critical issues in society.  

Contents:  
**UNIT – I**  
1. Changing trends across cultures, impact of media and advanced technologies in families and community  
2. Gender gap, Gender sensitization, Gender violence and equality  
3. Empowerment of various sections of society  

**UNIT – II**  
4. Definition, status and problems of child abuse and violence, situation of child labor in organized and unorganized sectors of India.  
5. Women and violence, types of violence, domestic violence, harassment at workplace, marital violence  

**UNIT – III**  
6. Understanding needs of special children and elderly persons  
7. Enabling family members and creating innovative support system for disabled  

References:  

**TRAINING AND WORKING WITH DISABLED CHILDREN (PRACTICAL)**

Paper Code: HDF X11  
Credits: 6  
Max. Marks: 100  
Teaching Hours: 3 Practical/Week (3 Hours/Practical)  
Total Teaching Workload: 45 Practical/Semester
Objectives:
The students will be able
1. To identify the special needs of children and develop confidence in them to realize their potentials and abilities to meet the national development with self respect, dignity and freedom.
2. To develop skills and competencies to cater to the needs of children with disabilities in general and special class settings in particular, in cognitive, affective and skill domains.

Contents:
1. Conduct special education assessment using appropriate assessment tools-Selection of 5 cases and develop need based assessment tools.
2. Plan and prepare individualized educational program (IEP)- Develop curriculum modules for selected cases.
3. Develop appropriate teaching learning material, implement, and evaluate and record the performance of the cases.

CROSS CULTURAL PSYCHOLOGY (THEORY)

Paper Code: HDF D01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives:
1. The field of cross-cultural psychology helps the students to understand the relationships between cultural context and human behavior.
2. The latter includes both overt behavior (observable actions and responses) and covert behavior (thoughts, beliefs, meanings)

Contents:
UNIT I
1. Introduction and Overview: Theoretical Perspectives
   - Meaning, Definition and Importance of Culture, Components of Culture, Culture change and Diversity, Advances - Culture and Technology
   - Nature, Importance and Scope of Cultural Psychology
   - Conceptual Models of Cross Cultural differences in Eastern and Western Cultures. A global Culture.
   - Research in Western and Non-Western Countries.
   - Methodological Issues in Cross-cultural Psychology

UNIT II
2. Applied Perspectives
   - Selected Topics in Cross-cultural Research
   - Family Structure and Child Rearing Practices
   - Intercultural Perception and Interaction
   - Cross-Cultural consideration in Health, Happiness and Illness.

UNIT III
3. Application in Cross-cultural Research
• Applied aspects of cross-cultural research.
• Development of educational programs,
• Cross-cultural communication; cross-cultural management; training programs for cross cultural transitions.

References:


FAMILY AND COMMUNITY STUDIES (PRACTICAL)

Paper Code: HDF D11
Credits: 4
Max.Marks:100
TeachingHours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/Semester

Objectives :
1. To develop skills and competencies among students to work in communities.
2. To understand various needs of parents and children with in families and plan and implement need based activities for them.

Contents:
1. Observation of daily routine of families and play activities of children in different socio-economic groups.
2. Survey of child rearing and disciplinary practices in rural/slum and urban settings.
**DISSEMINATION II (PRACTICAL)**

Paper Code: HDF D12  
Credits: 6  
Max. Marks: 100  
Teaching Hours: 3 Practicals /Week (3 Hours/Practical)  
Teaching Workload: 45 Practicals /Semester

**Objectives:**
1. To enable student to write and present thesis  
2. To impart systematic and practical knowledge of research & its applied aspects  
3. To develop scientist quality in student

| 1. | Data collection, analysis & interpretation of data in form graphs, charts, tables & others |
| 2. | Thesis writing and presentation I  
   - Introduction  
   - Review of literature  
   - Materials and methods  
   - Result and discussions |
| 3. | Thesis writing and presentation II  
   - Conclusion  
   - Summary  
   - Bibliography  
   - Annexures |
| 4. | Writing and submission of one research paper based on conducted research findings |

**References:** Refer available journals, research studies and abstract books

**Pre-requisite:** A student has to clear Dissertation I in IIIrd Semester to be eligible for Dissertation II in IVth Semester.

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**NEED BASED CARE OF ELDERLY (PRACTICAL)**

Paper Code: HDF D13  
Credits: 4  
Maximum Marks: 100  
Teaching Periods: 2 Practicals/Week (3 Hours/Practical)  
Teaching Load: 30 Practicals/Semester

**Objectives:**
1. To orient students about various needs of elderly persons  
2. The students will learn to work with elderly persons.

**Contents:**

| 1. | Identification and working with specific programs running for elderly persons. |
| 2. | Reporting and presentation with Audio Visual Aids. |
| 3. | Organizing and implementing various recreational activities catering to the needs of elderly persons |
| 4. | Interacting with two elderly persons from different demographic profiles. |
M.Sc. Home Science
FOODS AND HUMAN NUTRITION

First Semester Examination, 2016 - December

Scheme of Examination:

1. Each theory paper EoSE shall carry 100 marks. The EoSE will be of 3 hours duration. Part ‘A’ of the theory paper shall contain 10 Short Answer Questions of 20 marks, based on knowledge, understanding and applications of the topics/texts covered in the syllabus. Each question will carry two marks for correct answer.

2. Part “B” of paper will consist of four questions as suggested below except in cases where a different scheme is specified in the syllabus.
   - First question will contain 6 parts out of which 4 to be answered carrying weightage of 5 marks each. Word limit for each answer will be 50-70 words.
   - There shall be 3 questions (with internal choice) of 20 marks each. The word limit for each answer will be 1000 words.

3. Each laboratory EoSE will be of four/six hours duration and involve laboratory experiments/exercises, and viva-voce examination with weight-age in ratio of 75:25.

Course Structure:
The details of the courses with code, title and the credits assigned are as given below.

Abbreviations used:

Subject Code: FHN

Course category:
CCC: Compulsory Core Course
ECC: Elective Core Course
SSECC: Self Study Elective Core Course
SSCCC: Self Study Compulsory Core Course
DIS: Dissertation

Contact hours
L: Lecture
T: Tutorial
P: Practical
M.Sc. Home Science
FOODS AND HUMAN NUTRITION

First Semester

<table>
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<tr>
<th>S. No.</th>
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<td>Human Nutritional Requirements</td>
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CCC = 18, ECC = 18
Total = 36 credits
**SEMESTER I**

**NUTRITIONAL BIOCHEMISTRY- 1 (THEORY)**

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<tr>
<td>Teaching Hours : 4 Hours / Week</td>
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<tr>
<td>Total Teaching Workload: 60 Hours/ Semester</td>
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**Objectives:**
1. To augment the biochemistry knowledge acquired at the undergraduate level.
2. To understand the basic nature of bio molecules.
3. To become proficient for specialization in nutrition.
4. To understand the mode of action of hormones in the human body.

**Contents:**

**UNIT- I**

1. **Carbohydrates:** classification, isomers, rings structure, proof of ring structure, reaction due to CHO group, sugar derivatives of biological importance, polysaccharides (homoglucans and heteroglucans), detailed structure of starch.

2. **Lipids:** Classification, Structure and chemical properties and characterization of
   - Saturated and unsaturated, Fatty acids, essential Fatty acids and their importance
   - Steroids
   - Fat
   - Phospholipids: Rancidity – Definition, types, mechanism, prevention

**UNIT- II**

3. **Proteins:** Importance, classification of amino acids (Essential and Non Essential Amino Acids), reactions of amino acids, structure of proteins, properties, proof of peptides bond, methods of separation and determination of amino acids and peptides, estimation of amino acid sequence.

4. **Nucleic Acids:** Structure, importance and role of
   - Bases
   - Nucleotides
   - Nucleosides
   - DNA
   - RNA

**UNIT- III**

5. **Hormones:** mode of action and biochemical role of
   - Interstitial Cell Stimulation Hormones
   - Adreno Cortico Tropic Hormone
   - Follicle Stimulating Hormone
   - Growth Hormone
   - Thyroid Stimulating Hormone
   - Steroidal Hormone (Adrenal Cortex, Sex Hormones)

6. **Blood Chemistry** Composition, haemoglobin, erythropoiesis, plasma proteins (Types, properties and methods of separation of plasma proteins), coagulation of blood.

**References:**

FOOD SCIENCE AND QUALITY CONTROL (THEORY)

Paper Code : FHN 702
Credits: 4
Max. Marks: 100
Teaching Hours : 4 Hours / Week
Total Teaching Workload: 60 Hours / Semester

Objectives :
1. To enable students to understand the physico-chemical properties of foods.
2. To make the students aware about effects of common food processing techniques on food.
3. Understand and know various aspects of food product development.

Contents :

UNIT - I
1. Physical, chemical and functional properties of protein, carbohydrates, lipids, water, pigment and flavours.
2. Physical Properties of Food - Hydrogen – ion concentration, oxidation – reduction potentials, surface tension, adsorption, viscosity, plasticity, iso-electric points or proteins, colloidal chemistry of foods - sols, gels, foams and emulsions.

UNIT - II
3. Food Processing Technique: freezing, thermal processing, dehydration, irradiation
4. Chemical, physical nutritional alteration occurring in food products during food processes: freezing, thermal processing, dehydration, irradiation and environmental control.
5. Quality control and management.

UNIT - III
6. Important food quality attributes
   • Sensory quality - colour, texture, flavor and taste
   • Microbiological quality nutritional quality evaluation for food products.
   • Food Adulteration
   • Self life studies
7. New Product Development
Market Research  
Consumer dynamics  
Process of development and standardization  
Labeling  
Marketing  
Quality Evaluation  
Entrepreneurship

References:


HUMAN NUTRITIONAL REQUIREMENTS (THEORY)

Paper Code : FHN 703
Credits: 4
Max. Marks : 100
Teaching Hours : 4 Hours/Week
Total Teaching Workload : 60 Hours/Semester

Objectives:

1. To understand the basis of human nutritional requirements and recommendations through life cycle.
2. To understand the methods of evaluating protein quality and improving the same.
3. To understand the nutritional requirements in special conditions.

Contents:

UNIT-1

1. Nutritional requirements and recommended allowances for macro and micro nutrients for the entire life span (infancy to old age).

2. A critical review of the following:
   - Methods of determining requirements and allowances and body weights
   - Energy requirements- units, definition, assessment, methods for determining requirements, energy requirements for infants, children, adolescents, adults, pregnancy, lactation.
   - Protein requirements – protein quality and protein requirements, human amino acid requirements, quality of protein, methods for arriving at RDAs for Indians, protein...
requirements during pregnancy, lactation, growth – infants, children and adolescents, adults, protein energy ratio

- Lipid requirements – functions of fatty acids, recommendations of dietary fat, RDAs for Indians, sources of fat, recommended intakes, quality of fat.
- Dietary fibre – nutritional and health significance, requirements
- Mineral requirements - calcium, phosphorus, magnesium, sodium, potassium, iron and zinc – Dietary requirements for different physiological ages and states. Methods for estimating requirements, dietary deficiency, biochemical functions, stores, sources,
- Trace elements requirements – iodine requirements, deficiency, losses, RDAs

UNIT - II

3. A critical review of the following:
   - Vitamin requirements – Water soluble vitamins – thiamine, riboflavin, niacin, pyridoxine, folic acid, Vitamin B12, ascorbic acid – Functions, sources, requirements, deficiency, stability during processing
   - Fat soluble vitamins – vitamin A and vitamin D – significance, deficiency, dietary sources, requirements, role.

4. Dietary guidelines for Indians
5. Critical evaluation of International recommended dietary allowances – American, Canadian, FAO/WHO/UNU.
6. Nutrition requirements for special conditions
   - Natural calamities and emergencies – floods, earthquakes, famine/drought
   - Gastronautics
   - High altitude
   - Extreme environmental temperatures – hot and cold

UNIT - III

7. Evaluation of protein quality
   - Analytical methods for the determination of nitrogen and amino acids in foods.
   - Evaluation of protein quality of foods from their amino acids content
   - Biological methods
   - Clinical methods
   - Biochemical methods
   - Relationship of stress and physiological state to the biological evaluation of protein quality.

References:


HUMAN NUTRITIONAL REQUIREMENTS (PRACTICAL)

Paper Code: FHN 711
Credits: 6
Max. Marks: 100
Teaching Hours: 3 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 45 Practicals/Semester

Objectives:
1. To calculate requirements of energy, protein, minerals and vitamins for different age groups
2. To compare intakes with the RDAs
3. To evaluate protein quality by using different methods

Contents:
Practicals

1. Energy requirements
   - Calculation of BMR using different methods- 3 sets of data
   - Calculation of energy requirement for
     - Reference adult man and woman
     - Adults of different body weights and age categories
     - Infants
     - Children of 2-3 ages
     - Adolescents of 2-3 ages
     - Pregnant woman
     - lactating woman
   - Energy balance study for one week.
   - Calculation of energy requirement by indirect calorimetry

2. Protein requirements
   - Calculation of protein allowances for
     - Reference adult man and woman
     - Infants, and children of 2-3 ages
     - Adolescents of 2-3 ages
     - Pregnant woman
     - lactating woman
   - Protein energy ratio for different age groups

3. Lipids
• Comparison of fatty acid composition profile of various edible fats and oils available in the market.
• Critical analysis of labelling of processed foods for fatty acid composition profile.
• Determination of the types of fat and fat composition of the diets through 24 hour recall of a subject and compare it with suggested values for SFA, PUFA, MUFA and Essential fatty acids.
• Calculation of dietary fatty acids according to FAO/WHO recommendations for
  • Adult man and woman
  • Pregnant and lactating woman
  • Children of different ages
  • Adolescents of different ages

4. Fibre
Determination of dietary fibre through 24 hour recall and comparison with suggested values for fibre.

5. Minerals & Vitamins
• Estimation of calcium requirement through factorial approach
• Visit to DEXA centre for observation of bone density measurement.
• Estimation of iron requirement during pregnancy
• Research design for calcium and iron balance
• Determination of Vitamin C requirement using load test
• Make a list of foods which fulfill one day’s requirement of the following nutrients. i)
  Calcium
  ii) Sodium
  iii) Iron
  iv) Vitamin A
  v) Potassium
  vi) Folic acid

6. Dietary Guidelines
Power point presentation of Dietary Guidelines for Indians.

7. Nutritional requirements for Disaster Management.
• Plan a day’s menu and rations for a relief camp.

8. Evaluation of protein quality
• Calculation of chemical score of different foods and food products.
• Calculation of NDp Cal% of
  • A snack meal
  • A mix for PDS system.
Research design for evaluation of protein quality by biological and clinical methods.

RESEARCH METHODOLOGY (THEORY)

Paper Code: FHN A01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
## Total Teaching Workload: 60 Hours/Semester

### Objectives:
1. To understand the basic concepts of research methodology.
2. To be able to understand the various steps of research methods.
3. To enable the students to understand various research designs, sampling techniques, methods of collecting data.
4. To enable the students to prepare and present report for dissertation purpose.

### Contents:

#### UNIT- I
1. Research purpose and objectives.
2. Definition and Identification of research problem, selection of problem, hypotheses, basis assumption and limitation of problem.
3. Review of literature: Importance, sources and writing review of literature.
4. Research designs: Purpose and types.

#### UNIT-II
5. Technique of sampling- Census and sampling methods, probability and non-probability sampling procedures, sample size.
6. Data gathering instruments, measurements and scales, reliability and validity of measuring instruments- Questionnaire, Schedule, Score card, Checklist.
7. Methods of collecting data: Questionnaire, interview technique, observation, case study, focus group discussion.

#### UNIT-III
8. Planning, executing and analysis of large scale surveys with special emphasis of surveys in Home Science.

### References:
## Paper Code: FHNA02

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<tbody>
<tr>
<td>Total Teaching workload: 60 Hours/Semester</td>
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## Objectives:

1. To familiarize the students with the basic anatomy of human body.
2. To enable the students to understand the physiological processes.

## Contents:

### UNIT- I

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Cell structure and functions- levels of cellular organizations and functions-organelles, nucleus, cytoplasm, tissues and systems. Functions of lysosomes, endoplasmic reticulum, Golgi apparatus and mitochondria, Mitosis. Structure of cell membrane, active and passive transport of nutrients and metabolites, intercellular communications.</td>
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<tr>
<td>2. Endocrine system: structure, function, storage, secretion, regulation of hormonal secretion.</td>
</tr>
<tr>
<td>3. Digestive System: Structure and function of various organs of gastro-intestinal tract, secretory, digestive and absorptive functions. Role of liver, pancreas, gall bladder and their dysfunction. Motility and hormones of the GIT.</td>
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### UNIT- II

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<td>5. Circulatory System: Structure and function of the heart and blood vessels. Regulation of cardiac output, cardiac cycle, blood-pressure and factors affecting it.</td>
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### UNIT- III

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<tr>
<td>7. Physiological functions of Pituitary, Thyroid, Parathyroid, Adrenal and Reproductive Hormones.</td>
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<tr>
<td>8. Regulation of body temperature: Thermo genesis, thermolysis, pyrexia, hypothermia, role of skin in maintaining body temperature.</td>
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<tr>
<td>9. Musculo-skeletal system: structure and functions of bone, cartilage and connective tissue and muscle fibres. Disorder of the skeletal system. Types of muscles, structure and function.</td>
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<tr>
<td>10. Changes in muscle and bone mass during ageing and disease. Major muscles used for voluntary and involuntary actions.</td>
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<td>11. Exercise physiology</td>
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## References:

(96)

**NUTRITIONAL BIOCHEMISTRY – I (PRACTICAL)**

Paper Code : FHN A11  
Credits: 4  
Max. Marks : 100  
Teaching Hours : 2 Practicals / Week( 3 hours/Practical)  
Total Teaching Workload : 24 Practicals/ Semester

**Objectives:**

1. To demonstrate the need for careful planning and organization of laboratory work and skilful execution of practical/experiments.
2. To develop an understanding of the principles of various biochemical techniques.
3. To develop competence in biochemical estimations.
4. To apply the knowledge acquired from the biochemical estimation to human nutrition.

**Contents**

**Practicals**

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<td>1.</td>
<td>Principles in biochemistry – Introduction to working principles of:</td>
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<td>- Spectrophotometry</td>
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<td>- Chromatography</td>
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<td>- Electrophoresis</td>
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<td></td>
<td>- Acid base titration, redox titration</td>
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<tr>
<td>2.</td>
<td>Cleaning of glassware with soap, chromic acid and distilled water</td>
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<td>3.</td>
<td>Titrimetric estimations</td>
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<td>- Determination of strength of acids and bases (single and double titration)</td>
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<td>- Oxidation reduction titration - by KMnO4</td>
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<td>- Estimation of vitamin C in lemon juice or any other fresh food stuff</td>
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<td>Preparation of buffers and measurements of their pH with indicators and pH meter.</td>
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<td>Estimation of Protein by Kjeldahl’s Method.</td>
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<td></td>
<td>- Glucose</td>
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<td>- Cholesterol</td>
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**FOOD SCIENCE AND QUALITY CONTROL (PRACTICAL)**

Paper Code : FHN A12  
Credits: 4  
Max. Marks : 100  
Teaching Hours : 2 Practicals / Week (3 Hours/Practical)  
Total Teaching Workload : 24 Practicals/Week

**Objectives:**

[Additional information not transcribed correctly]
1. To develop an understanding of the principles of various techniques of nutritional assessment.
2. To develop competence in recording and interpretation of anthropometric measurements.
3. To develop skills in conducting dietary surveys and data interpretation.
4. To develop understanding and skills in clinical observation.

Contents:

Practicals

1. Physical examination of various food grains.
2. Detection of adulteration: Milk, turmeric powder, pure ghee, wheat flour, khoa.
3. Determination of the Moisture content in two raw and two processed foods.
4. Determination of the acid insoluble ash in two raw and two processed foods.
5. Determination of the Crude fibre content in two raw and two processed foods.
6. Determination of the Protein Content in two raw and two processed foods using kjeldahl method.
7. Determination of fat content in two raw and two processed foods.
8. Determination of the Taste Threshold for the Different Sensations - sweet, Salty, Sour.
9. Survey of convenience and ready to eat foods available in markets food list with nutrition, composition and food label.
10. Systematic development of a new food product and its standardization within the BIS stipulated food standards and regulation and evaluate quality parameters for acceptability, labelling and cost of the finished product.
11. Visit to small scale food product unit

HUMAN PHYSIOLOGY (PRACTICAL)

Paper Code: FHN A13
Credits: 2
Max. Marks: 100
Teaching Hours: 1 Practical / Week (3 Hours/Practical)
Total Teaching Workload: 15 Practicals /Semester

Objectives:
1. To make students understand the various Biochemical techniques used in for diagnosis of disease.
2. To make students understand test of fitness.

Contents:

1. Use of Respirometer to estimate respiratory quotient visit for demonstration
   Calculation of values for different age groups and ages
   • Adults
   • Children & adolescents
2. Estimation of hemoglobin by two techniques to be used in
   • field
   • laboratory
3. Estimation of Blood pH
4. Measurement of blood pressure
   • Conditions required for measurement
   • Measurement of different age groups
5. Tests to measure physical fitness-
   • Fitness test
   • Physical endurance test
6. Urine Estimations
- Albumin in urine
- Glucose in urine
- Acid base balance in urine

7. Case study of endocrine disorder patient

Mukta Agrawal
<table>
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<tr>
<th>S. No.</th>
<th>Subject Code</th>
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<td>CCC</td>
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CCC = 18,  
ECC = 18  
Total = 36 credits
SECOND SEMESTER

NUTRITIONAL BIOCHEMISTRY- II (THEORY)

Paper Code: FHN 801
Max. Marks: 100
Credits: 4
Teaching Hours: 4 Hours / Week
Total Teaching Workload: 60 Hours/ Semester

Objectives:
1. To understand the basic nature and role of bio molecules.
2. To understand the mechanisms adopted by the human body for regulation of metabolic pathways.
3. To get an insight into interrelationships between various metabolic pathways.
4. To link metabolic events occurring at the cellular level.
5. To become proficient for specialization in nutrition.

Contents:
UNIT- I

1. Vitamins
   Chemistry and biochemical role of
   - Water soluble vitamins: B-Complex and C
   - Fat soluble vitamins: A,D,E and K

2. Minerals
   - Biochemical role of minerals.

UNIT- II

3. Enzymes
   Classification, co-enzymes, methods of isolation, purification and characterization, theories and mechanism of enzyme action, factors affecting reaction of enzyme - effect of time, temperature, pH substrate enzyme activators and inhibitors (types of inhibitors), Km - it's derivation and significance, elements of thermodynamics, - enthalpy, entropy and free energy, active site and specificity of enzymes.

4. Intermediary metabolism and it's regulation
   - Carbohydrates - Glycolysis, TCA cycle, respiratory chain, high energy link, biological redox potential, Gluconeogenesis, hexose monophosphate shunt.
   - Lipids - α, β and ω oxidation of fatty acids, β oxidation of odd and even number fatty acids, synthesis of fatty acids, phosphatidic acid, ketosis, synthesis of cholesterol.
- Proteins – absorption and conversion of amino acids, nitrogen fixation, degradation of ammonia and removal of amino acids through deamination, transamination, decarboxylation and urea cycle.

UNIT III

5. **Nucleotides and Nucleic Acids** – separation and determination of nucleotides and nucleic acids.

6. **Organ interrelationship in the metabolism**
   - Transport between organs – blood.
   - The liver and its function in distribution of nutrients
   - Adipose tissue
   - Skeletal muscles
   - The brain
   - The heart
   - Diabetes mellitus

7. **Metabolic interplay in cancer**

References:


**FOOD MICROBIOLOGY AND FOOD SAFETY (THEORY)**

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<tr>
<td>Total Teaching Workload :60 Hours/Semester</td>
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**Objectives:**

1. To understand the role of micro-organisms in food, food spoilage and to understand advanced techniques of food preservation.
2. To learn about food-borne infections and intoxication.
3. To understand the criteria for microbiological safety in various food operations to avoid public health hazards due to food contamination.
4. To be able to understand the food safety and criteria for microbiological safety in various food operations to avoid public health hazards due to food contamination.

**Contents:**

**UNIT-I**

1. History and development of food microbiology
4. Principles of preservation
   - General principles of food preservation: asepsis, removal, anaerobic conditions
   - Preservation by use of
     - drying,
     - low temperatures
     - high temperatures
   - irradiation
   - food additives

**UNIT- II**

5. Contamination, preservation, and spoilage of different kinds of foods
   - Cereals and it’s products
   - Sugar and it’s products
   - Vegetables and fruits
   - Eggs
   - Milk and it’s products
   - Canned foods
6. Microbiology of fermented foods.
   - Vinegar, Cheese, Beer
   - Indian fermented foods- Idli, Dosa, Vada, Curd
7. Single cell proteins (SCP)
   - Introduction to single cell proteins, types of single cell proteins, production of SCP.
### 8. Probiotics

Introduction to probiotics, Overview of gut environment, types of probiotics, mechanism of action, health benefits, prebiotics

### UNIT III:

#### 9. Role of Microbes in health and disease
- Public health Hazards and Food borne illnesses due to microbial contamination
  - Causes, food association, habitat, toxins, disease and symptoms, prevention of the following
    - Food borne intoxications
      - Botulism
      - Staphylococci
      - Mycotoxicosis
    - Food borne infections
      - Salmonella
      - E. Coli
      - Clostridium

#### 10. Food Safety requirements for different food service establishments and safety measures

(a) Definition of food safety, regulatory agencies, WHO and FAO
(b) Food Safety regulations and laws in India
  1. Food Safety and Standards Act 2006
  2. Food safety and Regulations 2011
(c) Food security assurance systems
  1. Good Hygienic Practices (GHP)
  2. Good Manufacturing Practices (GMP)
  3. Food Safety Management Systems- HACCP
  4. Food Safety Management System- ISO 22000
  5. Quality Management System- ISO 9001

### References:

13. Foods Safety and Standards Authority Of India (Ministry Of Health and Family Welfare)
14. FDA Bhavan, Kotla Road, New Delhi – 110 002 Website: www.fssai.gov.in

<table>
<thead>
<tr>
<th>HUMAN NUTRITIONAL PROBLEMS (THEORY)</th>
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<tbody>
<tr>
<td>Paper code: FHN 803</td>
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<tr>
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<tr>
<td>Max. Marks:100</td>
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<td>Teaching Hours :4 Hours/Week</td>
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<td>Total Teaching Workload :60 Hours/Semester</td>
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Objectives:

1. To create understanding about nutritional assessment techniques applicable for individuals and community.
2. To create understanding of various nutritional problems.
3. To create understanding about various inborn errors of metabolism and their dietary management.

Contents:

UNIT-I

1. Prevalence, etiology, biochemical and clinical manifestations, diagnostic technique, preventive and therapeutic measures for the following nutritional problems:
   - Protein Energy malnutrition
   - Vitamin A deficiency
   - Anaemia
   - Iodine Deficiency Disorders
   - Fluorosis
   - Rickets, osteomalacia and osteoporosis
   - Beriberi
   - Pellagra
# UNIT - II

2. Assessment of Nutritional Status, Various techniques for assessment of nutritional status:
   - Anthropometric measurements:
   - Definition, measurements, tools/instruments.
   - Techniques for measurements, standards for references, indices, classification, interpretation of data.
   - Use of anthropometry for onetime assessment, growth monitoring and emergency situation.
   - Biochemical estimations for diagnosis of protein energy malnutrition, vitamin A deficiency, anaemia, iodine deficiency disorders, fluorosis: Parameters, techniques for estimation, reference value
   - Clinical examination
   - Dietary survey
   - Vital statistics

# UNIT - III

3. Introduction to causative factors, biochemical and clinical manifestation, treatment and therapeutic measures of following Inborn errors of metabolism:

   i. Disorders of amino acid metabolism i.e.
      - Phenylketonuria,
      - Hypertyro sinaemia,
      - Hypervalaemia,
      - Hyperhistidinaemia,
      - Hyper lysinaemia,
      - Homocystinuria.

   ii. Carbohydrate metabolism i.e. Pentosuria, galactosaemia

   iii. Lipid metabolism i.e. Hyper chylo-micronaemia, pure hyper-cholesterolaemia

4. Naturally occurring toxins and anti-nutritional factors:
   - Lathyrism,
   - Epidemic dropsy.

## References:

2. Sehgal S and Raghuvanshi Rita S Textbook of Community Nutrition, Indian Council of Agricultural Research, Published by: Directorate of Information and Publication of Agriculture, Indian Council of Agriculture Reserach, KrishiAnusandhanBhavan, Pusa, New Delhi-110012

**HUMAN NUTRITIONAL PROBLEMS (PRACTICAL)**

**Paper code: FHN 811**

**Credits: 6**

**Max. Marks: 100**

**Teaching Hours: 3 Practicals/ Week (3 Hours/ Practical)**

**Total Teaching Workload: 45 Practicals/Semester**

**Objectives**

1. To develop an understanding of the principles of various techniques of nutritional assessment.
2. To develop competence in recording and interpretation of anthropometric measurements.
3. To develop skills in conducting dietary surveys and data interpretation.
4. To develop understanding and skills in clinical observation.

**Contents:**
1. Preparation of event calendar of past five years for assessment of age.

2. Assessment of nutritional status of infants using anthropometric measurements:
   - Preparation of questionnaire, learn techniques of recording weight length and MUAC.
   - Data collection (at least 10 infants)
   - Data interpretation using WHO Z scores and report.
   - Data interpretation using WHO growth.

3. Assessment of nutritional status of preschool children using anthropometric measurements:
   - Preparation of questionnaire, learn techniques of recording height and weight using bathroom weighing scale as well as Salter weighting balance and MUAC.
   - Data collection (at least 10 preschool children).
   - Data interpretation using WHO growth standards and report writing.

4. Assessment of nutritional status of school going children using anthropometric measurements:
   - Preparation of questionnaire, data collection (at least 10 children).
   - Data interpretation using WHO growth standards and report writing.

5. Assessment of nutritional status of adolescent boys and girls using anthropometric measurements:
   - Preparation of questionnaire and data collection.
   - Data interpretation using WHO growth standards and BMI for age and height for age indices and report writing.

6. Assessment of nutritional status of adults using anthropometric measurements:
   - Preparation of questionnaire; learning techniques of measuring waist circumference and hip circumference and calculation of WHR.
   - Data collection.

7. Determination of haemoglobin level in blood sample of any age group and interpretation and comparison of results using: Sahli’s, hemocheck and cyanmethemoglobin technique

   - Preparation of questionnaire, learn the techniques.
   - Data collection (at least 10 students)
   - Data interpretation and report writing
9. Assessment of food and nutrient availability of inmates of any hostel/ orphanage /old age home etc. using food inventory methods.
   - Preparation of questionnaire and learn the techniques.
   - Data collection on 1st day of week.
   - Data collection on 7th day of week.
   - Data interpretation and report writing.

10. Assessment of food and nutrient intake using 24 hours dietary recall methods.
    - Preparation of questionnaire and learn the technique.
    - Standardization of recipes, using standardized cups, spoons, glasses, preparation of cut outs
    - Data collection, conversion of cooked foods into raw ingredients and food and nutrient calculation, using Diet Cal Software and report writing.

11. Assessment of food consumption pattern using diet history method.
    - Preparation of questionnaire, learn the technique.
    - Data collection, interpretation of results and report writing.

12. Assessment of diet and nutrient intake using qualitative as well as quantitative food frequency questionnaire.

13. Visit to malnutrition treatment centres in hospital – Observation of clinical symptoms of PEM and other symptoms of SAM child.


15. Case study of children suffering from SAM and/or anaemia.

16. Design a research to study prevalence of major nutritional problems among pre-school children.

17. Design a research to study prevalence of major nutritional problems among adolescent girls.

References:

2. Sehgal S and Raghuvanshi Rita S Textbook of Community Nutrition, Indian Council of Agricultural Research, Published by: Directorate of Information and Publication of Agriculture, Indian Council of Agriculture Research, KrishiAnusandhanBhavan, Pusa, New Delhi-110012
Department of Pediatrics, Maulana Azad Medical College, New Delhi, 1994.

**STATISTICS (THEORY)**

<table>
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<td>Total Teaching Workload: 60 Hours/Semester</td>
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**Objectives:**
1. To understand the basic concepts of statistics.
2. To enable the students to understand various types of statistical tools and their interpretation.

**Contents:**

**UNIT –I**
1. Statics: meaning and scope and importance in research
2. Classification and tabulation.
3. Measures of central tendency and dispersion (Mean Median, Mode, Quartiles, Range and Standard Deviation).
4. Graphic and diagrammatic representation of data (Frequency, Histogram, Graphs, Bar-diagram and Pie charts).

**UNIT –II**
5. Elementary ideas on probability (Simple Probability) skewness and kurtosis definition. Elementary ideas of random variable and its density function (Binomial, Poison, Uniform, Normal varieties, Normal distribution and its properties, Use of Normal probability tables).

**UNIT –III**

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JAIPUR

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60
7. Design of Experiment: Analysis of Variance
9. Non-parametric Inference: Sign, Mann Whitney and Chi square test (as goodness of fit and independence of attributes in 2*2 and r*c contingency tables).
10. Use of computer for statistical analysis using SPSS.

References:


**FOOD PROCESSING (THEORY)**

**Paper Code:** FHN B02  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours/Weeks  
**Total Teaching Workload:** 60 Hours/Semester

**Objectives:**

1. To impart systematic knowledge of basic and applied aspects in food processing and technology
2. To enable the students to understand food composition and its physico-chemical, nutritional and sensory aspects.
3. To gain in depth knowledge about processing and preservation techniques of cereals, pulses, oilseeds, meat and their products
4. To optimise process parameter for consistent quality processed food products

**Contents:**

**UNIT-I**

1. Brief introduction of Cereals and legumes
   Baking technology: bread, biscuits/cookies and cake, principles of baking. Ingredients and their functions, methods of preparation, in process control, faults, causes and remedies, methods of leavening: physical, biological and chemical, scoring of quality parameters.
<table>
<thead>
<tr>
<th>UNIT-II</th>
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<tbody>
<tr>
<td>5. Soyabeans: defatted flour, milk and isolated protein</td>
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<tr>
<td>7. Dairy and Flesh Food Technology</td>
</tr>
<tr>
<td>9. Meat: slaughtering and related practices, pre slaughter handling, grading, ageing, curing, smoking and tenderizing of meat, meat pigments and color changes, cooking, storage, methods of preservation for value addition and spoilage. Sausages and table ready meat products.</td>
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<tr>
<td>10. Poultry: Production consideration, processing plant operation (slaughter and bleeding, scalding, defeathering, eviscerating, chilling and packaging), cooking, tenderness, flavor and color changes.</td>
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<tr>
<td>11. Eggs: Structure, quality factors, storage, bacterial infection and pasteurization, freezing, drying and egg substitutes.</td>
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<tr>
<td>12. Fish: Types of fishes, onboard handling and preservation, drying and dehydration, salt curing, smoking, marinades, fermented products, canning, Modified Atmosphere Packaging and quality factors.</td>
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<tr>
<td>13. Oilseeds, Fruits and Vegetable technology</td>
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<tr>
<td>14. Production and processing methods of fats and oils, hydrogenation</td>
</tr>
<tr>
<td>Fat and oil Products: Margarine shortenings and frying oils, Mayonnaise and salad dressings, fat substitutes.</td>
</tr>
<tr>
<td>15. Ripening of fruits and Food spoilage</td>
</tr>
<tr>
<td>17. Processing and preservation for small scale industry with special reference of FPO 1955.</td>
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</tbody>
</table>

References:


**NUTRITIONAL BIOCHEMISTRY – II (PRACTICAL)**

**Paper Code**: FHN B11  
**Credits**: 4  
**Max. Marks**: 100  
**Teaching Hours**: 2 Practicals/Week (3 Hours/Practical)  
**Total Teaching Load**: 30 Practicals/Semester

**Objectives:**

1. To demonstrate the need for careful planning and organization of laboratory work and skillful execution of practical/experiments.
2. To develop an understanding of the principles of various biochemical techniques.
3. To develop competence in biochemical estimations.
4. To apply the knowledge acquired from the biochemical estimation to human nutrition.

**Contents:**

1. Titrimetric estimation: Determination of calcium in milk powder, CaCO₃ solution.
2. Colorimetric estimation (in unknown solution)  
   - Determination of Iron in Ferrous Ammonium sulphate solution and in blood.
   - Determination of Haemoglobin in blood by colorimetric method.
   - Determination of phosphorus in milk and phosphorus solution by F.S. colorimetric method.
   - Determination of protein by Lowry/Biuret method.
3. Enzymes assays  
   - Determination of Alkaline phosphatase Enzyme.
   - Determination of Transaminase enzyme (GOT and GPT)
4. Paper Chromatographic separation of Amino Acids by  
   - Circular method  
   - Ascending and  
   - Descending methods

**FOOD MICROBIOLOGY (PRACTICAL)**

**Paper code**: FHN B12  
**Credits**: 4
Max. Mark :100  
Teaching Hours : 2 Practicals/Week (3Hours/Practical)  
Total Teaching Workload: 30 Practicals/Semester

Objectives :
1. To understand the functioning of a microscope.  
2. To understand the technique of culturing and staining strategies.  
3. To learn about the microbiology of foods.

Contents :
1. Principles, use and maintenance of microscope.  
2. Functioning and use of various microbiology laboratory equipments.  
3. i) Preparation of Culture media :  
   - Preparation of General Purpose Media  
   - Preparation of Selective and Differential Medium  
   ii) Techniques of Culturing :  
   - Sub-culturing of a given culture  
   iii) Pure Culture Techniques :  
   - Isolation of Pure Culture of Bacteria by Streak Plate Method  
4. Quantitative Techniques :  
   - Estimation of Amount of Bacteria by Pour Plate Method  
   - Quantitative Determination of Viable Microbes  
5. Colony characteristics and staining techniques :  
   - Preparation of culture media in the Laboratory and streaking  
   - Observation of colony characteristics.  
6. Staining Strategies in the Laboratory :  
   - Preparation of bacterial smear  
   - Simple Staining of Bacterial Culture  
   - Gram Staining of Bacterial Culture  
   - Negative staining of the given culture(s)  
7. Microbiological Study of Water :  
   - Testing Quality of water using presumptive test  
   - Confirmation of the Presence of Coliform Bacteria in Positive Presumptive Test  
   - Performing the Complete Coliform Test  
8. Microbiological Analysis of Milk Sample :
9. **Microbiological Analysis of Food Samples**: ice cream, butter, cheese, curd, fruits, juices etc:
   - Observation and Recording for these Exercises

10. **Sampling and Analysis of Microbial Load on Food Contact Surfaces**:
    - Assessing Sanitary Quality of Contact Surface by Swabbing Method
    - Analysis of Air of Processing Facility for Microbial Load

11. **Preparation of fermented foods** - Sauerkraut and soya sauce

12. **Field visit to concerned food plants to food safety and HACCP practices.**

13. **Field visit to any two food vendors to assess the food safety norms being followed.**

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**FOOD PROCESSING (PRACTICAL)**

- **Paper Code**: FHN B13
- **Credits**: 2
- **Max. Marks**: 100
- **Teaching Hours**: 1 Practical/Week (3 Hours/Practical)
- **Total Teaching Load**: 15 Practicals/Semester

**Objectives**:
1. To understand the raw materials analysis and their processing technology used in different products development.
2. To understand the processing technologies of different products and concept of product optimization
3. To impart systematic knowledge of basic and applied aspects in food processing and technology
4. To enable the student to understand food composition and its physico chemical, nutritional and sensory aspects.
5. To gain in-depth knowledge about processing and preservation techniques of milk products technology and fruits and vegetables technology.

**Contents**:

1. **Cereal and Cereal Products Technology**
   
   (A) Bread baking
   
   a) Quality testing of different flour:
      - Gluten quality and quantity
      - Moisture and ash percent
      - Water Absorption Power (WAP)
      - Pekar color test
      - Maltose value
      - Falling Number
      - Dough Raising Capacity
b) Bread Processing: process optimization of
   • Straight dough method
   • Sponge and dough method (delayed salt method)
   • Potassium bromate response of different flours
   • Optimization of brown bread process
   • Preparation of sweet buns
   • Preparation of pizza base

(B) Biscuits and cakes
   • Preparation of short and hard dough biscuits and
     packaging and shelf life studies for 5 weeks
   • Preparation of sponge and cream cakes
     packaging and shelf life studies for 5 weeks

Visit to milk processing industry

2. Milk and milk products technology
   • Chemical analysis of milk and determination of its components like fat, SNF, protein, TSS
   • Detection of preservatives in milk (boric acid and borate)
   • Detection of adulterants in milk and analysis of cheese, paneer, khoa as per BIS standards
   • Tests to judge the efficiency of pasteurization and homogenization

3. Fruits and Vegetable Technology
   • Analysis of Proximate principles: Carbohydrate, sugars, ash, moisture, fat and protein.
   • Experiment on control of enzyme activity, enzyme inactivation in fruits and vegetables
   • Preservation of fruits and vegetables using heat, salt and sugar and estimation of effect
     of processing on nutrients and color:
     • Processing of tomato products
     • Processing of jams, jellies and marmalades
     • Processing of pickles and brines
     • Estimation of acidity, total solids of different foods - Squashes, syrups and juice.
   • Dehydration of fruits, and vegetables and shelf life studies: its effect on color, texture
     and flavor. Rehydration ratio, rehydration coefficient
   • Preservation of fruits and vegetables using low temperature

4. Fat and oil technology
   • Fat absorbance,
   • Degree of unsaturation
   • Peroxide value
   • Acid value
   • Saponification value
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<td>FHN 901</td>
<td>Clinical Nutrition and Dietetics - I</td>
<td>CCC</td>
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CCC = 18,  
ECC = 18  
Total = 36 credits
THIRD SEMESTER

CLINICAL NUTRITION AND DIETETICS - I (THEORY)

Paper code: FHN 901  
Credits : 4  
Max. Marks:100  
Teaching Hours :4 Hours/Week  
Total Teaching Workload : 60 Hours/Semester

Objectives:

- To enable the students to understand about body composition and its application in nutrition and health.
- Identification of high risk patients, malnutrition in hospital patients.
- To enable the students to understand the special nutrition concerns and the dietary management of various diseases.
- To give practical insight for assessment, nutritional care and counseling to patients.

Contents:

UNIT- I

1. Body Composition
   - Body composition and cellular basis of growth
   - Significance and methods used for measurement of body composition in nutrition.
   - Application of body composition in nutrition and health.
   - Cellular Growth and development during life cycle

2. Pathophysiology, aetiology, clinical features, prevention and dietary management of Obesity and Eating disorders
   - Obesity
   - Anorexia Nervosa
   - Bulimia Nervosa

3. Geriatric Nutrition
   - Ageing process,  
   - Cellular basis of Ageing  
   - Nutritional and Medical problems of elderly  
   - Nutritional care and lifestyle modifications in elderly persons  
   - Management of Common ailments related to ageing

UNIT- II

4. Nutrition Care Process in Hospitalized Patients
   - Nutrition care process  
   - Interpretation of routine medical and laboratory data

5. Methods of Feeding:
6. **Nutritional care of hospitalized children**
   - Nutritional care of neonates
   - Nutrient modifications and special feeding problems
   - Nutritional care of Malnourished children

7. **Food Allergies**
   Clinical features, diagnosis and management of Food Allergy and food intolerance.

8. **Immunity and Nutrition**

9. **Effect of Stress on Health and Nutrition**

**UNIT-III**

10. Classification, Aetiology, Clinical features, diagnosis, prevention and dietary management of Gastrointestinal Diseases
    - GERD,
    - Peptic Ulcer,
    - Constipation,
    - Diarrhoea,
    - Celiac Disease,
    - Irritable Bowel Disease,
    - Ulcerative Colitis

11. Classification, Aetiology, Clinical features, diagnosis, prevention and dietary management of Liver and Pancreatic Diseases
    - Hepatitis,
    - Liver Cirrhosis - ALD & NALD
    - Fatty liver
    - Hepatic Coma
    - Pancreatitis

**References:**

7. Carol WS and Merrily FC. Nutrition: Principles and Application in Health Promotion.
Published by J. B. Lippincott, 1984.

Journals
1. Indian Journal of Nutrition and Dietetics
2. American Journal of Nutrition
3. World Review of Nutrition and Dietetics

PUBLIC HEALTH NUTRITION - 1 (THEORY)

Paper Code: FHN 902
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester

Objectives:
1. Gain insight into national nutritional problem, and national & international contribution towards nutrition improvement in India.
2. Development of skills in organizing and evaluating nutrition projects in the community.
3. To be familiar with various approaches to public health nutrition programs and policies.

Contents:
UNIT- I
Public Nutrition and Health Care System
1. Concept and scope of public health nutrition
2. Levels of Health care and Health care system in India
3. National Policy: Health, nutrition and population
4. Brief note on: Dual burden of malnutrition, National Health Mission, Millennium Development Goals Nutritional Epidemiology
5. Definition, aims, basic measurement and applications
   Study designs - methods applied in conducting nutrition research
   Measuring exposure (diet) outcome (diseases) relationship and their interpretation

UNIT- II
6. Assessing and Intervening the Community’s Nutritional Needs
   • Community Need Assessment
   • Reaching out to High Risk population
7. Promoting the Public’s Nutritional Health
   • Growing a Healthier Nation: Maternal, Infant, Child and Adolescent Nutrition
   • Importance of Public Health Nutrition Programs in Preventing Disease and Promoting Health
   • Providing Services in Public Health Primary care

UNIT- III

Dy Registrar (Acad.)

U.P. Univesity of Allahabad
Public Health Aspects of under nutrition

8. Etiology, Public Health Implications, preventive/curative strategies for:
   - Chronic energy deficiency
   - Protein energy malnutrition
   - Micronutrient deficiency

9. Approaches/strategies for improving nutrition and health status of community:
   - Health based interventions including immunization, provision of safe drinking water, hygiene, prevention and management of diarrheal diseases.
   - Food based interventions including food fortification, dietary diversification, supplementary feeding and biotechnological approaches.

10. Education based interventions including growth monitoring and promotion, and nutrition health education

References:


INSTITUTIONAL FOOD ADMINISTRATION – I (THEORY)

Paper Code : FHN 903
Credits: 4
Max. Marks : 100
Teaching Hours : 4 Hours / Week

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University of JAI PUR
Total Teaching Workload: 60 Hours/Semester

Objectives:
1. The various aspects of food service planning
2. The management of food service organisations.
3. Developing in students the skill of menu planning for quantity and quality food preparation.

Contents:
UNIT-I

1. **Introduction to Foodservice systems**
   - Development of food services in Institutions.
   - Consumer behaviour and eating trends - teenagers, family, business-corporate world.
   - Food services facility planning – introduction to foodservice facilities planning, the planning process, the planning team, planning the prospectus, functional planning, planning the atmosphere, workplace design, equipment requirements (writing equipment specifications, purchasing, factors affecting equipment selection, type of equipments), space requirements, layout of facilities.

UNIT-II

2. **Organisation and Management**
   - Organization – definitions, nature and characteristics of organisation, theories of organisation, steps in process of organisation, principles of organisation, departmentation, types of organisations.
   - Systems approach to management, management by objectives
   - Management – definitions, management process, roles of a manager, level and skills of management, principles of management, tools of management, management of resources, functions of management.
   - Financial Management – Key accounting concepts, basic financial statements, tools for comparison and analysis, budgeting, book keeping - principles of double entry, records.
   - Energy management-energy utilisation, energy conservation, energy management systems
   - Time management.

UNIT-III

3. **Food Management**
   - Food acceptability and sensory evaluation – definition, application, difference between organoleptic and sensory evaluation, qualification and types of panelists, testing area, methods of sensory testing.
   - Menu planning – importance of menu planning in food service organisation, types of menu and their application, factors affecting menu planning, steps in menu planning, quality food standards, standardised recipes.
   - Food Purchasing – Market and the buyer, forecasting in foodservice, methods of purchasing, mode of purchasing (centralized and group purchasing), purchasing process and records, vendor selection and evaluation, Food selection.
   - Food production – Food production planning, production schedules, principles of food production, methods of food production, production controls, quantity and quality control.
   - Receiving and store room management - Elements of receiving, receiving process, dry storage, and low temperature storage.
• Food cost control – factors affecting food cost, records for control, pricing the products.
• Food Laws and standards

References:

Paper Code: FHN 911
Credits : 6
Max. Marks:100
Teaching Hours : 3 Practicals/Week (3 Hours/Practical)
Total Teaching Workload : 45 Practicals/ semester

Objectives:
1. To enable students to assess needs of the community
2. To enable students to strategize programs on health and nutrition with available resources
3. To enable students to develop effective audio visual aids for community
4. To enable students to plan and develop low cost recipes with specific nutritional need.

Contents:

1 Participatory Rapid Assessment (PRA) Techniques
2 Strategies for reaching community for public health and nutritional development.
3 Communication: Channels, barriers
4 Methods of communication
5 Audio visual aids
6 Planning and preparation of pre mixes for complementary feeding to children 6-9, 9-12 and 12-24 months.
7 Planning and preparation of fresh complementary foods for children 6-9, 9-12 and 12-24 months.
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>8</td>
<td>Planning and preparation of energy, protein, iron and calcium rich food for pregnant woman.</td>
</tr>
<tr>
<td>9</td>
<td>Planning and preparation of energy, protein, vitamin A and calcium rich food preparations for lactating woman.</td>
</tr>
<tr>
<td>10</td>
<td>Planning and preparation of food baskets for pregnant and lactating woman.</td>
</tr>
<tr>
<td>11</td>
<td>Preparation of energy and protein rich snack for severely malnourished children</td>
</tr>
<tr>
<td>12</td>
<td>Preparation of recipe based on pre-mix provided at AWC</td>
</tr>
<tr>
<td>13</td>
<td>Community Analysis for identification of needs related to public health and nutrition issues of community using PRA techniques</td>
</tr>
<tr>
<td>14</td>
<td>Assessment of causes of problems identified in above exercise and Prioritization of focus areas</td>
</tr>
<tr>
<td>15</td>
<td>Collection, analysis and presentation of literature on contemporary Public Health and Nutrition</td>
</tr>
<tr>
<td>16</td>
<td>Preparing messages which needs to be disseminated on contemporary issues of Public health and nutritional issues</td>
</tr>
<tr>
<td>17</td>
<td>Preparation of audio visual aids on any one public health and nutrition issues</td>
</tr>
</tbody>
</table>

**FOOD AND NUTRITION SECURITY (THEORY)**

**Paper Code**: FHN C01  
**Credits**: 4  
**Max. Marks**: 100  
**Teaching Hours**: 4 Hours /Week  
**Total Teaching Workload**: 60 Hours / Semester

**Objectives**:  
1. To understand the concept of Food and Nutrition Security.  
2. To gain knowledge regarding policies and programmes for improving Food Security.

**Contents**:  

**UNIT-I**  
**Public Health Aspects of under nutrition**

1. **Food and Nutrition Security**  
   - Definitions of Food and Nutrition Security.  
   - Basic concepts and conceptual frame work of Food and Nutrition Security.

2. **Analysis of food security**  
   - Food availability  
   - Food access  
   - Food absorption

3. **Beneficiaries for National Programs**  
   - Infants  
   - School Children  
   - Adolescent Girls  
   - Pregnant and Lactating Women

**UNIT-II**
4. Policies and Programmes for reducing insecurity (Social Protection Initiatives)
   - The Public Distribution System (PDS) and the Targeted Public Distribution System (TPDS)
   - Antyodaya Anna Yojana (AAY)
   - National Food for Work Programme (NFFWP)
   - Mahatma Gandhi National Rural Employment Guarantee Act (NREGA)
   - The right to Food Act

UNIT-III

5. Agriculture initiatives to improve food security
   - The National Food Security Mission (NFSM)
   - National Horticulture Mission
   - Rashtriya Krishi Vikas Yojana
   Conditional cash transfer program
   Programs/Assistance targeted toward specific needy section of the population.

6. National Social Assistance Programme
   - Annapurna Scheme
   - Village Grain Bank Scheme
   - National Programme for Adolescent Girls
   - National programme of Nutritional support to Primary Education (Mid day meal programme)

7. Integrated child development services (Scheme)

References:


SKILL DEVELOPMENT IN CLINICAL NUTRITION (THEORY)

Paper Code: FHN C02
Credits : 2
Max. Marks: 100
Teaching Hours: 2 Hours/Week
Total Teaching Workload: 30Hous/ Semester
Objectives:
1. Identification of high risk patients, malnutrition in hospital patients.
2. To enable the students to understand the special nutrition concerns and the dietary management of various diseases.
3. To give practical insight for assessment, nutritional care and counselling to patients.

### UNIT - I

<table>
<thead>
<tr>
<th></th>
<th>Nutrition Care Process in Hospitalized Patients</th>
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<tr>
<td></td>
<td>• Nutrition care process</td>
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<td></td>
<td>• Nutritional Assessment of hospitalized patients</td>
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<tr>
<td></td>
<td>• Methods of feeding (Enteral and Parenteral feeding)</td>
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<td>• Interpretation of routine medical and laboratory data</td>
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<tr>
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<th>Behaviour Change Communication</th>
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<td></td>
<td>• Assessment of Problem in food behaviours</td>
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<td>• Stages of Change</td>
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### UNIT - II

<table>
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<tr>
<th>3.</th>
<th>Factors affecting Food Choices</th>
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<tr>
<td></td>
<td>Social, cultural, religious, economic, emotional factors.</td>
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<th>4.</th>
<th>Food Drug Interactions</th>
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<tr>
<td></td>
<td>• Effect of drugs on food and nutrition</td>
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<td></td>
<td>• Effect of food on drug therapy</td>
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<th>5.</th>
<th>Food Allergies</th>
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<tbody>
<tr>
<td></td>
<td>Clinical features, diagnosis and management of Food Allergy and food intolerance.</td>
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### UNIT - III

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<th>6.</th>
<th>Alternative Therapies</th>
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<td>• Alternative Therapies</td>
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<td></td>
<td>• Ayurveda, Siddha, Yunani and Homeopathy systems</td>
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<th>7.</th>
<th>NABH Regulations in context with Dietitians</th>
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<tr>
<th>8.</th>
<th>Traditional Diets</th>
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References:

Journals
1. Indian Journal of Nutrition and Dietetics
2. American Journal of Nutrition
3. World Review of Nutrition and Dietetics

CLINICAL NUTRITION AND DIETETICS - I (PRACTICAL)

Paper Code: FHN C11
Credits: 4
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/Semester

Objectives:
1. To make students understand the nutritional assessment of elderly and hospitalized patients
2. To make students understand the nutritional management of obesity and eating disorders
3. To make students understand the nutritional management of patients suffering from gastrointestinal diseases, ulcers, liver, pancreatic diseases and food allergies

Contents:
1. Planning and preparation of diet for elderly persons
2. Plan, calculate diets for Obese and Overweight Persons
3. Plan, calculate diets for persons with eating disorders (Anorexia and Bulimia)
4. Visit to ICU to see various methods of feeding
5. Planning and preparation of diet for tube feeding
6. Nutritional Assessment of hospitalized patients
7. Visit to Pediatric Hospital to study the feeding of sick children
8. Planning and preparation of diet for a sick child
9. Plan, calculate diets for persons with constipation and diarrhea
10. Plan, calculate diets for patients with GERD
11. Plan, calculate diets for gastric and duodenal ulcers
12. Planning and preparation of diet for Celiac Disease
13. Planning and preparation of diet for Irritable Bowel Disease,
14. Planning and preparation of diet for Malabsorption Syndrome
15. Planning and preparation of diet for Ulcerative Colitis
16. Planning and preparation of diet for Hepatitis
17. Planning and preparation of diet for Hepatic Coma
18. Planning and preparation of diet for Liver Cirrhosis  
19. Planning and preparation of diet for Pancreatitis  
20. Planning nutrition support for fatty liver  
22. Plan, calculate diets for food intolerances and counsel them regarding management of food intolerance  

**INSTITUTIONAL FOOD ADMINISTRATION – I (PRACTICAL)**  
Paper Code: FHN C12  
Credits: 4  
Max. Marks: 100  
Teaching Hours: 2 Practicals / Week (3 Hours/Week)  
Total teaching workload: 30 Practicals/Semester  

**Objectives:**  
1. To visit different food service institutions to gain an insight into the functioning of such units.  
2. To plan menus for different occasions/institutions  
3. To cook certain food items in large quantities i.e., in 50-60 portions each.  

**Contents:**  
1. Carrying out market survey of perishable, non-perishable and processed foods for meal planning.  
2. Planning and preparation of meals for various occasions giving general consideration, assumptions, organization chart, budget breakup, menu, cost calculations, comparison of actual and estimated costs and evaluation, for example:  
   - Hostel mess  
   - Railway canteen  
   - Office canteen  
   - College canteen  
   - Mid day meal  
   - Conference  
3. Visit to different institutes for eg:  
   - Girls’ hostel  
   - Railway canteen  
   - Office  
   - College  
   - Akshaya patra  
4. Quantity cookery classes for preparation of food items for eg: Coconut cookies, Samosas, Chole tikki, Masala idlies, Masoor dal pakories, Bhel puri, Dahi wada, Chikki etc.  

**SKILL DEVELOPMENT IN CLINICAL NUTRITION (PRACTICAL)**  
Paper Code: FHN C13  
Credits: 4  
Max. Marks: 100  
Teaching Hours: 2 Practicals/ Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/ Semester

**Objectives:**
1. To make students familiar with hospital environment
2. To make students understand the importance and method of nutritional assessment of hospitalized patients
3. To enable students to understand and get trained in management of hospital kitchens
4. To enable students to make appropriate recipe formulations and modifications in a hospital based kitchen
5. To enable students to develop an understanding of working in various wards and counseling patients having difficulty in feeding and catering to their needs

**Contents:**

1. Working of a Dietetics Department in a hospital.  
   Job profile of a Dietician, liaison with doctors and nursing staff.
2. Assessment of Nutritional Status of Hospitalized patients- in 4 wards on rotation  
   To understand the working of a Kitchen in a hospital. Inventory and management of kitchen.
3. Duties of a Dietician in menu planning.
4. Recipe modification and standardization in the lab
5. Conversion of requisitions and prescriptions to menus
6. Case Study  
   Case study in various wards like pediatric, critical care, surgery, gynecology, renal etc.  
   2 students will be posted in a ward for 5 days, and shall complete two case studies.  
   Case study to be submitted shall include anthropometric, biochemical data, clinical examination and dietary data of the patients.
7. Report writing and submission and presentation
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Subject Code</th>
<th>Course Title</th>
<th>Course Category</th>
<th>Credit</th>
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<th>EoSE Duration (Hrs.)</th>
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<td>FHN X01</td>
<td>Clinical Nutrition and Dietetics-II</td>
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<td>4.</td>
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<td>Skill Development in Public Health Nutrition</td>
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CCC = 18,
ECC = 18
Total = 36 credits
FOURTH SEMESTER

CLINICAL NUTRITION AND DIETETICS- II (THEORY)

Paper Code : X01
Credits: 4
Max. Marks:100
Teaching Hours : 4 Hours/Week
Total Teaching Workload : 60 Hours /Semester

Objectives :
1. To impart knowledge about health, fitness and sports nutrition.
2. To impart advanced knowledge to students about pathophysiology of various diseases.
3. To enable the students to understand the special nutrition concerns and the dietary management of Cancer, AIDS, Surgery, Burns, Renal Disorders, Cardiovascular Diseases, Diabetes,
4. To give practical insight for assessment, nutritional care and counseling to patients.

Contents:

Unit- I

1. Nutrition in health and fitness
   - Interrelationship between health, nutrition, exercise and fitness
   - Energy input and output
   - Effect of specific nutrients on work performance and fitness

2. Sports nutrition
   - Energy sources during different exercises
   - Nutritional requirements of athletes
   - Water and electrolyte balance.

Unit - II

3. Nutrition in Renal Disorders:-
   - Glomerulonephritis
   - Nephrotic Syndrome
   - Acute Renal Failure
   - Chronic Renal Failure

4. Nutrition in Surgery and Burns
   - Pre and post operative nutritional care
   - Nutrition support in burns

5. Nutrition related problems and Support in Human Immuno Deficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS)

Unit -III
6. Pathophysiology, aetiology, clinical features prevention and dietary management of Cardiovascular Diseases:
   - Hypertension
   - Coronary Heart Disease
   - Hyperlipidemias

7. Pathophysiology, aetiology, clinical features, prevention and dietary management of Diabetes mellitus
   - Type 1 Diabetes
   - Type 2 Diabetes

8. Nutrition and Cancer
   - Role of nutrition in etiology of cancer
   - Nutritional effects of cancer and it’s therapies
   - Nutritional care of cancer patients

References:

Journals
1. Indian Journal of Nutrition and Dietetics
2. American Journal of Nutrition
3. World Review of Nutrition and Dietetics

PUBLIC HEALTH NUTRITION – II(THEORY)

Paper code: FHN X02
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Weeks
Total Teaching Workload: 60 Hours/Semester

Objectives:
1. Gain insight into national nutritional problem, and national & international contribution towards nutrition improvement in India.
2. Development of skills in organizing and evaluating nutrition projects in the community.
3. To be familiar with various approaches to public health nutrition programs and policies.

### Contents:

#### UNIT-I

<table>
<thead>
<tr>
<th>1. Programme planning and management in public health nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps in programme planning/planning cycle</td>
</tr>
<tr>
<td>Planning Models</td>
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<tr>
<td>Program implementation</td>
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<tr>
<td>Application of management methods and techniques in the health care delivery system</td>
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</table>

#### UNIT-II

<table>
<thead>
<tr>
<th>2. Programme Monitoring and Evaluation</th>
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<tbody>
<tr>
<td>Definition, significance and purpose of monitoring nutrition programme</td>
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<tr>
<td>Identification and selection of indicators for monitoring nutrition programmes</td>
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<tr>
<td>Definition, significance and purpose of evaluation nutrition programmes</td>
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<tr>
<td>Identification and selection of indicators for evaluation</td>
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<td>Management of Data</td>
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#### UNIT-III

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<tr>
<th>3. Nutrition Communication</th>
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<tr>
<td>• Definition and need for nutrition-health education</td>
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<tr>
<td>• Concept and objectives of communication for behavior change</td>
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<tr>
<td>• Designing nutrition-health education plan</td>
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<tr>
<td>• Characteristics of commonly used nutrition and health education materials, including social marketing</td>
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<tr>
<th>4. Nutrition Surveillance</th>
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<tbody>
<tr>
<td>Objectives, Purposes and indications used in nutrition surveillance</td>
</tr>
<tr>
<td>Agencies for nutrition surveillance in India</td>
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<th>5. Marketing Nutrition Programs and Service</th>
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<tr>
<td>• Marketing Research</td>
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<tr>
<td>• Business and Social Marketing</td>
</tr>
<tr>
<td>• Evaluation</td>
</tr>
<tr>
<td>• Marketing Ethics</td>
</tr>
</tbody>
</table>

### References:

5. Waterlow JC. Protein Energy Malnutrition, Edward Arnold, A division of Hodder and

**INSTITUTIONAL FOOD ADMINISTRATION – II (THEORY)**

Paper Code: FHN X03  
Credits: 4  
Max. Marks: 100  
Teaching Hours: 4 Hours / Week  
Total Teaching Workload: 60 Hours/ Semester

**Objectives:**
1. The aspects of food service management.
2. The management of personnel in smooth running of an organisation.
3. How to maintain a food service facility as a sanitary, safe and secure place

**Contents:**

**UNIT- I**

1. Food service Management
   - Food service systems- Conventional, Commissary, Ready Prepared and Assemble serve.
   - Delivery and service of food in different food service systems- Hospitals, Schools, Industries, Airlines.
   - Types of service- Self, Tray, Waiter, Portable Meals.
   - Dining room management- furnishings and equipment for dining rooms

**UNIT- II**
2. Personnel Management
   - Functions of personnel manager
   - Leadership – qualities and responsibilities of a leader, styles and theories of leadership, motivation, theories of motivation, philosophies of human nature-theories
   - Employment process- recruitment, selection, orientation, training, development
   - Performance appraisal and MBO
   - Employee facilities and benefits
   - Labour Cost Control- factors affecting labour control, records for control.
   - Labour management relations- reasons why workers join unions, development of labour unions, structure of unions, union and contract negotiations
   - Personnel functions- kitchen, dining room
   - Labour Laws affecting foods service operations.

UNIT -III

3. Plant and equipment management
   - Maintenance of equipments and facilities- manual and mechanical warewashing, sanitary facilities and equipment, preventive maintenance, pest control
   - Sanitation – principles of food sanitation, sanitation of food, personnel, physical plant and equipment, controlling microbial quality of food, food service sanitation, development of quality assurance (sanitation) programme.
   - Safety – Accident prevention, fire prevention, 3 Es of safety, safety and health programme, HACCP, Food Safety and Standards Act of India.
   - Security- management of security system, main security risks.

References:


**CLINICAL NUTRITION AND DIETETICS- II(PRACTICAL)**

**Paper Code : FHN X11**
**Credits: 6**
**Max. Marks : 100**
**Teaching Hours: 3 Practicals /Week (3 Hours/Practical)**
**Total Teaching Workload : 45 Practicals /Semester**

**Objectives :**
1. To make students understand the nutritional assessment of hospitalized patients
2. To make students understand the nutritional management of patients suffering from gastrointestinal diseases, liver, pancreatic diseases and food allergies
3. To make students understand the nutritional management of sports persons.
4. To familiarize students with the actual working in the Dietetics department in hospitals.

**Contents :**

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<table>
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</table>
| 1. | a. Make a list of Protein rich, calcium rich, iron rich, sodium rich and potassium rich foods, MUFA, PUFA, Omega-3 and Omega-6  
   b. Make a list of foods deficient in Protein, calcium, iron, sodium and potassium, MUFA, Saturated fats  
   c. Plan and Standardized recipes with the foods rich in Protein, calcium, iron, sodium and potassium,  
   d. Plan and Standardized recipes with the foods deficient in Protein, calcium, iron, sodium and potassium  
   e. Incorporate recipes rich in MUFA, PUFA, Omega-3 and Omega-6 |
| 2. | Sports Nutrition  
   a. Planning and preparation of snacks and drink suitable for various sports activities.  
   b. Planning and preparation of diets for endurance training  
   c. Plan and calculate a pregame and a post game meal  
   d. Market Survey of Sports drinks, powders, snacks and meals  
   e. Evaluate the nutritional quality of the sport supplements |
| 3. | Renal Diseases  
   f. Planning and preparation of diet for Glomerulonephritis  
   g. Planning and preparation of diet for Nephrotic Syndrome  
   h. Planning and preparation of diet for Chronic Renal Failure |
| 5. | Cardiovascular and Hypertension  
   a. Planning and preparation of diet for Hypertension  
   b. Planning and preparation of diet for Coronary Heart Disease |
c. Planning preventive nutrition for Hyperlipidemias
d. Planning preventive nutrition for hypertension (DASH diet)

6. Diabetes mellitus
   a. Planning and preparation of diet for Type 1 Diabetes
   b. Planning and preparation of diet for Type 2 Diabetes
   c. Planning preventive nutrition for diabetes

AIDS

7. Dietary management for HIV AIDS patients.

Cancer


Diets and lifestyle for prevention of cancer

NUTRITION RESEARCH DESIGN (THEORY)

Paper code: FHN D01
Credits: 4
Max. marks: 100
Teaching hours: 4 Hours/Week
Total teaching workload: 60 Hours/ Semester

Objectives:

1. To impart knowledge on research methods and designs.
2. To provide an insight into writing research proposal and thesis/dissertation.
3. To develop projects and have an understanding of ethical guidelines, plagiarism and Copy Right Act.

Contents:

UNIT – I

1. Research studies and methods
   i) Epidemiological methods-
      - Observational: correlation study, case reports and case series, cross-sectional study, case control study, cohort study, ecological study
      - Experimental: community trials, clinical trials (individual), controlled trials and uncontrolled trials
   ii) Qualitative research methods-
        - ethnography/anthropological methods
        - observation
        - interviewing
        - group discussion
        - archival (i.e. newspapers)
        - visual data (i.e. photos images)
        - linguistic/ conservation analysis
        - content analysis
• biographies, oral history (normative).

iii) Quantitative research methods-
• experimental studies
• non-experimental designs such as surveys, cross sectional and longitudinal studies.

iv) Mixed methods-
• Sequential
• concurrent
• transformative

2. Nutrition Research Designs in
i) Observational studies
   • Cohort study
   • Prospective study
   • Retrospective study
   • Case control study

ii) Experimental studies
    • Interventional study
    • Clinical trials
    • Randomized control trials
    • Cluster randomized trials

iii) Survey research
    • Cross sectional study
    • Longitudinal study

iv) Mixed methods study

3. Design Process of Research
i) Conceptualizing a study: hypothesis, objectives
ii) Selecting research methods and design
iii) Data management
iv) Communication of research through presentations and writing

UNIT – II
4. Types of reports
i) Thesis/ dissertation
ii) Research papers/articles
iii) Review papers: systematic review paper, meta-analysis review paper
iv) Case studies
v) Term papers
vi) Synopsis/ research proposal
vii) Project reports
viii) Seminar reports
ix) Popular articles
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<td>Research abstracts</td>
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<td>xi)</td>
<td>Research progress reports</td>
</tr>
</tbody>
</table>

   i) Title page, table of contents, abbreviations, certificate  
   ii) Introduction- introduction, rationale, objectives, hypothesis  
   iii) Review- structure, citation of references  
   iv) Methodology- structure, sample design, sample size and characteristics, sampling procedure, locale of the study, tools of data collection, methods and procedures, statistical analysis  
   v) Bibliography- structure, methods of citation, different styles followed  
   vi) Appendices, footnotes, other accessories  

6. Writing thesis / dissertation (additional chapters)  
   i) Abstract  
   ii) Results and discussion- structure, tables, figures and discussion  
   iii) Summary and conclusions- structure, conclusions  
   iv) Recommendations- relevant to research work  

UNIT – III  

8. Designing projects  
   i) Project title  
   ii) Introduction:  
      • origin of the research problem  
      • interdisciplinary relevance  
      • review of research and development in the subject – international status and national status  
      • significance of the study  
      • its potential contribution to knowledge in the field of social relevance or national importance  
   iii) Objectives  
   iv) Methodology  
   v) Year wise plan of work and targets to be achieved  
   vi) Budget: recurring: salary, travel and field work, hiring services, contingency and non-recurring: equipments, building  

9. Funding for projects-  
   National agencies  
   i) University Grant Commission (UGC)  
   ii) Department of Biotechnology (DBT)  
   iii) Department of Science and Technology (DST)  
   iv) Indian Council of Medical Research (ICMR)  
   v) Ministry of Food Processing Industry (MFPI)  
   vi) Indian National Science Academy (INSA)  
   vii) Indian Council of Agricultural Research (ICAR)  
   viii) Council of Scientific and Industrial Research (CSIR)
Indian Council of Social Science Research (ICSSR)

International Agencies
i) UN Agencies: UNICEF, USAID, UNFPA
ii) International Funding of Science
iii) Third World Academy of Sciences
iv) Third World Network of Scientific Organization

10. National ethical guidelines for biomedical and health research involving human participants

11. Plagiarism

12. Copy Right Act

References:
4) National ethical guidelines for biomedical and health research involving human participants. Indian Council of Medical Research, New Delhi, 2016.

PUBLIC HEALTH NUTRITION - II (PRACTICAL)

Paper code: FHN D11
Credits : 4
Max. Marks:100
Teaching Hours :2 Practicals/Week(3 Hours/Practical)
Total Teaching Workload : 30 practicals/Semester
### Objectives:
1. To enable students to plan programs for nutritional problems of public health importance
2. To collect literature on aspects of public health and assess them for their content hence enabling students to develop IEC and material
3. To plan and evaluate ongoing programs of public health

### Contents:

1. Program planning on Public Health and nutritional problems identified as priority area during need assessment.
2. Collection of literature related to problem
3. Prepare messages to be disseminated on identified PHN issue
4. Plan communication methods for execution of program
5. Prepare suitable audio visual aids as well as collect audio visual aids already available at various Government departments or NGO
6. Implementation and Evaluation of program in field (selected village or slum areas) (Execute five programs of five groups of students)
7. Writing one article on any one contemporary public health and nutrition issues for print media

### INSTITUTIONAL FOOD ADMINISTRATION – II (PRACTICAL)

**Paper Code:** FHN D12  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 2 Practicals / week (3 Hours/Practical)  
**Total Teaching Workload:** 30 Practicals/Semester

### Objectives:
- To visit different food service institutions to gain an insight into the functioning of such units.
- To plan menus for different occasions/institutions
- To cook certain food items in large quantities i.e., in 50-60 portions each.

### Contents:

1. Carrying out market survey of perishable, non-perishable and processed foods for meal planning.
2. Planning and preparation of meals for various occasions giving general consideration, assumptions, organization chart, budget breakup, menu, cost calculations, comparison of actual and estimated costs and evaluation:
   - Theme party
   - Special cuisine
   - Cocktail party
3. Visit to different institutes for eg.
   - Hotel
   - School
   - Institute of Hotel Management
   - McDonalds
   - Industrial canteen
   - Philanthropic institution
   - Airport

4. Quantity cookery classes for preparation of food items for eg.: Chaula dal kipakori, Bread rolls, Mini pizzas, Burgers, Mexican tacos, Idlisambhar, Pavbhaji, Cholebhaturas, Bhel puri

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**SKILL DEVELOPMENT IN PUBLIC HEALTH NUTRITION (PRACTICAL)**

**Paper code: FHN D13**

Credits : 4  
Max. Marks:100  
Teaching Hours : 2 Practicals/ Week (3 Hours/Practical)  
Total Teaching Workload : 30 Practicals /Semester

**Objectives:**

1. To enable students to carry out Community Programs at Urban, Rural and Slums
2. To develop skills and to translate skills into action at Community level
3. To strengthen skills of frontline workers in all programs
4. To create interest in Community and create awareness and motivation for lifestyle modification

**Content:**

1. **Skills through trainings**

   **Malnutrition treatment centre:**  
   - Placement at MTC in Hospital  
   - Skill in calculating, preparation and feeding of therapeutic diets.

   **Infant and young child nutrition**  
   - Placement at AWCs- Strengthening skill of ASHAs and AWW  
   - Techniques of initiation of breast feeding, and complementary feeding.  
   - Techniques in calculation of frequency and adequacy of complementary food. (frequency, adequacy, density, utilisation)

2. **Home Based Care of Neonates and Children**  
   - Counseling and Strengthening HBNC in frontline workers by Placement at AWC in rural set up  
   - Counseling and Strengthening in Growth Monitoring and Promotion of Growth Monitoring in frontline workers by Placement at AWC in rural set up

3. **Application of nutritional components of ICDS program**
- Activities for MCHN day: Celebrating MCHN Day at Slum/ Village
- Nutritional care of pregnant woman in terms of weight gain during pregnancy, calcium & iron-folic acid supplementation and consumption of iodized salt.
- Infant and young child nutrition in terms of early initiation of breast feeding, exclusive breast feeding, timely introduction of complementary feeding and nutrition of children aged 6 months to 2 years.

5. Holding health Camp for all Population groups in Community/ Campus
M.Sc. Home Science
DEVELOPMENT COMMUNICATION AND EXTENSION

First Semester Examination, 2016-December

Scheme of Examination:

1. Each theory paper EoSE shall carry 100 marks. The EoSE will be of 3 hours duration. Part ‘A’ of the theory paper shall contain 10 Short Answer Questions of 20 marks, based on knowledge, understanding and applications of the topics/texts covered in the syllabus. Each question will carry two marks for correct answer.

2. Part “B” of paper will consist of four questions as suggested below except in cases where a different scheme is specified in the syllabus.

   - First question will contain 6 parts out of which 4 to be answered carrying weightage of 5 marks each. Word limit for each answer will be 50-70 words.
   - There shall be 3 questions (with internal choice) of 20 marks each. The word limit for each answer will be 1000 words.

3. Each laboratory EoSE will be of four/six hours duration and involve laboratory experiments/exercises, and viva-voce examination with weight-age in ratio of 75:25.

Course Structure:
The details of the courses with code, title and the credits assigned are as given below.

Abbreviations used:

Subject Code: DCE

Course category:
CCC: Compulsory Core Course
ECC: Elective Core Course
SSECC: Self Study Elective Core Course
SSCCC: Self Study Compulsory Core Course
DIS: Dissertation

Contact hours
L: Lecture
T: Tutorial
P: Practical
Learning Outcomes of M.Sc. Development Communication and Extension (DCE)

The M.Sc programme in Development Communication and Extension will make the students understand various issues and challenges of development in general and for rural India in particular. The students would gain knowledge regarding socio-economic environment of India with special reference to rural India. They would also learn about rural institutions and their nature and role in development. They would not only learn to identify the community needs of development through participatory methods but also would learn to plan, implement and evaluate the extension programmes strategically. The students would value and learn gender mainstreaming in development. The students would gain understanding of concept of communication and development communication. They would practice the use of modern and traditional methods of communication in the real settings (village/slum/tribe). The role of Information Communication Technology (ICT) is paramount now days; hence the students would also learn the use of Information Communication Technology for development. Research is very important component of higher education. The students would learn the basics of planning and carrying out a research study in the area of development communication and extension. Entrepreneurship development would be an integral part of M.Sc Development Communication and Extension curriculum. The basic knowhow will be given to students regarding entrepreneurship development for women. The students would be motivated to start their own enterprise after completion of M.Sc Development Communication and Extension. Social entrepreneurship would be other option for students to engage in.

In a nutshell, the students would be prepared to work in Government organisations (GOs) and Non Government Organisations (NGOs) for community development. They may be absorbed as development communicators. They may start their own ventures. Further, they may also seek employment in research institutions.
## M.Sc. Home Science

**Development Communication and Extension**

### FIRST SEMESTER

<table>
<thead>
<tr>
<th>S. No</th>
<th>Subject Code</th>
<th>Course title</th>
<th>Category</th>
<th>Credit</th>
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<td>CCC</td>
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CCC=18, ECC=18

Total=36
COMMUNITY ORGANIZATION AND EXTENSION (THEORY)

Paper Code: DCE 701  
Credits: 4  
Max. Marks: 100  
Teaching Hours: 4 Hours /Week  
Total Teaching Workload: 60 Hours /Semester

Objectives:
To enable students to:
1. Understand the principles of community organization
2. Acquire skill in developing leadership in rural people
3. To develop understanding about group behaviour and dynamics for effective communication and group management

Contents :

UNIT- I Introduction to extension
1. Concept of education, non-formal, formal, informal and extension education objectives of extension education
2. Scope of extension education
3. Principles of extension education
4. Process of extension education
5. Qualities of an extension worker
6. Philosophy of extension education

UNIT- II Concept of community, community structure and organization
7. Community: concept and characteristics of a community.
8. Structure and organization of different types of communities: tribal, rural and urban and urban slums
9. Community organization: concept, meaning, scope, principles, process and identifying the role of individuals in the community
10. Role and quality of a community organizer

UNIT- III Group Dynamics
11. Community organizations – PRIs, cooperatives, women organizations, youth organizations and other organizations for community empowerment
12. Concept of group dynamics - meaning, characteristics, types and functions of groups, stages and process of group formation, group norms and structure
13. Components of group dynamics - cooperation, competition, communication, group pressure, group cohesiveness, leadership, managing group and team building
14. Leadership – concept, selection of leader, theories and training for developing leadership

References:
# ADVANCED DEVELOPMENT COMMUNICATION (THEORY)

**Paper Code:** DCE 702  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours /Week  
**Total Teaching Workload:** 60 Hours /Semester

**Objectives:**
To enable students to-
1. Understand the various facets of communication and its significance for extension and national development.  
2. Understand different forms of media and ways to promote them.

**Contents:**

**UNIT- I Concept and historical overview of development**

1. Status of development and communication during the period of great development 3500 BC-1500 AD, period of colonization 16th-20th century AD and the post independence period.  
2. Basic concept of development- definition, concept, nature, evolution, significance, functions and dysfunctions, dynamics of development.  
3. Models of development:  
   - Economic growth model  
   - Social equity model  
   - Participatory model

**UNIT- II Issues to development and development communication**

4. Indicators of development- human development index, gender empowerment measures, human poverty index, global ratings of countries based on the indices Classification of regions and countries on the basis of development.  
5. Definition, evolution with respect to historical and cultural perspective of development communication.  
6. Nature, role and significance of development communication  
7. Inter-relationship between development and development communication

**UNIT- III Development Communication**

8. Models of development communication:  
   - Interdependent model  
   - Dependency model  
   - Basic needs model  
   - New paradigm of development  
9. Approaches of development communication  
   - Diffusion of innovation  
   - Empathy  
   - Magic multiplier  
   - Localized approach  
10. Folk Media: folk songs, puppetry, drama, songs, stories, etc.  
11. Promotion of development communication by government: role of government agencies like Akashwani, DAVP, IEC bureau, resource centers, IIMC, songs and drama division
References:


ENTREPRENEURSHIP DEVELOPMENT FOR WOMEN (THEORY)

Paper Code: DCE 703
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester

Objectives:
To enable students to:

1. Develop understanding of enterprise
2. Develop understanding about entrepreneurial growth
3. To understand the various infrastructures for employment and income generation.
4. Acquire skills in planning project proposals

Contents:
UNIT-1 Entrepreneurship
<table>
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<tr>
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<td>Essentials of enterprise setting</td>
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<td>• Drafting of project proposal.</td>
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<td>• Registration.</td>
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<td>• Support Systems: financial and non-financial</td>
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<td>• Enterprise feasibility and viability – technical, financial, social</td>
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<td>Legal aspects</td>
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<td>• Business and industrial laws.</td>
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<td>• Taxation.</td>
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<td>• Enterprise implementation and monitoring.</td>
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<td>• Enterprise growth and development: expansion and diversification</td>
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<td>• Enterprise failure: causes and remedies</td>
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| UNIT-III | Management of Enterprise |
| 6. | Finance |
| | • Maintenance of essential account records |
| | • Costing and pricing |
| | • Profit and loss calculation |
| | • Auditing and preparation of balance sheet |
| 7. | Personnel: organizing worker for better performance: basic principles and techniques |
| 8. | Marketing, packaging and storing: |
| | • Marketing, advertising and salesmanship, quality control and improving standards |
| | • Packaging, labeling and standardization (ISO, BIS, Agmark and Others) |
| | • Managing stores |

References:

5. Labour Bureau, Ministry of Employment of Labour, Chandigarh. Study of Women in
6. Mitra, A. The status of Women-Literacy and Employment, ICSSR Programme of
   Women’s Studies Allied, 1979.
7. Paul, J. Kumar. N.J. and Mampilly, Paul J. Entrepreneurship development, Himalaya

**Periodicals:**
1. Yojana, Publication Division, New Delhi.
2. Kurukshetra Publication Division, New Delhi.

**ADVANCED DEVELOPMENT COMMUNICATION (PRACTICAL)**

Paper Code: DCE711  
Credits: 6  
Max. Marks: 100

**Teaching Hours:** 3 Practicals/Week (3 Hours/practical)  
**Teaching Workload:** 45 Practicals /Semester

**Objectives:**
1. To sensitize students regarding the functioning, strength and weakness of developmental
   organizations.
2. To develop the skill of critical analysis
3. To develop the skill of designing communication material for communication kit
4. To make them enable to express themselves through folk media to enrich their skill in
   organizing an exhibition

**Contents:**

| 1 | Visit to developmental organizations with special reference to their structure, activities/ 
   programmes, strengths and weaknesses and Collect &analyze IEC material(soft/hard 
   copy) |
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4. Develop skills in folk media
   1) Puppetry
      - Develop a story
      - Preparation of puppets
      - Puppet play
   2) Social drama
5. Plan and arrange an exhibition of designed IEC material

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<tr>
<th>RESEARCH METHODOLOGY (THEORY)</th>
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<td>Paper Code: DCE A01</td>
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<td>Total Teaching Workload: 60 Hours/Semester</td>
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Objectives:
1. To understand the basic concepts of research methodology.
2. To be able to understand the various steps of research methods.
3. To enable the students to understand various research designs, sampling techniques, methods of collecting data.
4. To enable the students to prepare and present report for dissertation purpose

Contents:

UNIT-I
1. Research purpose and objectives.
3. Review of literature: importance, sources and writing review of literature.
4. Research designs: purpose and types.

UNIT-II
5. Technique of sampling- Census and sampling methods, probability and non-probability sampling procedures, sample size.
6. Data gathering instruments, measurements and scales, reliability and validity of measuring instruments- Questionnaire. Schedule, Score card, checklist.
7. Methods of collecting data: Questionnaire, interview technique, observation, case study, focus group discussion.

UNIT-III
8. Planning, executing and analysis of large scale surveys with special emphasis of surveys in Home science.

References:

INDIAN SOCIO - ECONOMIC ENVIRONMENT (THEORY)

Paper Code: DCE A02
Credits: 4
Max. Marks: 100
Teaching Hours: 4 hours/week
Total Teaching Workload: 60 hours/semester

Objectives:
To enable students to:
1. understand the social structure of India
2. study the social changes taking place and their impact on society
3. develop understanding regarding rural economic environment
4. orient to concepts of economics

Unit I: Rural sociology
1. Orientation and characteristics of rural and tribal society, rural urban differences.
2. The physical structure of rural society- pattern of rural settlement, rural resources- man made and human resources, societal and cultural factors in population change.
3. Social institute- concept and functions, major institutes- family, religion, economy and education
4. Social change: nature, meaning, directions and role of women in social change, planned social change
5. Social issues- education, employment, population, health and sex ratio, migration, slums
6. Social Organizations- Characteristics and classification
7. Basic elements of rural development
8. Barrier to rural economic development
9. Role and contribution of women in rural economy
### Unit II Introduction to Economic Environment

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<td>Concept and features of rural economic environment</td>
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<td>Rural marketing - concept and features</td>
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<td>13</td>
<td>Concept of micro and macro economics</td>
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<td>Classification of economics – capitalistic, socialist, mixed</td>
<td>Close and open economy.</td>
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<td>Basic features and challenges of Indian economy</td>
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### Unit III Dynamics of Rural Economic Environment

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<tr>
<td>16</td>
<td>Latest trends of key contributors to Indian economy –</td>
<td>agriculture sector, service sector, manufacturing sector,</td>
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<td>Rural Credit - Evolution, reforms, importance, problems and</td>
<td>agencies supplying rural credit</td>
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<td>Rural transport - need, advantages and contribution to</td>
<td>economic environment</td>
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<td>Land reforms – Major amendments - Abolition of Intermediaries</td>
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<td>Rural Industries - Classification and basis for</td>
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<td>21</td>
<td>Co-operatives - Concept and contribution</td>
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### References


### Journals

2. Journal of Rural Development
5. Vohra, Publication of Development, Govt. of India, New Delhi.

### Entrepreneurship Development for Women (Practical)

**Paper Code:** DCE A11  
**Credits:** 6  
**Max. Marks:** 100  
**Teaching Hours:** 3 Practicals/ Week (3 Hours/Practical)  
**Total teaching Workload:** 45 Practicals / Semester
Objective:
1. To develop entrepreneurship skills among students

Content:
1. Visit to micro enterprises and preparation of report
2. Talk by members of funding agencies, bank and related institutions
3. Study of registers and records maintained by entrepreneurs
4. Study the legal and administrative aspects of micro enterprises
5. Identifying schemes of banks and other agencies for entrepreneurs
6. Prepare a project/business plan proposal
7. Presentation and discussion of business plan

COMMUNICATION SKILLS (PRACTICAL)

Paper Code: DCE A12
Credits: 4
Max. Marks: 100
Teaching Hours: 2 Practicals/Week (3 Hours/Practical)
Total Teaching Workload: 30 Practicals/Semester

Objectives:
The students should be able to:
1. Develop and apply skills of oral presentation, discussion, writing composition, CV, minutes reports.
2. Read and write notes from different sources.
3. Search and interpret information from various sources.
4. Use appropriate skills in interpreting and answering oral and written questions in tests, examinations and other contexts.

Contents:
1. Searching Information
   - Using library and internet.
   - Using a dictionary and encyclopedia, thesaurus.
2. Taking and making notes
   - Notes taking skills.
   - Notes making skills
3. Reading skills:
   - Skimming and scanning skills.
   - Intensive and extensive reading.
   - Copying with unfamiliar words.
4. Writing skills
   - Referencing skills.
   - Composition writing.
   - Writing curriculum vitae (cv) and minutes
5. Oral presentation
- Treatment of reports for presentation.
- Practice in using media in oral presentation

6. Interview skills
7. Importance of feedback – during and after communication

**References:**

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## SECOND SEMESTER

**LIFE LONG LEARNING (THEORY)**

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### Objectives-
To enable students to:
1. Understand the conceptual framework of adult and lifelong learning.
2. Gain insight into the relationship between literacy, adult education and lifelong learning.
3. Understand the role of lifelong learning in context of Nation building.

### Content

#### Unit - I

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<tr>
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<td>Concepts and terminologies related to lifelong learning: andragogy and pedagogy, lifelong learning, continuing education, formal education, non-formal education, incidental learning, illiteracy and its forms.</td>
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<td>Introduction to adult learning, characteristics of adults, learning span, factors facilitating adult learning</td>
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<td>Application of learning principles in practice of lifelong learning</td>
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<td>Genesis, history and growth of the LLL/ non-formal education programme in India</td>
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<td>Agencies involved: role of Indian Adult Education Association, Indian University Association for Continuing Education, State Resource Centre, Universities, Department of Education and Adult Education of the Centre and States. NGO/VO, NLM authority, SLM authority, Jan Shikshan Sansthan in LLL/ non formal education</td>
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#### Unit - II

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<td>Curriculum of Non-formal Education: Preparation of need based curriculum for different kinds of adult education and functional literacy programmes for adults.</td>
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<tr>
<td>7</td>
<td>Materials for adult education- primers, teacher guides, work books and instructional aids. Preparation, selection and use of different learning materials for various target groups. Use of various extension teaching methods and audio visual aids, relevance of digital primer in adult education for India and the region, importance of the use of folk media</td>
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#### Unit - III

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<tr>
<td>8</td>
<td>Importance of Experiential learning for Adults- characteristics and steps of experiential learning cycle.</td>
</tr>
<tr>
<td>9</td>
<td>Steps in organizing educational programme for adults, planning and execution of the programme involving various government and non-government agencies and institutions.</td>
</tr>
<tr>
<td>10</td>
<td>Contemporary Programmes by government of India, Sarva Sikshan Abhiyan, Bharat Sakshar</td>
</tr>
</tbody>
</table>

### References

2. En.wikipedia.org/wiki/lifelong_learning
9. Vle.du.ac.in

Periodicals:
1. Indian Journal of Adult Education. Indian Adult Education Association, New Delhi.

EXTENSION PROGRAMME DESIGN AND EVALUATION (THEORY)

Paper Code: DCE802
Credits: 4
Max. Marks: 100
Teaching Hours: 4 hours/week
Total Teaching Workload: 60 hours/semester

Objectives:
To enable students to
1. understand the extension programme and their planning
2. understand the need assessment techniques and plan of work
3. understand the relationship of programme implementation, monitoring and evaluation

Contents:

UNIT- I

1. Extension Programme: Meaning, need and characteristics
2. Programme objective: Meaning, role, levels, components, qualities, and writing programme objectives
3. Need and Need identification: Concepts, characteristics and types of needs, Applications of different PRA techniques in need identification
4. Application of management principles in design extension programme
5. Programme Planning: meaning, nature and principles

Unit -II
<table>
<thead>
<tr>
<th></th>
<th>Process of programme planning</th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td>Plan of work: Meaning, importance, elements, criteria of a good plan and developing a plan of work</td>
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<tr>
<td>8</td>
<td>Programme implementation: Meaning, steps</td>
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<td>9</td>
<td>Problems in implementation</td>
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<td>10</td>
<td>Role of local bodies and extension agencies in programme implementation</td>
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</table>

**UNIT -III**

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<thead>
<tr>
<th></th>
<th>Feedback - role of management information systems</th>
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<td>11</td>
<td>Monitoring: concept, purpose, types and steps</td>
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<td>12</td>
<td>Evaluation: Meaning, objectives, purpose, types, steps, tools and techniques for evaluation</td>
</tr>
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<td>13</td>
<td>Follow up: Needs, methods and making the programme self sustaining</td>
</tr>
<tr>
<td>14</td>
<td>Report writing and documentation: preparing a project report: need and procedure for reporting and documentation</td>
</tr>
</tbody>
</table>

**References:**

2. The Right to Development, Centre for Development and Human Rights, New Delhi, 2003
15. Govind, S., Tamilsevi G. and Meenambigai, J. Extension Educational and Rural

TRAINING PROCESS AND METHODS (THEORY)

Paper Code: DCE 803
Credits: 4
Max. Marks: 100
Teaching Hours: 4 hours/week
Total Teaching Workload: 60 hours/semester

Objectives:
To enable students to:
1. understand the concept of training, process, and design component of training.
2. develop skills regarding training management.

Unit - I
1. Training - definition, concept, importance and features
2. Difference between education and training
3. Need Assessment
4. Types – institutional, non institutional, orientation, refresher and in-service training
5. Experiential Learning cycle of Training
6. Elements of effective training

Unit - II
7. Phases of training - Pre training, training and post training
8. Elementary idea of training methods
9. Designing training schedule
10. Designing lesson plan for training
11. Training evaluation
12. Management of training programme Physical arrangement - Selection of participants, selection of resource persons, aids, equipment, transformation, finance and monitoring of training

Unit - III
13. Organizational factors
14. Funding agencies - ATMA, NABARD, RUDA, CAPART, RMoL etc
15. Training Institutes - NIPCCD, RUDSET, NIRD, SIRD, KVK etc

References:

EXTENSION PROGRAMME DESIGN AND EVALUATION (PRACTICAL)

Paper Code: DCE 811
Credits: 6
Max. Marks: 100
Teaching Hours: 3 Practicals /Week (3 Hours/Practical)
Total Teaching Workload: 45 Practicals /Semester

Objectives:
The students should able to:
1. Design a need based extension programme.
2. Acquire skills in various extension teaching methods namely Demonstration, Role play and Group discussion etc
3. Acquire skills in evaluation of teaching aids and extension programme
4. Gain knowledge about corporate houses and agencies which are doing extension work and providing resources for extension work.

Contents:

1. Need assessment of the nearby rural/slum community
2. Design extension programme on the basis of identified needs and develop skills in the followings for successful implementation of the same-
   • Prepare lesson plan and develop skill in extension teaching methods, applicable to designed programme namely demonstration, lecture, group discussion, role play etc.
   • Design appropriate teaching aid to support selected teaching method
   • Evaluation of developed teaching aids
3. Implement designed extension programme in the field
4. Evaluation of implemented programme in field
5. Select one corporate house and document, its extension activities/concerns.
6. Document the agencies providing different resources for extension work.

STATISTICS (THEORY)

Paper Code: DCE B01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester
Objectives
1. To understand the basic concepts of statistics.
2. To enable the students to understand various types of statistical tools and their interpretation.

Contents:

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<tr>
<th>UNIT- I</th>
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<tr>
<td>1.</td>
<td>Statistics: meaning, scope and importance in research</td>
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<td>2</td>
<td>Classification and Tabulation</td>
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<td>3</td>
<td>Measures of Central Tendency and Dispersion (Mean, Median, Mode, Quartiles, Range and Standard Deviation)</td>
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<td>4</td>
<td>Graphic and Diagrammatic representation of data (Frequency, Histogram, Graphs, Bar-diagram and Pie charts)</td>
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<tr>
<th>UNIT- II</th>
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<tbody>
<tr>
<td>5</td>
<td>Elementary ideas on Probability (Simple Probability) Skewness and Kurtosis definition. Elementary ideas of random variable and its density function (Binomial, Poison, Uniform, Normal varieties, Normal distribution and its properties, Use of Normal probability tables)</td>
</tr>
<tr>
<td>6</td>
<td>Elements of testing a Statistical Hypothesis- Formulation of the problem, Definition of type I and II errors. Level of Significance, t-test, Z-test</td>
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<th>UNIT- III</th>
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<tr>
<td>7</td>
<td>Design of Experiment: Analysis of Variance</td>
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<td>8</td>
<td>Correlation and Regression: Correlation and its interpretation. Product moment and Rank order. Correlation Coefficient Regression Equations (without derivation) and its interpretations, use of prediction</td>
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<td>9</td>
<td>Non-parametric Inference: Sign, Mann Whitney and Chi square test (as goodness of fit and independence of attributes in 2<em>2 and r</em>c contingency tables)</td>
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<td>10</td>
<td>Use of computer of statistical analysis using SPSS</td>
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<tr>
<th>HUMAN RIGHTS AND DUTIES (THEORY)</th>
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<td>Paper Code: DCE B02</td>
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<td>Credits: 4</td>
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<td>Max. Marks: 100</td>
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<tr>
<td>Teaching Hours: 4 Hours /Week</td>
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<tr>
<td>Total Teaching Workload: 60 Hours /Semester</td>
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**Objectives:**

1. To enable the students to understand the issues concerning the rights and duties in general and the marginalized groups in particular.
2. To practice on self these values of self inculcation, endeavor to live up to the ideals i.e. duty to respect other’s rights, respect each other’s human dignity.

**Contents:**

**UNIT- I**

1. Background of human rights
   - History and origin of human rights
   - Indian constitution and human rights
   - Human rights in international context (UN)
   - Universal declaration of human rights: 1948
   - International covenants on civil and political rights 1966.
   - International covenants on economic, social and cultural Rights 1966
   - Convention on elimination of all forms of discrimination against women 1979.
   - Convention on the rights of the child 1989
   - UN declaration and duties and responsibilities of individuals 1997
   - UN High commission for human rights and the committees under the various conventions.

2. Concept of Human Rights and Duties
   - Values: dignity, liberty, equality, justice, unity in diversity.
   - Inherent, inalienable, universal and indivisible

3. Classification of rights

4. Classification of duties

**UNIT-II**
| 5   | Human rights and duties in India |
|     | • Evolution                    |
|     | • Fundamental rights           |
|     | • Directive principles of state policy |
| 6   | Fundamental duties            |
| 7   | Judiciary                     |
| 8   | National and state human rights commission and other grievance |
| 9   | Redressed mechanisms          |
| 10  | NGOs, social movements and pressure groups |
| 11  | Information media             |

**UNIT III**

| 12  | Importance of internalizing of human rights and duties- urgent need for not only sensitizing others of human rights and duties, but of practicing on self those values |
|     | • Self inculcation              |
|     | • Endeavor to give up to those ideas |
|     | • Duty to respect other’s rights |
|     | • Respect each other’s human dignity |

| 13  | Societal problems in private and public domains |
|     | • Core Problems: poverty, underdevelopment and illiteracy |
|     | • Some specific problems: |
|     |   i. Commercial and caste conflicts and tensions |
|     |   ii. Discrimination and violence against women and children sexual harassment |
|     |   iii. Violence, trafficking child labour, bonded labour and others. |
|     |   iv. Custodial violence |
|     |   v. Problems of health and environmental protection |

**References:**

5. Geetha V. Gender, Street Publication, Kolkata, 2002.
<table>
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<tr>
<th><strong>SCIENCE AND TECHNOLOGY FOR WOMEN (THEORY)</strong></th>
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<td><strong>Total Teaching Workload:</strong> 60 Hours /Semester</td>
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**Objectives:**
- To enable the students to -
  1. develop a scientific temper to promote rural development.
  2. gain knowledge in applied technologies for rural development with special reference to women.

**Unit I**

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<tr>
<td>1</td>
<td>Appropriate technology - Meaning of appropriate technology, affordable technology,</td>
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<td>intermediate technology; criteria, need and classification of technology</td>
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<td>2</td>
<td>Transfer of technology - concept and factors affecting TOT</td>
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<td>3</td>
<td>Role of science and technology in empowerment of women, challenges faced by rural</td>
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<td>women in accessing technology</td>
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<td>4</td>
<td>Women workload in changing context- economic changes, environmental changes and</td>
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<td>socio-cultural changes</td>
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<td>5</td>
<td>• Waste management- concept, types of wastes and waste recycling</td>
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<td>• Improved grain storage at domestic level, farm level and at large scales</td>
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**UNIT II**

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<td>6</td>
<td>Technologies for rural women and their management-</td>
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<td>• Food processing- science and technology as applied to the field of nutrition - low</td>
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<td>cost, indigenous, fast and convenience foods,</td>
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<td>• Food preservation</td>
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<td>• Vermicomposting</td>
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<td>• Kitchen gardening</td>
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<td>7</td>
<td>Energy management-</td>
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<td>• Fuel Management – Use of fuel wood – present practices and problems, smokeless</td>
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<td>Chulah , use of ‘alternate’ non-conventional sources of energy including wind and</td>
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**UNIT III**

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<td>Energy management-</td>
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<td>• Biogas- Scope and principles and application</td>
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<td>• Solar Energy- scope, advantages and solar energy devices</td>
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<td>9</td>
<td>Agencies involved in promoting science and technology for rural development - institutions</td>
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<tr>
<td></td>
<td>involved – DST, CAPART, Indian Renewable Energy Development Agency (IREDA), Ministry</td>
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<td>of Non-conventional Energy Sources , FAO, ICAR</td>
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</tbody>
</table>

**References:**

10. Vinkata RP. Rural and Renewable Energy: Perspectives from Developing Countries, Tata Energy Research Institute, New Delhi.

Journals
1. Yojana
2. CAPART Press Clippings.
3. Khadi Gramodyog
4. Construction on Rural Technology

ENTREPRENEURSHIP DEVELOPMENT FOR WOMEN-II (PRACTICAL)

Paper Code: DCE B11
Credits: 4
Max. Marks: 100
Teaching Hours: 2Prac/week (3 Hours/Practical)
Total Teaching Workload: 30 practicals/semester

Objectives:
To enable students to develop skills in entrepreneurship development

Contents:
1. Visit to support agencies and find out their schemes for women entrepreneurs
   1. Non-Financial
      - DIC (District Industrial Centre)
      - Pollution Control Board
      - SSIB (Small Scale Industries Board)
   2. Financial
      - RFC (Rajasthan Finance Corporation)
      - RIICO (Rajasthan Industrial Investment Corporation)
      - SIDBI (Small Industries Development Bank of India)

2. Explore the possibilities for enterprises run by women in the field of
   a) Clothing Industry
   b) Textile Industry
   c) Food Industry
   d) Ancillary Industry

3. Find out their motivating sources to start the enterprise and their problems.

4. Find out the measures taken by them to solve the problems

5. Explore the various schemes of the government to promote entrepreneurship.


7. Plan a business plan proposal on the following points.
   a) Entrepreneurs/Enterprise details
   b) Equipment details
   c) Procedures for production
   d) Financial projections
   e) Technical projection
   f) Suppliers details (Raw material, Equipments)
   g) Marketing strategies

8. Case study of successful entrepreneurs

9. Lectures by the representatives of various agencies (FICCI, women entrepreneurs,
   Government agencies banks etc.)

10. Collection of various labels, Packets and standardization measures. (BSI, ISI, Ag
    Marks)

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TRAINING PROCESS AND METHODS (PRACTICAL)

Paper Code: DCE B12
Credits: 2
Max. Marks: 100
Teaching Hours: 1 Practical /Week (3 Hours /Practical)
Total Teaching Workload: 15 Practicals /Semester

Objectives:
To enable students to develop skills in
1. designing training programme
2. organizing training
3. evaluate a training programme

Contents:
1. Designing training schedule up to 2 days on the basis of assessed need in previous semester
2. Developing lesson plan according to the schedule
3. Preparation of tool for pre and post test
4. Organizing of a training programme
   a) Pre test
   b) Implementation of two days training
   c) Post test
5. Evaluation of the conducted training
### THIRD SEMESTER

<table>
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<tr>
<th>S. No</th>
<th>Subject Code</th>
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<td>Dissertation-I</td>
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CCC=18, ECC=18  
Total=36
THIRD SEMESTER

EXTENSION MANAGEMENT (THEORY)

Paper Code: DCE901
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours / Week
Total Teaching Workload: 60 Hours / Semester

Objectives:
To enable students to:
1. understand the principles and characteristics of extension management
2. understand management of human resources in extension organization

Contents:
UNIT-I
1. Extension Management - meaning, nature, characteristics and scope
2. Principles of extension management
3. Competencies required by extension managers
4. Planning - meaning, elements, characteristics and types. decision making - meaning and process

UNIT-II
6. Organizing - meaning, types of organizations, forms of organization structure and process, delegation of authority - meaning, need, principles, centralization and decentralization in organization
7. Coordination - meaning, ways of achieving coordination in organization
8. Staffing - Meaning, staff selection and orientation of staff, manpower planning
9. Directing - meaning, motivation of extension personnel, Maslow's theory of motivation

UNIT-III
10. Controlling - meaning and techniques of controlling - budgetary and non budgetary control and modern techniques- PERT and CPM
11. Reporting and budgeting - concept, procedure of writing report
12. Managing human resources within extension - job analysis and performance appraisal, recruitment of the extension personnel, training of the workers, stress management, stimulus and incentives, supervision, ways to achieving effective human relations

References:

DEVELOPMENTAL GOALS AND STRATEGIES (THEORY)

Paper Code: DCE902
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours/Week
Total Teaching Workload: 60 Hours/Semester

Objectives:
To enable students to:
1. Understand the development and indicators of development.
2. Understand the concept of sustainable development and developmental policies.

Contents:
Unit-I Concept and Historical Overview of Development
1. Development: Meaning, definition, evolution, concept, significance and paradigms of development
2. Goals and challenges of development
3. Millennium development goals
4. Models of development
   • Economic Growth Model
   • Social Equity Model
   • Participatory Model

Unit – II Sustainable Development
5. Indicators of Development – Human development index (HDI), Gender empowerment model, Human poverty index, Human suffering Index etc
6. Sustainable development: concept, philosophy, goals and challenges
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**Unit –III Development Programmes and Policies**

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<td>Five Year Plans of India</td>
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<td>12.</td>
<td>History and assessment of poverty alleviation programmes in India</td>
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<td>Role of Panchayati Raj Institutions (PRIs) in rural development</td>
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<td>14.</td>
<td>Flagship programmes of government of India</td>
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**References**:


**MASS MEDIA FOR DEVELOPMENT (THEORY)**

**Paper Code:** DCE903  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours/Week  
**Total Teaching Workload:** 60 Hours/Semester

**Objectives:**

1. To impart knowledge and understanding of various media.  
2. To enhance the versatility of the students in the selection and use of media in different socio-cultural environments.  
3. To provide basic knowledge of concept of advertising and use of media in advertising.

**Unit -I**

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<td>Concept, meaning, types, functions, characteristics and scope of various medias in national development</td>
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<td>2</td>
<td>Contemporary issues in mass media and development</td>
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<td>Credibility for media</td>
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<td>Sources of information for media production</td>
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<td>Career options in different media</td>
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<td>Ethics in media</td>
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<td>Regulating bodies for media- print and broadcast</td>
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**Unit- II**

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<tr>
<td>8</td>
<td>Print Media-</td>
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</table>
- History and development of print media
- Essentials of good writing
- Art of expression,
- Readability and importance of punctuation for effective writing
- Forms of print media
- News paper- role and advantages
- Advertisement- types and component

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<td>- History and development of broadcasting</td>
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<tr>
<td>- Principles of writing for radio</td>
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<td>- Radio studio and radio programme production</td>
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<td>- Anchoring radio programme- essentials of effective speaking</td>
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<td>- Different styles of radio broadcast- News writing, Feature, Talk, Interview, Documentary, Play, Advertisement, Writing for children, Writing for women, Writing for farmers</td>
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<td>10 Television-</td>
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<tr>
<td>- Principles of writing for television</td>
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<tr>
<td>- Styles of programmers for television- News writing, Interview, Advertisement, Documentary</td>
</tr>
</tbody>
</table>

References
8. Shamsi. N., Journalism: Language and Expression, Anmol Publication Pvt Ltd. New Delhi, 2009

MASS MEDIA FOR DEVELOPMENT (PRACTICAL)

Paper Code: DCE911
Credits: 6
Max. Marks: 100
Teaching Hours: 3 Practicals /Week (3 Hours/Practical)
Teaching Workload: 45 Practicals /Semester

Objectives-
To enable students to:
1. understand the functioning of various print media.
2. acquire skill of writing news for print media and script for Radio, Television and E-
### Newsletter:

**Contents:**

1. Prepare a scrap book of development related advertisement and news from the Newspaper
2. Design an advertisement on social issue for print media, radio and Television
3. Collect and exhibit news on development issues on bulletin board
4. Visit any media house and submit reports.
5. Write news and a feature for print media relating to Home Science issues.
6. Script writing for
   - Print
   - Radio
   - Television
   - E-newsletters

### SCIENTIFIC WRITING (THEORY)

**Paper Code:** DCE C01  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours /Week  
**Total Teaching Workload:** 60 Hours /Semester

**Objectives:**

1. To be able to appreciate and understand the importance of writing scientifically
2. To develop competence in writing and abstracting skills for different writing needs
3. To develop the writing ability and to review different types of scientific literature

**Contents:**

**UNIT- I**

1. Overview of different types of scientific writing for-
   - a. Dissertation
   - b. Research Article/ Scientific paper
   - c. Abstract
   - d. Review paper
   - e. Reports and Monographs

2. Formulating outlines as a starting device and filling in the outlines-
   - a. Topic outline
   - b. Conceptual outline
   - c. Theme outline

3. Tables and illustrations and systematic means of presenting data-
   - a. Table, flowcharts, footnotes
   - b. Graph, diagrams.

**UNIT- II**

4. Components of scientific writing-
   - a. Introduction and objectives
b. Review of literature
c. Methods and materials
d. Results and discussion
e. Summary and conclusion
f. Limitations, recommendations and future scope
g. Bibliography/References
   - Different types of writing styles- APA, MLA, Chicago
h. Appendices

UNIT III

5 Preparing drafts and improving drafts for Scientific writing-
   a. Research Article/ Scientific paper
   b. Abstract
   c. Review paper
   d. Reports

6 Writing and presenting a research proposal for grants-
   a. Background information
   b. Justification
   c. Rationale and importance
   d. Pilot study
   e. Research proposal
   f. Time-frame
   g. Outcome of the study and its implications
   h. Budgeting
   i. Summary

References-


PSYCHOLOGY OF HUMAN BEHAVIOUR (THEORY)

Paper Code: DCE C02
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours /Week
Total Teaching Workload: 60 Hours /Semester

Objectives-
To enable students to –
1. understand the psychology of human behavior
2. develop a relationship between characteristics of human behavior and extension process
3. know the process of diffusion of innovation

Unit I

1 | Psychology: meaning, scope and importance in extension education
<table>
<thead>
<tr>
<th>Unit - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Defense mechanisms: Types and importance</td>
</tr>
<tr>
<td>7. Thinking and Memory - Concept, factors and types of memory</td>
</tr>
<tr>
<td>8. Personality and individual differences, personality as a set of traits and personality as the self, characteristics, determinants, Roger's self theory, Maslow's self actualization theory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit - III</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Body language in communication- Concept, main aspects of body language, gestures, body movements, behavior, emotions, tone of voice, vibration and moods, advantages of learning body language</td>
</tr>
<tr>
<td>10. Group Behavior- Group behavior, classification of group, decision making in group</td>
</tr>
<tr>
<td>11. Process to adoption - Innovation, diffusion, adoption process and adopters categories</td>
</tr>
<tr>
<td>12. Attitudes- Meaning and characteristics, formation of stereotypes and prejudices, factors in attitude, factors guiding change in attitude</td>
</tr>
</tbody>
</table>

References:
2. Back CR., Psychological factors at work: Recognition and control. ILO, Geneva Occupational Safety and Health Series No. 56., 1986
6. Chattopadhyaya A. What's your emotional IQ. PustakMahal, New Delhi, 2001

CONTEMPORARY DEVELOPMENTAL ISSUES IN HOME SCIENCE (PRACTICAL)
Paper Code: DCE C11
Credits: 4
Max. Marks: 100
Teaching Hours: 3 Practicals /Week (3 Hours/Practical)
Teaching Workload: 30 Practicals /Semester
Objectives:
To enable students to:

1. Develop insights regarding the developmental issues of Home Science
2. Acquires skills in collecting and organizing subject content on the selected topics

<table>
<thead>
<tr>
<th>Contents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Each student will select one topic related to any of the stream of Home Science.</td>
</tr>
<tr>
<td>2. Present and discuss the topic in the classroom in form of abstract for approval</td>
</tr>
<tr>
<td>3. Prepare the seminar paper referring books, mono graphs, reports and websites and later professional journals.</td>
</tr>
<tr>
<td>4. Design effective presentations for the paper</td>
</tr>
<tr>
<td>5. Present final paper with the help of effective teaching aids in the class room</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Refer available journals, research studies and abstract books</td>
</tr>
</tbody>
</table>

**DISSERTATION- I (PRACTICAL)**

**Paper Code:** DCE C12  
**Credits:** 6  
**Max. Marks:** 100  
**Teaching Hours:** 3 Practicals/Week (3 Hours/Practical)  
**Teaching Workload:** 45 Practicals/Semester

**Objectives:**

1. To enable students to make and present a plan for research  
2. Impart systematic and practical knowledge of research and its applied aspects  
3. Develop scientist quality in student

<table>
<thead>
<tr>
<th>Contents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identification, analysis and selection of research problem and its relevance collecting relevant review and research paper regarding the research problem</td>
</tr>
</tbody>
</table>
| 2. Synopsis writing and power point presentation  
  - Introduction  
  - Rationale of the study  
  - Objectives  
  - Review of literature (minimum 20 references should be cited)  
  - Brief methodology  
  - Plan of action  
  - Bibliography |

<table>
<thead>
<tr>
<th>References:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Refer available journals, research studies and abstract books</td>
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</table>
# FOURTH SEMESTER

<table>
<thead>
<tr>
<th>S. No</th>
<th>Subject Code</th>
<th>Course title</th>
<th>Category</th>
<th>Credit</th>
<th>Contact Hours per week</th>
<th>EOSE Duration (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DCE X01</td>
<td>Extension Administration and Supervision</td>
<td>CCC</td>
<td>4</td>
<td>4 0 0</td>
<td>0 3</td>
</tr>
<tr>
<td>2</td>
<td>DCE X02</td>
<td>NGO Management</td>
<td>CCC</td>
<td>4</td>
<td>4 0 0</td>
<td>0 3</td>
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<tr>
<td>3</td>
<td>DCE X03</td>
<td>Information Communication Technology for Development</td>
<td>CCC</td>
<td>4</td>
<td>4 0 0</td>
<td>0 3</td>
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<tr>
<td>4</td>
<td>DCE X11</td>
<td>Information Communication Technology for Development</td>
<td>CCC</td>
<td>6</td>
<td>0 0 9</td>
<td>0 4</td>
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<tr>
<td>5</td>
<td>DCE D01</td>
<td>Rural Journalism</td>
<td>ECC</td>
<td>4</td>
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<td>0 3</td>
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<tr>
<td>6</td>
<td>DCE D02</td>
<td>Gender Sensitization</td>
<td>ECC</td>
<td>4</td>
<td>4 0 0</td>
<td>0 3</td>
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<tr>
<td>7</td>
<td>DCE D11</td>
<td>NGO Placement</td>
<td>SSECC</td>
<td>4</td>
<td>0 0 6</td>
<td>0 1</td>
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<tr>
<td>8</td>
<td>DCE D12</td>
<td>Dissertation-II</td>
<td>ECC</td>
<td>6</td>
<td>0 0 9</td>
<td>0 1</td>
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</tbody>
</table>

CCC=18, ECC=18
Total=36
FOURTH SEMESTER

EXTENSION ADMINISTRATION AND SUPERVISION (THEORY)

Paper Code: DCEX01
Credits: 4
Max. Marks: 100
Teaching Hours: 4 Hours / Week
Total Teaching Workload: 60 Hours / Semester

Objectives:
To enable students to:
1. understand the principles of administration, co-ordination and supervision.
2. be aware of the administrative structure of the rural development programmes in India.
3. understand basic elements in extension management.

Contents:

UNIT-I
1 Concept, meaning, nature and purpose of administration in extension and rural development
2 Public and private administration
3 Principles of administration and increase efficiency in administration
4 Organization- meaning, type, uses of centralization and decentralization in organization, scalar principle and span of control
5 Concept- meaning, characteristics of extension management.

UNIT-II
6 Authority and delegation of authority- need, principles and process of delegation of authority, differences between authority and power, factors effecting for building of an extension organization
7 Principles of management
8 Theories of management – scientific management theory, classical organization theory, the behavioral theory of management.

UNIT-III
9 Coordination – meaning, need and factors infusing coordination and achieving coordination
10 Supervision – meaning, principles and characteristics or traits desirable in extension supervisor
11 Administrative set up and function - administrative structure and functions of the rural development programme in India, MGNREGA, SGSY, PMGSY, ICDS, Mid-Day Meal programme etc

References-

**NGO MANAGEMENT (THEORY )**

**Paper Code: DCE X02**
**Credits: 4**
**Max. Marks: 100**
**Teaching Hours: 4 Hours/Week**
**Total Teaching Workload: 60 Hours/Semester**

**Objectives:**
1. To enable students to understand and acquire skill to start and run a NGO

**Contents:**

<table>
<thead>
<tr>
<th>UNIT - I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meaning and genesis of NGOs, voluntary organization and civil societies.</td>
</tr>
<tr>
<td>2. Role of NGOs in development</td>
</tr>
<tr>
<td>3. Problems faced by NGO’s</td>
</tr>
<tr>
<td>4. Start up of NGOs- Constitutional requirements, registration, infrastructural creation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Creation of funds.</td>
</tr>
<tr>
<td>6. External and Internal – donor agencies- national and international.</td>
</tr>
<tr>
<td>7. Strategic Planning and implementation of development programmes in different areas of operation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT – III</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Government policies and programmes for NGOs</td>
</tr>
<tr>
<td>9. Agencies involved in training of NGOs-NIRD, NIPCCD, CAPART, CARPET etc.</td>
</tr>
<tr>
<td>10. Documentation and report writing</td>
</tr>
</tbody>
</table>

**References :**

**INFORMATION COMMUNICATION TECHNOLOGY FOR DEVELOPMENT (THEORY)**

<table>
<thead>
<tr>
<th>Paper Code: DCEX03</th>
<th>Credits: 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Marks: 100</td>
<td>Teaching Hours: 4 Hours /Week</td>
</tr>
<tr>
<td>Total Teaching Workload: 60Hours /Semester</td>
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</tbody>
</table>

**Objective:**
1. Create awareness among students about ICT and its application for education and development.
2. Understand the inter-relationship of different ICT’s

**Contents:**

**UNIT- I**

| 1 | Concept, meaning and definition of Information Communication Technology |
| 2 | Characteristics and nature of Information Communication Technology   |
| 3 | Educational technology – meaning, scope and nature                  |
| 4 | ICT and education                                                   |
| 5 | Role of ICT in education, extension and development                 |
| 6 | ICT for adult education                                             |
| 7 | Instructional design- meaning, benefits of instructional design      |
| 8 | Steps of instructional design-                                      |
|    | • analyze learners                                                  |
|    | • state objectives                                                  |
|    | • select, modify and design material                                |
|    | • utilize materials                                                 |
|    | • evaluation                                                        |

**UNIT-II**

| 9 | Processes related with ICT                                          |
|   | • Process related to teacher                                       |
|   |   i. awareness to technology                                       |
|   |   ii. adoption of innovation                                      |
|   |   iii. competency to technology                                    |
|   |   iv. capabilities of technology                                    |
|   | • Process related to learner                                       |
|   |   i. learners cognitive style                                      |
|   |   ii. learning style                                                |
|   | • Spectrum of instructional ICT-                                  |
|   |   i. behaviorist instructional technology                           |
|   |   ii. cognitive instructional technology                            |
|   |   iii. constructivist instructional technology                      |
| 10 | Psychological principles of ICT- factors affecting and factors facilitating ICT learning |
| 11 | Computer’s as tool of ICT-                                         |
|    | • computers for education and development- hardware, features and parts |
|    | • classification according to- types, purpose and based on configurations/ memory type |
|    | • components of computers (only elementary idea)-                 |
- inputs and output hardware devices- CPU, keyboard, pointing device, scanner, image capturing device, combination of input and output device, monitor, printer, smart board, disc drive, CD Rom, projectors
- elementary idea of software device- operating device, utilities, word processor

UNIT-III

12 Application of computers for development- Concept
   Computer assisted instruction (CAI)- instructional mode of CAI (tutorial, drill and practice, simulation mode, discovery, gamification and dialogue), characteristics of CAI, uses and preparation of CAI material, evaluation of CAI material
   Computer assisted learning (CAL)- characteristics and variety
   Computer based training (CBT)
   Computer managed learning (CML)

13 Classification of ICT

14 Internet – history, internet as a global village, internet and education, advantages of internet, uses/functions of internet
   Internet tools/search engine and browser, accessing and sorting educational material, chat, e-mail, blog, voice mails and their use for education

15 Extranet- concept
   Synchronous and asynchronous modes of internet communication – relationship of communication process with ICT

16 Teleconferencing- audio and video conferencing, data conferencing/ text conferencing

17 Satellite in communication- videoconferencing and its technological aspects, channels of video conferencing, kinds, process, advantage and limitations

18 Educational portal- objectives, target groups and uses

19 Online learning and online evaluation

References:

## INFORMATION COMMUNICATION TECHNOLOGY FOR DEVELOPMENT (PRACTICAL)

**Paper Code:** DCE X11  
**Credits:** 6  
**Max. Marks:** 100  
**Teaching Hours:** 3 Practicals /Week (3hours/practical)  
**Teaching Workload:** 45 Practicals /Semester  

**Objectives:**  
To develop skills in the students regarding:  
1. designing educational portal.  
2. preparing power point presentations.  
3. preparing social advertisement for radio and Television

<table>
<thead>
<tr>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Collect, discuss and prepare a resource file containing at least ten Information Communication Technology techniques and new media- functioning, parts, advantages and disadvantages to understand their scope.</td>
</tr>
<tr>
<td>2 Collect some appraisal reports on role of ICT and new media used by different organization as a tool of development</td>
</tr>
<tr>
<td>3 Visit to electronic media centre</td>
</tr>
<tr>
<td>4 Utilization of ICT for effective communication</td>
</tr>
<tr>
<td>5 Measurement and analysis of the ICT Development Index for India and other countries and its implications.</td>
</tr>
</tbody>
</table>

## RURAL JOURNALISM (THEORY)

**Paper Code:** DCE D01  
**Credits:** 4  
**Max. Marks:** 100  
**Teaching Hours:** 4 Hours /Week  
**Total Teaching Workload:** 60 Hours /Semester  

**Objectives:**  
To enable students to understand:  
1. the basics of journalism and develop a relationship of development and journalism  
2. the challenges of development from the journalistic perspective  
3. the relevance and advocacy to promote development journalism

**Content**

**UNIT I**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Journalism- concept, types, terminology and commandments</td>
</tr>
<tr>
<td>2</td>
<td>Journalist- concept, role and responsibilities</td>
</tr>
<tr>
<td>3</td>
<td>Collection and transmission of journalistic information</td>
</tr>
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<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Rural Journalism - nature, scope, importance, structure of villages, various problems or rural development, challenges of rural journalism, advances in farm or rural journalism</td>
</tr>
<tr>
<td>5</td>
<td>Development journalism- concept and challenges</td>
</tr>
<tr>
<td>6</td>
<td>The media- Press, Radio and Television</td>
</tr>
</tbody>
</table>

**UNIT II**

<table>
<thead>
<tr>
<th>7</th>
<th>News: definition andtype, news value, qualities of good writing elements of news, 5W and 1H concept of news structure of news story: introduction, body (Inverted Pyramids) etc. news gathering and sources of news, qualities of reporter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Headline: meaning, significance</td>
</tr>
<tr>
<td>9</td>
<td>Writing styles for news paper - Interview, Book review, Film Review, Feature- types and Characteristics, News article, Letter to the editor, Reporting a success story, Cartoons</td>
</tr>
</tbody>
</table>

**UNIT III**

<table>
<thead>
<tr>
<th>10</th>
<th>Photo journalism- principles and practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Advertisement and Social marketing - concept, characteristics and concept, characteristics, and role of advertisement</td>
</tr>
<tr>
<td>12</td>
<td>Editor- editor, role and responsibilities, editing symbols and editorial department</td>
</tr>
<tr>
<td>13</td>
<td>Public relations- concept, principle, scope and methods</td>
</tr>
<tr>
<td>14</td>
<td>Media research methods- researches for print and electronic media</td>
</tr>
<tr>
<td>15</td>
<td>Technology advances in journalism</td>
</tr>
</tbody>
</table>

**References**

3. Kothari G. – Newspaper Management in India.
offEditing and Publications, IRRI, Philippines, 1991

GENDER SENSITIZATION (THEORY)

Paper Code: DCED02
Credits: 4
Max. Marks: 100
Teaching Hours: 4Hours /Week
Total Teaching Workload: 60Hours /Semester

Objectives-
1. sensitize students about gender issues
2. develop a gender eye about social and economic status of women

Contents:

<table>
<thead>
<tr>
<th>Unit- I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Socialization: meaning, definition and stages</td>
</tr>
<tr>
<td>3. Factors influencing gender differences in health, education, occupation, resources and socio cultural practices</td>
</tr>
<tr>
<td>4. Issues related to women- divorce, widowhood, female commercial sex worker.</td>
</tr>
<tr>
<td>5. Domestic violence : types and incidences</td>
</tr>
<tr>
<td>6. Problems of elderly and single women</td>
</tr>
<tr>
<td>7. Empowerment- need, importance, social aspects of women empowerment transition of women towards new millennium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT- II</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Women and livelihood- Women in informal work and women in employment : opportunities and limitations</td>
</tr>
<tr>
<td>9. Gender budgeting and gender eye</td>
</tr>
<tr>
<td>10. Gender and poverty alleviation</td>
</tr>
<tr>
<td>11. Women and microfinance</td>
</tr>
<tr>
<td>12. Social safety for women in workplace</td>
</tr>
<tr>
<td>13. Status of girl child in India and Rajasthan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT-III</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Sex ratio, nutritional status and educational status</td>
</tr>
<tr>
<td>15. Practices limiting women’s development : child marriages, dowry, female feticide</td>
</tr>
<tr>
<td>16. Obstacles to women education</td>
</tr>
<tr>
<td>17. Education as a tool of women empowerment.</td>
</tr>
<tr>
<td>18. Technologies and empowerment- gender specific technologies, household technologies interface, social – cultural interface and women as consumer of technologies</td>
</tr>
</tbody>
</table>

References:

NGO PLACEMENT (PRACTICAL)

Paper Code: DCE D11
Credits: 4
Max. Marks: 100
Teaching Hours: 2Practicals /Week (3 Hours/Practical)
Teaching Workload: 30 Practicals /Semester

Objectives-
To enable students to develop skills of working with development organizations

Contents:

1. Students will be placed in various NGO's to study and acquire skills about following-
   - Profile of NGO
   - Administrative structure
   - Area of work
   - Projects Undertaken
   - Finance and Funding
2. Students will prepare and present the report in the class
### Dissertations II (Practical)

**Paper Code:** DCE D12  
**Credits:** 6  
**Max. Marks:** 100  
**Teaching Hours:** 3 Practicals /Week (3 Hours/Practical)  
**Teaching Workload:** 45 Practicals /Semester

#### Objectives:
1. To enable student to write and present thesis  
2. To impart systematic and practical knowledge of research and its applied aspects  
3. To develop scientist quality in student

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
</table>
| 1. | Data collection, analysis and interpretation of data in form of graphs, charts, tables and others  
2. | Thesis writing and presentation I  
   |   - Introduction  
   |   - Review of literature  
   |   - Materials and methods  
   |   - Result and discussions  
3. | Thesis writing and presentation II  
   |   - Conclusion  
   |   - Summary  
   |   - Bibliography  
   |   - Annexures  
4. | Writing and submission of one research paper based on conducted research findings

#### References:
Refer available journals, research studies and abstract books

#### Pre-requisite:
A student has to clear Dissertation I in IIIrd Semester to be eligible for Dissertation II in IVth Semester.