SYLLABUS

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Golden Jubilee Year 50 1964 - 2014

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PT. RAVISHANKAR SHUKLA UNIVERSITY

RAIPUR

CHHATTISGARH

COURSE WORK FOR Ph.D. – ~~HOME SCIENCE~~

[HOME - SCIENCE]

PAPER- I

Max marks- 100

Research methodology ~~quantative~~ quantitative methods and computer application.

PAPER- II

- Review of the ~~subject- Home Science~~ literature in relavent subject — Max marks- 50
- Seminar – Based on the review of literature — Max marks- 20
- Project Report —"— —"— Max marks- 30

Total – 200

PAPER-I

RESEARCH METHODOLOGY, ~~QUANTATIVE~~ QUANTITATIVE METHODS AND COMPUTER APPLICATION

Max marks-100

UNIT-I Research Methodology

- Science, scientific methods.
- Role of statistics and research in Home Science discipline. Objective of research explanation, control and prediction.
- Types of research: Historical, descriptive, experimental, case study, social research.
- Definition and identification of a research problem:
  1. Selection of research problem.
  2. Hypothesis, basic assumptions, limitation and delimitations of the problem.
- Types of variables.
- Theory of probability:
  1. Population and sample.
  2. Probability sampling: simple random, systematic random sampling, two stages and multi stage sampling, cluster sampling.
  3. Non-Probability sampling: purposive, quota and volunteer sampling/snowball sampling.

- Research Ethics
- IPR
- cyber law
- Copy right
- [illegible] Index

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UNIT-II — Research Design

- Skewness and kurtosis
- Basic principles of research design:
  1. Purposes of research design: fundamental, applied and action, explanatory and descriptive, experimental, survey and case study.
  2. Longitudinal and cross sectional, co-relational.
- Data gathering instrument.
- Observation, questionnaire, interview, scaling methods, case study home visits, reliability and validity of measuring instruments.
- Writing a research proposal.
- Analysis of data and research report.

UNIT-III - Quantitative Analysis of Data

- Conceptual understanding of statistical measures. Classification and tabulation of data measurement of central tendency, measures of variation.
- Frequency distribution, histogram, frequency polygons and ogive.
- Binomial distribution.
- Normal distribution- use of normal probability tables.
- Parametric and non- parametric tests.
- Testing of hypothesis, type 1 and type 2 errors , levels of significance.
- Chi square test Goodness of fit, independence of altributes 2*2 and r*o contingency tables.

UNIT-IV — Statistical Analysis

- Application of student 't' test for small samples. Difference in proportion for means and difference in means.
- Correlations, coefficient of correlation, rank correlation.
- Regression and prediction.
- Analysis of variance-one way and two-way classification.
- Experimental Designs
  1. Completely randomized design
  2. Randomized block design
  3. Latin square design
  4. Factorial design
  5. Trend analysis

UNIT-V — Computer Fundamentals

- Introduction
  1. The computer and computer technology
  2. The computer system
  3. Important characteristics

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4. The binary number system
5. Computer applications

- Windows-98/XP/2000
  1. Window- concepts features structure desktop, taskbar, start menu, my computer, recycle bin.
  2. Accessories- calculator, notepad, paint, word pad, character map.
  3. Explorer- creating folder and other explorer facilities.
  4. Object linking and embedding understanding OLE embedded/ ling using cut and paste object manage embedded/ linked using object.
  5. Communication- dialup networking phone dialer office s/w word processing spread sheet, power point and out look express.
- M.S. office
  1. Ms word- creating, editing and previewing documents, formatting advanced features using thesaurus mail merge table and charts handling graphics. Converting word documents in to other formats.
  2. Ms excel- data finding and statistical. Calculation-S.D., mean, median, mode, average, sum, ANOVA, 't' value, correlation. Work sheet basics, creating opening and moving in worksheet working with formula and cell referencing. Absolute and relative addressing working with ranges. Formatting of work sheet, graphs and charts making.
  3. Power point- creating, presenting and modifying visual elements, adding objects, applying transitions, animations and linking. Preparing handouts, presenting slide shows with different slide layouts, colour schemes.
- Introduction of internet- searching of documents and pictures and references. Researching, saving of PDF files, conversion of PDF into HTML files.
- S P S S.

Paper-II

REVIEW OF THE SUBJECT- HOME SCIENCE

Max marks-50

Writing and Submission of review of literature - In area of proposed Ph.D. work, under the supervision of supervisor

~~UNIT-I~~

- ~~Importance of food and nutrition and its inter-relation to health; dimensions of health~~ Omit
- Food guide, basic five food groups, food exchange list.
- Methods of improving nutritional quality of foods.

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- Current nutrition and health status of women and children in India. changing concepts and controversies in maternal and child nutrition.
- Malnutrition in mothers and children (etiology and management in brief) Nutritional problems of community and schemes and programs to combat these problems in India.
- Current methodologies of assessment of nutritional status, their interpretation and comparative application of the following food consumption. Anthropometry. clinical and laboratory (Biochemical).
- Definition components and assessment criteria of age specific fitness and health status, energy calculations for various physical activities, resting energy expenditure.
- Alternative systems for health and fitness life- Ayurveda, yoga, meditation. vegetarianism and traditional diets.
- Qualitative research in food and nutrition- types of qualitative research, tool techniques and methodologies, PRA; PLA.
- Policies and programs of the govt. and NGO sector pertaining to elderly.
- Contamination, adulteration and preservation of food.

Omit

UNIT-II

- Meaning concepts and principles of growth and development.
- Methods of studying human development.
- Aspects of development in different stages of life.
- Foundation of the developmental patterns, heredity and environment, maturation and learning, motivation, individual differences, impact pf play as means of development and learning.
- Importance of early childhood care and education. Current policies and programs in E.C.C.E.
- Psychology of exceptional children and problem children.
- Theories and principles of guidance and counseling.
- Mental health, definition, concept and importance of mental health, need sense of identity.
- Fundamentals of psychometric tests, personality assessment tests, interest test, aptitude test and other tests.

Omit

UNIT-III

- Resources- its classification, management and basic characteristics.
- Housing- interior decoration, principles of design, study of colour and colour schemes.
- Ergonomics- scope of ergonomics in home and other occupations.
- Concept of work simplification- its importance in home; simple pen and pencil techniques.
- Decision Making- types and models.

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30/7/2014

- Consumer education- laws protecting consumer, role of consumer society in protecting consumer.
- Entrepreneurship- conceptual framework, types and govt. policies and schemes for enterprise development.

Omit

UNIT-IV

- Origin of clothing- religious influence, clothing symbols; socialization and development of the self.
- Blends and mixtures, non-wover fibres, chemistry of blends, mixtures and nonwovers; their types, properties, development.
- Eco- friendly natural fibers.
- Colour.
- Eco friendly natural dyes.
- Dyeing of blends.
- Chemistry of cellulosic fibres, scientific basis of dyeing and printing of textiles.
- Design variation- combination of traditional and modern.
- Textured yarn.
- Social and psychological aspects of clothing.
- Designing dresses for physically challenged people.
- Changes in fashion trends.
- Technical textiles, fibres used in Medical sciences.

Omit

UNIT-V

Omit

- Management and administration of formal/non-formal and extension education monitoring, supervision and evaluation of formal, non-formal and extension education.
- Vocationalization of home Science in India.
- Concept and classification of communication.
- Classroom communications in Home Science trends
- .

<u>Seminar-Will be given by the student in her subject of specilisation /in the proposed subject of her ph.D</u>

20marks

<u>Project report- will be prepared and submitted by the student in the field of her subject of research</u>

30marks

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3/12/2011 3.12.11

30/7/2011

Collection of false ceiling material.
Floor decoration – Alpna, Rangoli and Flower medium.

TEXTILES AND CLOTHING

M.Sc. (HOME SCIENCE) PREVIOUS

1st SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper I	Research Methodology	80	10	10	100
Paper II	Textile Chemistry	80	10	10	100
Paper III	Fashion Retailing	80	10	10	100
Paper IV	Textile Designing	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Textile Chemistry	100

PAPER - I

RESEARCH METHODOLOGY

Max. Marks: 80

Objectives :

To understand the significance of research methodology in Home Science research.
To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

UNIT-I 1. Science, scientific methods, scientific approach.
2. Role of research in Home science discipline.
3. Objectives of research: Explanation, control and prediction.
4. Types of research: Historical, Descriptive, Experimental, case study,
5. Social research and survey: Meaning, definition, nature, scope, objects, types. distinction between social survey & research.
6. Pre-testing and pilot survey.

UNIT-II 7. **Definition and identification of research problem.**
Selection of research problem.
Justification.
8. **Fact, Theory and concept.**
9. **Hypothesis** : Definition, sources, characteristics, importance, main difficulties in formation of hypothesis, disadvantages, Limitations and Delimitations of the problems.
10. **Types of variables.**

UNIT- III 11. **Basic principles of research design:**
Purposes of research design: fundamental, applied and action, exploratory, and descriptive, experimental, ex-post facto.
Longitudinal and cross sectional, co-relational.
12. **Data gathering instrument.**

29.6.11

Observation,
Questionnaire,
Interview,
Scaling method,
Case study,
Home visits,
Reliability and validity of measuring instruments.

UNIT-IV 13. **Theory of probability:** Non-probability sampling: purposive, Quota and volunteer sampling/snow ball sampling

14. **Sampling** : Population and sample, Meaning, Characteristics, advantages and disadvantages.

Types :

Probability sampling
Random sampling (Simple random, systematic random sampling,)
Purposive sampling
Stratified sampling
Other sampling methods (two stages and multistage sampling, cluster sampling.

UNIT-V 15. Classification and tabulation of data.

16. Analysis and interpretation of data

17. Preparation of report

18. Diagrammatic presentation of data

References:

Edwards: experimental design in psychological research.
Kerlinger: Foundation of educational research.
Bhandarkar P.L. and Wilkinson T.S. (2000) methodology and techniques of social research, Himalaya publishing house, Mumbai.
Bhatnagar G.L.(1990) research methods and measurements in behavioral and social science Agri Cole publishing agency, New Delhi.

PAPER - II
TEXTILE CHEMISTRY

Max. Marks: 80

Objectives :

To acquaint the student about the polymers of which the textile fibers are made.
To understand the chemistry, production and fundamental properties of natural and synthetic fibers.
To familiarize with the chemical processing from desizing to finishing of textiles and x-principals.
To acquaint the students with some advance textile technology.
To develop an understanding of the methods and techniques used to analyze textile fiber, yarns, and fabric for end-use performance.
To acquire knowledge and understanding of various structural properties of textiles and relate them to end fabric performance and product.

UNIT-I 1. **Introduction:**

Why study of textile chemistry is needed.
Why this subject is related to textile and clothing.

2. **Polymer chemistry:**

Polymers, Methods of polymerization, polymerization process.
Definition of co-polymer, oligomer, graft-co-polymer.

29.6.19

Degree of polymerization, Molecular weight of polymers and its determina-tion.

Characterization of polymers using chemical and instrumental method.

UNIT-II 3. Orientation and crystallinity of polymers, their influence on fiber properties.

4. **Chemistry of cellulosic fibers:**

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

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

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

UNIT- III 6. **Protein fibers-Wool and silk**

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

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

UNIT-IV 7. Synthetic Fibers-polyester, polyamide and acrylo nitrite fibers.

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

9, Physical and chemical properties of all the fibers and their
4. uses Examples of commercial production in India.

UNIT-V 10. Blends of different fibers composition and properties and uses in textiles and clothing.

11. Other natural synthetic fibers-Their chemical composition, properties and uses jute, flex, hemp, tencel, polyethylene, polypropylene, carbon, polycarbonate, metallic, glass fiber and polyurethane fibers

References:

Booth.J.E: Principles of textile testing- newness, butter, worth, London.

Billie. J Coller and Helen H. Epps- Textile testing and analysis- Prentice hall, New Jersey.

John H. Skinkle- Textile testing- Booking, New York.

Grover and Hamby- Hand book of textile testing and quality control Wiles.

ASTM standards.

PAPER - III

FASHION RETAILING

Max. Marks: 80

Objectives :

Focus on design details creation of styles and rendering techniques using the different media. Pencils, Pens, Markers, Charcoal, Brushes, colours, Papers.

To understand the dynamics of fashion and role of fashion designers.

To develop understanding visual merchandising and its importance in today's consumer market.

To gain knowledge about the management aspects of retailing.

UNIT-I 1. The Dynamics of Fashion.

Fashion Terminology, Fashion cycle, Fashion Adoption theories, fashion forecast, the role of designers in merchandising.

2. Famous national and international fashion designers.

UNIT-II 3. **The concept of Retailing:**

Definitions, role of retailing in merchandising, the retail mix, retail environment, types of retail store

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Planning and budgeting for a retail store.

UNIT- III 4. **Elements and principles for Art and design:**

Elements of design: Colour, texture, line, form space.

Principles of design: Rhythm, Balance, Proportion, Emphasis, Unity.

Interpretation for designing a retail store.

UNIT-IV 5. Sketching of different action croaky (based on the basic figures learnt earlier).

6. Maintenance and ordering of stocks, preparation of sales reports

UNIT-V 7. **Visual Merchandising.**

Plans and schedule -seasons, holiday promotions, sales, themes / ideas.

8. Types and displays -Window displays interior displays.

9. Elements of Display- the merchandise the backdrop walls and shelves mannequins and forms, signage lightings-illuminance levels relation to colour.

References:

Abling Oina, Fashion Sketchbook, Fairchild Publishers, New York.

Mckolvey Kathryn, Illustring Fashion Blackwell Science Munslow Janine.

Seaman Julian, Professional Fashion Illustration, B.T. Batsford Ltd London.

Ireland, Patrick John, Fashion Illustration, B.T. Batsford Ltd London. Allen Anne

Seaman Julian Fashion Drawing The Basic principles, B.T. Batsford Ltd. London.

PAPER - IV
TEXTILE DESIGNING

Max. Marks: 80

Objectives :

To develop awareness and appreciation of art and aesthetics in textiles.

To impart creative and technical skills for designing textiles with special emphasis on structural design.

The course aims at providing in depth working -knowledge of line development and enables a student to use and practice skills and knowledge already acquired and use it to market situation.

UNIT-I 1. Elements used in creating a design.

Composition

With one element.

With more than one element.

Colour - Its sensitivity and composition in dress.

Harmony - in form of space coverage to design of the dress.

UNIT-II 2. **Design analysis:**

Structural and applied design variation in fiber, yarn and fabric construction, embroidery, dyeing printing and finishes.

3. Sources of inspiration for basic sketching and painting: nature, religion and mythology arts and crafts architecture.

4. Understanding the tools and equipment and their appropriate use for sketching, painting and achieving textural effects.

5. Process of designing

UNIT- III 6. **Components of fashion:**

Silhouette

Colour

Texture

Trims

29.6.19

Details
Fabric
Seams

UNIT-IV 7. **Motif development** -geometrical, simplified, naturalized, stylized abstract namental.
Big and small motifs -enlargement and reduction, growth of a motif.
8. Colour consideration -colour harmonies and colour ways.
Creation of patterns and designs
Combining motifs a) big and small and b) different sources.
Placement and repeats for all over patterns.

UNIT-V 9. Preparation of fabric for dyeing and printing.
Scouring, bleaching, designing.
10. Reagents used and their application.
Specific preparatory steps for cotton, wool, silk and man made fibers.
11. Equipment used at cottage and industrial level for yarn, fabric and price goods.

PRACTICAL - I

TEXTILE CHEMISTRY

Max. Marks: 100

Identification of fibers - cotton, polyester, viscose, polyimide, silk, wool jute, etc use of test microscopic examination, chemical tests solubility and staining tests.

Dyeing of cotton (yarn) with direct, reactive and Val dyes (one each) by exhaust method dyeing of wool and silk with an acid dye.

Use of natural dyes and mordant.

Study chemical properties of fiber as related to textile finishing
- Chlorination of wool.
- Mercerization in cotton.
- Felting of wool.
- Weighing of silk.
- Degumming of silk.

Determination of hardness of water.

Physical Testing of Textile using appropriate standardized procedures.
- Fibers-Length, diameter, fineness.
- Yarn -Count, heaviness twist, crimp, strength.
- Bursting, Water vapour permeability, cover, stiffness, drapability, crease recovery pilling abrasion.
- Chemical testing
- Identification of fibers.
- Binary fabrics -Blend composition.
- Shrinkage water, oil repellency.

Dyes
- Identification of dye class.
- Colour Fastness.

Mechanical Testing
- Seam strength.
- Identification of fabric weave, Thread count

Inspection of final Garment.

Mill visit to acquaint students with modern chemical processing

29.6.19

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TEXTILES AND CLOTHING

M.Sc. (HOME SCIENCE) PREVIOUS - FINAL

2nd SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper V	Statistics and Computer Application	80	10	10	100
Paper VI	Quality Control in Textiles	80	10	10	100
Paper VII	Fashion Illustration	80	10	10	100
Paper VIII	Dyeing and Printing	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Textile Designing	100

PART - III

INTERNSHIP / FIELD PLACEMENT

The student will be required to under go an internship/field placement for a total duration of six to eight weeks in their chosen area of interest after IInd semester which will facilitate their pursuing a professional career in same field.

This programme could be taken up either as a single block or in two different blocks. It is mandatory that the organization / institution (public/private) participating in the field.

Placement programme will be of good professional standing. the list could include government/non-government textile industries small scale industries (handloom), garment manufacturing units, fashion designing institutes, embroidery units etc. The student will be required to submit and present a report of the internship/field placement project after its completion. It is also envisaged that participating organization/institution will give their performance appraisal of the student work. Grade A (60% and above), Grade B (48% to 59%), Grade C (40% to 47%) should be given to the student after evaluation of field placement/internship report by the department. The grade will be mentioned in the mark sheet of the IVth semester of the student.

Excursion trip/field visits should be arranged regularly by the department for the up liftment of the knowledge of the students.

This programme is designed with the following objectives:

I. To enable the students to acquire an in-depth understanding of the practical aspects of knowledge and skills acquired during the course in the relevant subject/subjects.

29.6.19

I. To gain hands on experience for higher proficiency in their selected area of expertise

To help the students to develop and have their analytical abilities for situation and analysis and bringing about improvements

PAPER - V

STATISTICS AND COMPUTER APPLICATION **Max. Marks: 80**

Objectives :

To understand the significance of statistics and research methodology in Home Science research.

To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

To understand and apply the appropriate statistical technique to the measurement scale and design.

To understand the role of statistics and computer application in research.

To apply statistical techniques to research data for analysis and interpreting data meaningfully

UNIT-I 1. Conceptual understanding of statistical measures - meaning, definition, scope, importance, characteristics, distrust of statistics.

2. **Classification and tabulation of data.**
3. **Measurement of central tendency**
   - Mean
   - Median
   - Mode

UNIT-II 4. Graphic presentation of data
   - Frequency distribution
   - Histogram
   - Frequency polygons
   - Frequency curve
   - Ogive
   - Binomial distribution
   - Parametric and non-parametric tests

UNIT- III 5. Methods of Dispersion and variation
   - Mean déviation
   - Standard déviation
   - Quartile deviation
   - Independence of attributes 2×2 and r×c contingency tables

6. Analysis of variance - one way method Direct and short cut.

What is computers characteristics components of computer system, block diagram of computer, CPU, I/O devices and memory (RAM and ROM) second storage devices (hard disk Floppy disk ,Magnetic tape etc.)

UNIT-IV 7. Computer generations -Classification of computers; Analog digital hybrid general and special

8. **Types of computers-** Micro Mini Mainframe and super computer
   - Chi square test Goodness of it
   - Application of student 't' test for small samples

UNIT-V 9. Correlation-definition, meaning and types.

10. **Methods of determining coefficient of correlation**
    - Product moment correlation
    - Rank correlation.

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11. **Working with MS Word**

Getting started with word, formatting text and paragraph. Applying text and language tools, designing pages, with columns and tables, using graphics.

References:

Garrett, Henry E. 1971: statistics in psychology and education, David and co.

PAPER - VI
QUALITY CONTROL IN TEXTILE

Max. Marks: 80

Objectives:

1. To familiarize with the chemical processing from designing to finishing of textiles and x-principals.
To acquaint the students with some advance textile technology.
To develop an understanding of the methods and techniques used to analyze textile fiber, yarns, and fabric for end-use performance.
To acquire knowledge and understanding of various structural properties of textiles and relate them to end fabric performance and product.
To familiarize students with the different testing equipments, their underline principles and the international accepted standards, test methods and the language of measurement.
To be able to analyze and interpret the result and predict the general textile testing.

UNIT-I 1. **Scientific basis of dyeing and printing of textiles-**

Classification of textiles dyes, commercial dyes, C.I. constitution number and C.I generic number.
Theory of dyeing.
Chemical structures of various classes of dyes.
Application of dyes on various substrates including blends.

UNIT-II 2. **Textile finishing.**

Classification of finishes.
Mechanical finishes.
Chemical finishes-Mercerization, parchmentisation, durable press, wash 'n' wear, wrinkle recovery, chlorination.
Resins, their application and chemistry.
Special purpose finishes
Flame retardant, water repellent, antistalic, stain and soil release, proofing.

UNIT-III 3. **Introduction to Testing.**

Concept and scope.
Application areas.
Use of statistics in data management.
Sampling procedures.

4. **Standardization.**

Standards for fabric performance.
Organization for standardization (National and International)
Quality control of Textile products.

UNIT-IV 5. **Properties of textiles at different stages of processing and their principle of measurement.**

Quality standards as applicable to various types of textiles (Garments, Yard- age, knits, woven, carpets, processing, dyeing).
Fibers-Length, fineness, evenness.

29.6.14

Yarn -strength, evenness, openness, load, elongation, crimp.

UNIT-V 6. **Fabrics** -strength, elongation, shrinkage, thickness, cover, air permeability crease recovery, weight, comfort, stiffness, flammability, repellency, colour, fastness.

7. **Garment Finishing** -colour fastness, shrinkage.

Concept of fabric faults as related to stages of manufacture and the remedies.

References:

Booth.J.E: Principles of textile testing- newness, butter, worth, London.

Billie. J Coller and Helen H. Epps- Textile testing and analysis- Prentice hall, New Jersey.

John H. Skinkle- Textile testing- Booking, New York.

Grover and Hamby- Hand book of textile testing and quality control Wiles.

ASTM standards.

PAPER - VII

FASHION ILLUSTRATION

Max. Marks: 80

Objectives:

Focus on design details creation of styles and rendering techniques using the different media. Pencils, Pens, Markers, Charcoal, Brushes, colours, Papers.

To understand the dynamics of fashion and role of fashion designers.

To develop understanding visual merchandising and its importance in today's consumer market.

To gain knowledge about the management aspects of retailing

UNIT-I 1. **Garments and garment details:**

Necklines and collars
Frills, fringes and gathers, cowls and cascades.
Sleeve details
Hemlines and insertions.
Skirts and pants

UNIT-II 2. Lacing, macramé's and patch work
Blouses, coats and jackets
Pleats, quilting and ties
Drawstring and fastenings
Shirring, smoking and zips
Tassels and tucks
Yokes and underskirts.

UNIT- III 3. **Sketching of Accessories**

Hats and head gears
Footwear
Bags and purses
Jewellery

UNIT-IV 4. **Basic Rendering Techniques:-**

- Colour matching using different mediums
- Stripes
- Checks, gingham and plaids
- Patterns and textures
- Reducing a print
- Shading

UNIT-V 5. **Theme, Rendering : developing a line of garments based on a theme (any one of the following)**

29.6.19

Beachwear
Cocktail wear
Swimwear
Evening wear
Casual wear
Ramp wear
Sportswear
Executive wear
Nightwear
- Traditional Indian costume

References:

Abling Oina, Fashion Sketchbook, Fairchild Publishers, New York.
Mckolvey Kathryn, Illustring Fashion Blackwell Science Munslow Janine.
Seaman Julian, Professional Fashion Illustration, B.T. Batsford Ltd London.
Ireland, Patrick John, Fashion Illustration, B.T. Batsford Ltd London.
Allen Anne Seaman Julian Fashion Drawing The Basic principles, B.T. Batsford Ltd. London

PAPER - VIII
DYEING AND PRINTING

Max. Marks: 80

Objectives:

To impart the knowledge about preparation of fabric for dyeing and printing.
To understand the theory of dyeing in relation to various classes of dyes.
Application of various dyes and properties related to it.
To introduce the concept of dyeing at commercial level.
To inculcate awareness of the different methods of printing and appreciate the technical advantages of each.
To develop technical competency in printing with different dyes on different fabrics.

UNIT-I 1. Dyes

Classification, definition, components.
Colour and chemical constitution of dyes.
Dyeing with chemical dyes.
Direct, reactive, vat, sulphur, azo (for cellulosic).
Acid, metal complex, chrome mordent (for protein)
Basic, nylomine, disperse (for man-made)

UNIT-I 2. Dyeing with: natural dyes.

Use of pigments.
Dyeing machines for fibers, yarns and fabrics.
Industrial dyeing practices.
Dyeing auxiliaries and their uses.
Dyeing of blends.

UNIT- I 3. Textiles design through dyeing.

Tie and dye.
Union and cross dyeing.
Batik

4. Dyeing defects and remedies.

UNIT-IV 5. Introduction to printing - difference between dyeing and printing.

6. Methods of printing

7. Historical development of printing -block stencil, screen roller and rotary.

29.6.17

8. **Screens used at cottage and industrial level.**

UNIT-V 9. **Printing pastes**

Thickening agents and auxiliaries for printing and their suitability to various classes of dyes and fibres. Preparation of printing pastes for different dyes and different fibres.

10. **Styles of printing**

Direct style, resist or reserve style, discharge style and raise style.

Style and methods of printing traditionally used in India

PRACTICAL - II

TEXTILE DESIGNING **Max. marks: 100**

Marks Distribution:

Sessional	-	20
Viva	-	20
Two practical	-	30 each

Preparation of fabric for dyeing and printing.

Dyeing of yarns and fabric with different classes of dyes, in fibre and fibre blends (variables- MLR, con, temp, Leveling/exhausting agents)

Direct, reactive, vat, sulphur, azo.

Basic, disperse.

Acid, chrome, metal complex.

Natural dyes.

Preparation of fabric for printing - different fibre groups with different dyes, different styles of printing

Preparation of screens for printing.

Printing with blocks and screens on cotton, silk, wool and blends in different dye classes.

Direct style

Mordant or dyed style, Azok style

Discharge style

Resist style.

8. Repot of visits to processing and printing units (cottage and industrial level).

TEXTILES AND CLOTHING

M.Sc. (HOME SCIENCE) FINAL

3rd SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper IX	Fabric Construction	80	10	10	100
Paper X	Apparel Design	80	10	10	100
Paper XI	Historic Textiles	80	10	10	100
Paper XII	Textile Industry	80	10	10	100

29.6.19

PART II - PRACTICAL

Practical		Marks
Practical III	Fabric Construction & Pattern Making	100

PAPER - IX

FABRIC CONSTRUCTION

Max. Marks: 80

Objectives:

To enable the students to understand and learn methods of developing fabrics, using different fibres, yarn and fabric making techniques.

To gain knowledge and understanding of fundamentals of weaving machinery and processes.

To analyze different weave patterns and learn principles of creating design through weaving.

To enable the student to obtain perfect fit and harmony between the fabric and design of the garments.

UNIT-I 1. Modern developments in yarns at their manufacture.

2. **Modern yarn production** - Principles of spinning in production of man made fibre hot and cold drawing, spun yarn, blend yarn and bicomponent yarn.

UNIT-II 3. **Texturing yarn technology** - Principles method and process of variables in texturing and their effect on properties of textured yarns morphological changes induced by texture core yarns, network and film yarns and laminated yarns.

UNIT- III 4. **Principles of fabric manufacture** - Basic Principles, Characteristic and significance of different processes -woven knitted, non woven, laces, and braids.

Weaving.

Parts and functions of handlooms

Types of weave -basic decorative.

UNIT-IV 5. **Knitting.**

Knitting machines, types of knitting.

Properties.

6. **Felts and non wovens-different non woven**

Knotting, braiding and lace making.

UNIT-V 7. Introduction to technical textiles -

Geo textiles

Medical textiles-Nano technology in india

8. Fabric faults- Fibre ,yarn and fabric defects.and their remedies.

Refrences:

Spun yarn technology- Eric oxtoby butterwall publication.

Subodh Kumar Agrawal (1980) Textile Processing and Auxillaries.

Aswani K.T. weaving mechanisms- Mahajan Book Distributors, Ahemadabad.

Amalsar D.M yarn and cloth calculation.

Amalsar handloom Weaving.

Hillhouse, M.S and Mansfield E.A dress Design, Draping and flat Patterned, London.

Helen Theory of Fashion.

PAPER - X

APPAREL DESIGN

Max. Marks: 80

Objectives:

To impart an in-depth knowledge of style readings, pattern making and garment

29.6.19

construction techniques.

To develop and understand the principles of pattern making through flat pattern and draping.

To create awareness of quality assurance norms and evaluating of quality in apparel.

UNIT-I 1. Detailed study of industrial machines and equipment used for-

Cutting the fabric -Objectives ,methods of cutting fabric and cutting system

Sewing.-Properties, types, sewing machines

Sewing threads-Type of fiber, thread size, thread package, thread costs, thread properties.

Sewing problems- Stitch formation, damage along with seam line, puckering.

Finishing

UNIT-II 2. Embellishment

3. Study the interrelationship of needles, thread.

4. Stitch length, and fabric

5. Stitch Types

UNIT- III 6. **Methods of pattern making.**

Drafting.

Flat pattern.

Draping.

Coping paper pattern.

UNIT-IV 7. Understanding the commercial paper patter

8. Layouts on different fabrics, widths and types

9. Buying criteria for-

- Knits, silks, denim and other special fabrics

UNIT-V 10. Readymade garments.

11. Fitting- factors affecting good fit, common problems encountered and remedies for fitting, defects (upper and lower garments).

12. Fitting problems and pattern correction

References:

Avis M. Dry (1961) The psychology of Jung, Methuen and Co. London.

Natalle Bray Dress Fitting published by Blackwell Science Ltd.

Armstrong, Pattern making for fashion design.

Grate and storm- Concepts of clothing, McGraw Hill Book co., New York.

Bina Abling; fashion Sketch Book, Fairchild Publications, New York.

Slampler, Sharp and donnell: Evaluating.

PAPER - XI
HISTORIC TEXTILES

Max. Marks: 80

Objectives :

To gain knowledge of the significance developments in production of textiles in the world.

To assess similarities and dissimilarities in different civilization in terms of fibre production, ornamentation and usage.

To develop sensitivity and understanding towards historic silhouettes and designs.

To learn about the designers of international fame and their contribution to the fashion of today.

UNIT-I 1. **Introduction to textiles:** Indian textile development, study of traditional textiles and embroideries of India.

a. Chicken of U.P. b. Kantha of Bengal.

22.6.14

c. Phulkari of Punjab. d. Kathi of Gujarat.
e. Manipuri of Manipur. .f Chamba rumal of H.P.
g. Kasmiri of Kashmir. h. Kasuti of Karnataka.

UNIT-II 2. **Dance costumes of India:**
a. Bharatnatyam. b. Kathak.
c. Odissi. d. Kuchipudi.
e. Kathakali. .f Manipuri.

UNIT- III 3. **Folk dance costumes of India:**
a. Rajasthan. b. Maharashtra.
c. Gujarat. d. Chhattisgarh.
Madhya Pradesh.

UNIT-IV 4. **Development of different fibers:**
Cotton, silk, wool, linen in India in terms of processing, tools and equipments used, design and ornamentation applied and specialties achievement

5. **Development of dyeing and printing since ancient times:** dyes, methods of dyeing, decorative dyeing.
Methods of styles of printing- tools developed and effects achieved.

UNIT-V 6. **Historical textiles of special significance:**
a. Carpets. b. Tapestries.
c. Brocades. d. Laces.
Shawls.

References:

John and sentence Bryan (1999), World Textiles, Thames and Hudson, London.
Harvey Janet (1996): Traditional Textiles of central Asia, Thames and Hudson, London.
Boucher Francois, A history of Costumes in the West Thames and Hudson.
Paine Sheila (1990): Embroidered Textiles Traditions, Thames and Hudson, London.
Revolution in Fashion: The Kyoto costume institute, Abbeville Presi, New

PAPER - XII
TEXTILE INDUSTRY

Max. Marks: 80

UNIT-I 1. Business Environment of India
2. Merits and Demerits of textile industry in India
3. Textile Industry-concept, history, Manufacturing unit and importance of knitting ,garment, and testing industry
4. Co-operation ,co-operative societies
5. Building customer satisfaction, value and retention.

UNIT-II 6. Importance of textile and Clothing industry in the Indian Economy in terms of domestic consumption, employment and per capita income, gross national product and International trade

7. Foreign Trade policy-The mechanism MFA,-History and current status, WTO,

UNIT- III 8. National Textile policy 1986-2001 change in focus over the year in terms of objective function ability regularity mechanism of futuristic trends.

9. The Textile and Clothing industry in relation to production and consumption pattern. Local employment potential, R and D problem and prospects, cotton, wool, silk, rayon and synthetic industry, hand loom industry, readymade garment industry and technical textiles.

UNIT-IV 10. Marketing and Merchandising core concepts, marketing mix and marketing environment of. India

11. Demographic economic ,natural .technological ,political, legal ,social,

29.6.14

12. and cultural environment

UNIT-V 13. Analyzing business markets and business buying behavior.

14. Corporate and division strategic planning.

15. SWOT analysis

PRACTICAL - III

FABRIC CONSTRUCTION AND PATTERN MAKING

Max. Marks: 100

Marks Distribution:

Sessionals	-	20
Viva	-	20
Two Practical	-	30 each

Dart manipulation.

Development of various in sleeves.Sleeves an bodice combination.

Development of variation in collars.

Roll over collar.

Collar with bodice (shawl).

Necklines and facings.

Scooped necklines.

Built up necklines.

Cowl necklines.

Weaving on simple loom, plain, rib, matt, and twill structures.

Visit to weaving mills.

Fashion sketches.

TEXTILES AND CLOTHING

M.Sc. (HOME SCIENCE) FINAL

4th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper XIII	Knitting technology and Draping	80	10	10	100
Paper XIV	Apparel And Its Social, Psychological Aspects	80	10	10	100
Paper XV	Historic Costumes	80	10	10	100
Paper XVI	Fashion Merchandising	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical IV	Apparel Designing its Construction and Historic Textiles	100

PAPER - XIII

KNITTING TECHNOLOGY AND DRAPING

Max. Marks: 80

Objectives :

To enable the students to understand and learn methods of developing fabrics, using

29.6.19

different fibers, yarn and fabric making techniques.

To gain knowledge and understanding of fundamentals of weaving machinery and processes.

To analyze different weave patterns and learn principles of creating design through weaving.

To enable the student to obtain perfect fit and harmony between the fabric and design of the garments.

UNIT-I 1. **Woven**: sequence of operations in wrap and weft preparation.

2. Various types of looms and their drive.

3. Fabric classification and analysis of fabrics for its construction weaves.

Basic and decorative weaves plain, twill and satin derivatives.

Dobby and jacquard shedding and weaving terry pile

UNIT-II 4. Principle of colour and design in weaving construction of pattern for Dobby and Jacquard looms, brocade, damask, tapestry, wrap and weft pile weaving.

5. New developments in woven fabrics new loom and loom developments. Triaxial weaving, knit and weave construction.

6. Textile design through weaving.

UNIT- III 7. Introduction to draping and silhouette of the individual - Dress Farm, Elements of fabric -Woven knitted.

8. Developments of the ladies block crotch line garments by drafting and draping (short, Bermudas, Trousers etc)

UNIT-IV 9. Development of pattern with variation in

One piece dresses.

Two piece dresses

Dart less dresses, Dart manipulation.

(Incorporating various collars, sleeves, yokes, necklines, pockets and plackets etc.)

UNIT-V 10. Draping of bodice block and shirt block and their variation.

Draping of symmetrical designs and preparing patterns.

Patter markings, pattern envelops and guide sheet.

References:

Spun yarn technology- Eric oxtoby butterwall publication.

Subodh Kumar Agrawal (1980) Textile Processing and Auxillaries.

Aswani K.T. weaving mechanisms- Mahajan Book Distributors, Ahemadabad.

Amalsar D.M yarn and cloth calculation.

Amalsar handloom Weaving.

Hillhouse, M.S and Mansfield E.A dress Design, Draping and flat Patterned, London.

Helen Theory of Fashion.

PAPER - IX

APPAREL AND ITS SOCIAL, PSYCHOLOGICAL ASPECTS

Max. Marks: 80

Objectives :

To impart an in-depth knowledge of style readings, pattern making and garment construction techniques.

To develop and understand the principles of pattern making through flat pattern and draping.

To create awareness of quality assurance norms and evaluating of quality in apparel

UNIT-I 1. Caps and Hoods

22.6.14

Dresses without waistline seems
Built up necklines ,Halters ,Facings

UNIT-II 4. Clothing for people with special needs.
Maternity and lactation period.
Old age.
Physically challenged.

UNIT-III 5. Evaluating the quality of apparel
Identification of the components of apparel.
Fibre content, shaping devices, underline fabrics, pockets, necklines, hem treatments, decorative details and alteration potential.

6. Standards for evaluating the various components.

UNIT-IV 7. **Origin of clothing.**
Why costumes differ allover the world, material aspects and climate.
Religious influence.
Events of the world.
Clothing symbols.

8. **Socialization and development of the self.**
social norms.
Individuality and conformity

UNIT-V 9. The study of dress and adornment
Personality and Types of Personality.
Determinants of Personality

10. **Personality theories**- Definition ,theories, personality traits.
Sigmund Freud defense mechanisms.
Jung
Murray

References:

Avis M. Dry (1961) The psychology of Jung, Methuen and Co. London.
Natalle Bray Dress Fitting published by Blackwell Science Ltd.
Armstrong, Pattern making for fashion design.
Grate and storm- Concepts of clothing, McGraw Hill Book co., New York.
Bina Abling; fashion Sketch Book, Fairchild Publications, New York
Slampler, Sharp and donnell: Evaluating

PAPER - XV
HISTORIC COSTUMES

Max. Marks: 80

Objectives :

To gain knowledge of the significance developments in production of textiles in the world.
To assess similarities and dissimilarities in different civilization in terms of fibre production, ornamentation and usage.
To develop sensitivity and understanding towards historic silhouettes and designs.
To learn about the designers of international fame and their contribution to the fashion of today.

UNIT-I 1. Clothing- Origin and functions of clothing
2. Resist dyeing and ikat fabrics.
3. Printed and painted fabrics.
4. Banarasi saree
5. Sarees of M.P.
6. Costume in ancient civilization emphasize on fabric, garment features, use of

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6. colour decoration and accessories.
   - Indian
   - Egyptian.
   - Greek.
   - Roman.

UNIT-II 7. **History of Indian state costumes for Male and Female**

a. Kashmir **b.** Maharashtra **c.** Gujrat
d. Rajasthan **e.** West Bengal **f.** Tamilnadu

UNIT- III 8. **Costumes for men and women during 10^{th} to 17^{th} century** (Medieval costumes)

a. India **b.** French
c. European. **d.** English.
Costumes and China and Japan.

UNIT-IV 9. **Costumes Of 18^{th} century to 20^{th} century**
   - Indian
   - French.
   - Italian.
   - England.
   - American.
   - Japanese.
   - Australia

UNIT-V 10. **Growth of costume:**

11. **Fashion**- Terminology ,fashion concepts, its creation and analysis
   - Mass Production of clothing.
   - Fashion Designers and his role.
   - Fashion Forecasting.
   - Design Development.

Refrences:

John and sentence Bryan (1999), World Textiles, Thames and Hudson, London.
Harvey Janet (1996): Traditional Textiles of central Asia, Thames and Hudson, London.
Boucher Francois, A history of Costumes in the West Thames and Hudson.
Paine Sheila (1990): Embroidered Textiles Traditions, Thames and Hudson, London.
Revolution in Fashion: The Kyoto costume institute, Abbeville Presi, New York.

PAPER - XVI

FASHION MERCHANDIZING

Max. Marks: 80

UNIT-I 1. Market segmentation, Targeting and Positioning (STP) concepts and methods of market segmentation need for positioning through various means, formation of positioning maps

UNIT-II 2. Product its type and relation to fashion classification of fashion product life cycle, the process of product life cycle, the process of products development

3, Brand management and brand image building the making of a brand.

4, Branding strategies

UNIT- III 5. Promotion and Distribution- Role of promotion, methods of promotion, Advertis-ing, Sales promotion, personal selling, designing and management of different methods of promotion and their employment-in relation to cost effectiveness and product life cycle, different channels of distribution-selection and management

UNIT-IV 6. Designing of retail outlets.

7, Store layout and design.Front design, Interior design, Lighting design.

29.6.14

8. Elements of store environment ,Allocating space ,circulation.
9. Pricing-principles and methods pricing in relation to product type, product life cycle distribution outlets.

UNIT-V 10. Domestic vs. Export market-principles of marketing and merchandising for the domestic and export market, channels of distribution.
11. Visual merchandising
Types of Displays- window displays, interior displays.
elements of displays

PRACTICAL - II

APPAREL DESIGNING ITS-CONSTRUCTION AND HISTORIC COSTUMES

Max. Marks: 100

Distribution of Marks:

Sessional	-	20
Viva	-	20
Two practical	-	30 each

Development of paper pattern and construction of garments: using chocks, stripes, unidirectional and novelty fabrics.
Designing through draping
Basic draping principles and techniques.
Developing a pattern.
Designing, Drafting and Construction of skirts.
A line, flared, circular, pleated, yoked with godet.
Pockets, plackets seams, pleats, Tucks, Bows etc.
Plackets - Centre button closing
A symmetrical closing
Double breasted.
Garments- Drafting and construction of different types of blouses.
Choli Cut blouse.
Belt Blouse.
Plain Blouse.
Drafting of Salwar and Kammez with design.
Semi fitted Kurta.
A line kurta.
Paneled kurta.
Lucknowi Kalidar Kurta.
Flared Kurta.
Salwar and its different kinds.
Churidar.
Preparing samples of traditional embroidery of different states.
Preparing samples of novelty embroidery stitches.

OPTIONAL

(IN PLACE OF PRACTICAL)

Max. Marks	-	100
External	-	50%
Internal	-	50%

Project work: Current trends in textile and clothing

29.6.19

SYLLABUS

2019-2020

~~2017-2018~~

PT. RAVISHANKAR SHUKLA UNIVERSITY

RAIPUR

CHHATTISGARH

M.SC. (HOME SCIENCE)

SYLLABUS 2017-18

SYLLABUS OF SEMESTER SYSTEM

FOOD SCIENCE AND NUTRITION

1st SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper I	Research methodology	80	10	10	100
Paper II	Physiology	80	10	10	100
Paper III	Food Microbiology	80	10	10	100
Paper IV	Problems in Human Nutrition	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Nutrition & Food Microbiology	100

PAPER - I

RESEARCH METHODOLOGY

Max. Marks: 80

Objectives:

To understand the significance of research methodology in Home Science research.
To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

UNIT-I 1. Science, scientific methods, scientific approach.
Role of research in Home science discipline.
Objectives of research: Explanation, control and prediction.
Types of research: Historical, Descriptive, Experimental, case study,
Social research and survey: Meaning, definition, nature, scope, objects, types. distinction between social survey & research.
Pre-testing and pilot survey.

UNIT-II 7. **Definition and identification of research problem.**
Selection of research problem.
Justification.
Fact, Theory and concept.
Hypothesis : Definition, sources, characteristics, importance, main difficulties in formation of hypothesis, disadvantages, Limitations and Delimitations of the problems.
Types of variables.

UNIT-III 11. **Basic principles of research design:**
Purposes of research design: fundamental, applied and action, exploratory, and descriptive, experimental, ex-post facto.
Longitudinal and cross sectional, co-relational.
Data gathering instrument.
Observation,
Questionnaire,

29.6.19

Interview,
Scaling method,
Case study,
Home visits,
Reliability and validity of measuring instruments.

UNIT-IV 13. **Theory of probability:** Non-probability sampling: purposive, Quota and volunteer sampling/snow ball sampling

Sampling : Population and sample, Meaning, Characteristics, advantages and disadvantages.

Types :

Probability sampling
Random sampling (Simple random, systematic random sampling,)
Purposive sampling
Stratified sampling
Other sampling methods (two stages and multistage sampling, cluster sampling.

UNIT-V 15. Classification and tabulation of data.
Analysis and interpretation of data
Preparation of report
Diagrammatic presentation of data

References:

Edwards: experimental design in psychological research.
Kerlinger: Foundation of educational research.
Bhandarkar P.L. and Wilkinson T.S. (2000) methodology and techniques of social research, Himalaya publishing house, Mumbai.
Bhatnagar G.L.(1990) research methods and measurements in behavioral and social science Agri Cole publishing agency, New Delhi.

PAPER - II

PHYSIOLOGY **Max. Marks 80**

Objectives :

This course will enable students to:

Advance their understanding of some of the relevant issues and topics of human physiology.
Enable the students to understand the integrated function of all systems and the grounding of nutritional science in Physiology.
Understand alterations of structure and function in various organs and systems in disease conditions.

UNIT-I 1. **Cell structure and functions**

Levels of cellular organization and function - organelles, tissues, organs and systems brief review. Cell membrane, transport across cell membrane and intercellular communication. Regulation of cell multiplication.

Nervous system

Review of structure and function of neuron, conduction of nerve impulse synapses, role of neurotransmitters Organization of central nervous system structure and function of Brain and spinal cord, Afferent and efferent nerves, Hypothalamus and its role in various body function, obesity, sleep, memory.

UNIT-II 3. **Endocrine system**

Endocrine glands- structure, function, role of hormones, regulation of hormonal

29.6.19

secretion, Disorders of endocrine gland. Emphasis on physiology of diabetes and stress hormones.

Sense Organs

Review of structure and function, Role of skin, eye, ear, nose and tongue in perception of stimuli.

UNIT-III 5. **Digestive system** [FONT SIZE बड़ा करें]

Review of structure and function. Secretary, Digestive and Absorptive function. Role of liver, pancreas and gall bladder and their dysfunction.

Respiratory system

Review of structure and function. Role of lungs in the exchange of gases, Transport of oxygen and Co_2. Role of Hemoglobin and buffer systems. Respiratory quotient, hypoxia, and asthma

UNIT-IV 7. **The circulatory system**

Structure and function of heart and blood vessels. Regulation of cardiac output and blood pressure, heart failure, hypertension.

Blood formation, composition, blood clotting and homeostasis:

Formation and function of plasma proteins, Erythropoesis, Blood groups and his to compatibility. Blood indices. Use of blood for investigation and diagnosis of specific disorders Anemia.

The Musculo skeletal system

Structure and function of bone, cartilage and connective tissue, Disorders of the skeletal system.

Types of muscles structure and function

UNIT-V 10. **The excretory system:**

Structure and function of nephron. Urine formation. Role of kidney in maintaining pH of blood.

Water, electrolyte and acid base balance, diuretics.

Immunity system

Cell mediated and hormonal immunity. Activation of WBC and production of antibodies. Role in inflammation and defense

Physiological changes in pregnancy.

References :

Ganong W.F. 1985: Review of Medical Physiology 2nd Edition, Lange Medical Publication.

Moan Camcell E.J. Dickinson C.J…. Edwares C.R.N. and Sikora K. (1984): Clinical Physiiology, 5th Edition …. Publication.

Guyton A.C. (1985):

Guyton, A.C. and Hall, J.B. (1996) Text Book of Medical Physiology, 9th Edition, W.B. Saneers Company… Books Pvt. Ltd. Banglore.

Wilson KTW and Waugh A (1998): Ress and Wilson Antony and Physiology in Health and …. 4th Edition

Mc. W.D. Karen F.J. and Katch, V.L. (1996): Excericise Physiology, Energy ,…..perfor-mance, 4th Edition, Williams and Wilkons Batimere

Jain A.K. Text Book of Physiiology, Vol I and II Avichal Publishing Co. New Delhi.

PAPER - III

FOOD MICROBIOLOGY

Max. Marks: 80

UNIT-I 1. Bacterial morphology, structure, staining, culture media, culture method and identification of bacteria.

Growth and Nutrition of Bacteria : Intrinsic and extrinsic parameters that affect

29.6.19

microbial growth.

UNIT-II 3. Microorganism important in food microbiology - Mold, yeast, bacteria.

4. **Spoilage of different groups of foods:**
   - Cereals and cereal products
   - Vegetables and fruits
   - Fish and meat products
   - Meat and meat products
   - Eggs and poultry
   - Milk and milk products
   - Canned foods

UNIT- III 5. **Contamination of foods.**

Food Preservation :

- General principles of food preservation: Asepsis, removal of micro-organism, maintenance of anaerobic conditions.
- Preservation by use of high temperature.
- Preservation by use of low temperature
- Preservation by drying.
- Preservation by food additives
- Preservation by radiation.

UNIT-IV 7. **Foods in relation to disease :**

Food borne illness: Bacterial and viral food borne disorders.
Food borne important animal parasites, mycotoxins.

Fermented Foods :

Role of microbes in fermented foods -
- Fermented dairy products
- Fermented vegetables
- Fermented meat
- Fermented fish
- Beverage and distilled products.

UNIT-V 9. **Indices of Food Sanitary Quality:**
- Microbial criteria of food.
- Microbial standards and food safety
- Controlling the microbial quality of foods -
- Quality control using microbial criteria.
- The HACCP (Hazard Analysis and Critical Control Point) system

nti microbial therapy

ood Laws

PAPER - IV

PROBLEMS IN HUMAN NUTRITION

Max. Marks: 80

UNIT-I 1. Nutritional screening and assessment of nutritional status of hospitalized and outdoor patients. Identification of high risk patients. Assessment of patient needs based on interpretation of patient data (Clinical, biochemical, biophysical, personal etc.)

2. **Nutritional support:** Recent advances in techniques and feeding substrates.

3. **Stress and trauma :** Diet in surgery, bums, fracture.

UNIT-II 4. **Diet and drug interaction:** Effect of drugs on ingestion, digestion and metabolism of nutrients.

5. **Neurological disorders:**

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Neuritis - Etiology, nutritional care.
Migraine - Diet management
Anorexia Nervosa - Etiology, treatment.

6. **Childhood problems** : Inborn errors of metabolism and their nutritional management.

Maple syrup urine disease - Tyrosenemia, Galactosemia, Phenylketonuria.

UNIT- III 7. **Musculoskeletal disorders:**

Arthritis's - Nutritional care
Gout - Characteristics, nutritional care

8. **Cancer** : Types of cancer, Nutritional effect of cancer, Nutritional disorders related to treatment, diet in cancer.

UNIT-IV 9. Historical background, prevalence, etiology, biochemical and clinical manifesta-tion, preventive and therapeutic measures for the following -

I. P E M
Nutritional anaemia
III. Vitamin A deficiency
IV. IDD

UNIT-V 10. Osteomalacia and osteoporosis Etiology, symptoms and nutritional care, Rickets
Dental carries: Etiology, nursing bottle carries.
Nutrition in AIDS.

References:

Atlas, M. Ronald (1995) principles of Microbiology, 1th Edition Mosby-year Book, Inc., Missour, U.S.A.

Topley and Wission's (1983) Principles of Bacteriology, Virology and Immunity, Edited by S.G. Wilson, A. Miles and M.T. Parkar, Vol.I

General Microbiology and Immunity, II: Systematic Bacteriology, 7th Edition, Edward Arnold Publish.

Block, J.G. (1999) Microbiology Principles and Exportations, 4th Edition John Wiley and Sone Inc.

Jay, James, M. (2000) Modern Food Microbiology, 6th Edition, Aspen publishers, Inc., Maryland.

Bansart, G. (1989) Basic Food Microbiology, 2th Edition, CBS Publisher.

Garbutt, J (1977) Essentials of Food Microbiology, 1st Edition, Arnold International Students Edition.

Doyle, P. Benehat, L.R. and Mantville, T.J. (1977): Food Microbiology, Fundamentals and Forntiers, ASM Press, Washington DC.

Bensaon, H.J. (1990) Microbiological applications, C. Brown Publishers U.S.A.

Roday, S. (1999) Food Hygiene and sanitation, 1st Edition, Tata Mcgraw Hilll, New Delhi.

Venderzant, C and D.F. splitts Toesser (1992): Compendium of Methods for the Microbiological Examination of Foods 3rd Edition. American Public Health Association, Washington D.C.

Frazier, W.C. and Westhoff, D.C. (1998) : Food Microbiology. Tata McGraw Hill Book Company, New Delhi, 4th Edition.

James, M.J. (1987) : Modern Food Microbiology, CBS Publishers, New Delhi, 3rd edition.

Pelezar, M.I. and Reid, RD. (1993) : Microbiology, McGraw Hill Book Company, New York, 5th edition.

Adams, M.R., Moss, M.O. (1995): Food Microbiology, New Age International (P.) Ltd., Delhi.

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16. Banwart G.J. (1987) : Basic Food Microbiology, CBS Publishers and Distributors, Delhi.

PRACTICAL - I

NUTRITION & FOOD MICROBIOLOGY

Max. Marks: 100

Objectives:

The aim of the course is to:

Familiarize students with basic techniques used in Studies and Research in Nutritional Sciences.

Acquaint students with the methods of estimating nutrient requirements.

Orient students towards planning of metabolic studies.

Note: Any 10 practicals from 'Part I' and any 5 practicals from 'Part II'.

PART-I

Estimation of protein quality using different methods PER, B.V., N.P.U., NDP-Cal%

Estimation of energy value of food stuffs using bomb calorimeter.

Estimation of Energy Requirements.

B M R

Energy expenditure on physical activities.

Factorial approach

Balance studies - Nitrogen bance

Assessment of micronutrient status

Iron

Vitamin 'C'

Vitamin 'A'

Vitamin from 'B' Complex group.

Bioavailability of selected nutrients

Assessment of nutritional status including Body composition.

Physiological parameters like heart rate and blood pressure

Assessment of coronary risk profile- RlSKO factor

Assessment of bone health

Planning diets and formulating dietary guide lines

Fitness and health

Prevention of chronic degenerative disorders

Obesity management

Management of diabetes mellitus and CVD

Review of existing alternative diet related systems for physical fitness and health.

Planning and preparation of diets for the elderly in health and sickness.

Part II

Preparation of common laboratory media and special media for cultivation of bacteria, yeast and moulds.

Staining of bacteria- grams staining, spore, capsule, motility of bacteria, staining of yeast and moulds.

Identification of important moulds and yeasts (slides).

Study of environment around us as source of transmission of micro organisms in food. Assessment of surface Sanitation of food preparation units.

Bacteriological analysis of milk.

Demonstration of available rapid methods, diagnostic kits used in identification of microorganisms or their products.

Visits to food processing units or any other organization dealing with advance methods in food microbiology.

29.6.19

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FOOD SCIENCE AND NUTRITION

M.SC. PREVIOUS - 2ND SEMESTER

MARKING SCHEME:

PART I - THEORY

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper V	Statistics and Computer Application	80	10	10	100
Paper VI	Food Science	80	10	10	100
Paper VII	Food chemistry	80	10	10	100
Paper VIII	Therapeutic Nutrition	80	10	10	100

PART II - PRACTICAL

Practical	Marks
Practical II Food Science and Therapeutic Nutrition	100

PART III - INTERNSHIP / FIELD PLACEMENT

The student will be required to under go an internship/field placement for a total duration of six to eight weeks in their chosen area of interest after IInd semester which will facilitate their pursuing a professional career in same field.

This programme could be taken up either as a single block or in two different blocks. It is mandatory that the organization / institution (public/private) participating in the field.

Placement programme will be of good professional standing.The list may include Hospitals, state run NGO, Food industry, etc. . The student will be required to submit and present a report of the internship/field placement project after its completion. It is also envisaged that participating organization/institution will give their performance appraisal of the student work. Grade A (60% and above), Grade B (48% to 59%), Grade C (40% to 47%) should be given to the student after evaluation of field placement/ internship report by the department. The grade will be mentioned in the mark sheet of the IVth semester of the student.

Excursion trip/field visits should be arranged regularly by the department for the up liftment of the knowledge of the students.

This programme is designed with the following objectives:

I. To enable the students to acquire an in-depth understanding of the practical aspects of knowledge and skills acquired during the course in the relevant subject/subjects.

I. To gain hands on experience for higher proficiency in their selected area of expertise To help the students to develop and have their analytical abilities for situation and analysis and bringing about improvements

PAPER - V

STATISTICS AND COMPUTER APPLICATION Max. Marks: 80

To understand the significance of statistics and research methodology in Home Science research.

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To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

To understand and apply the appropriate statistical technique to the measurement scale and design.

To understand the role of statistics and computer application in research.

To apply statistical techniques to research data for analysis and interpreting data meaningfully

UNIT-I 1. **Conceptual understanding of statistical measures** - meaning, definition,

scope, importance, characteristics, distrust of statistics.

2. **Classification and tabulation of data.**

3. **Measurement of central tendency**

Mean
Median
Mode

UNIT-II 4. **Graphic presentation of data**

Frequency distribution
Histogram
Frequency polygons
Frequency curve
Ogive
Binomial distribution
Parametric and non-parametric tests

UNIT- III 5. **Methods of Dispersion and variation**

Mean déviation
Standard déviation
Quartile deviation
Independence of attributes 2×2 and r×c contingency tables

6. Analysis of variance - one way method Direct and short cut.

What is computers characteristics components of computer system, block diagram of computer, CPU, I/O devices and memory (RAM and ROM) second storage devices (hard disk Floppy disk ,Magnetic tape etc.)

UNIT-IV 7. **Computer generations** -Classification of computers; Analog digital hybrid general and special

8. **Types of computers-** Micro Mini Mainframe and super computer

Chi square test Goodness of it
Application of student 't' test for small samples

UNIT-V 9. **Correlation**-definition, meaning and types.

10. **Methods of determining coefficient of correlation**

Product moment correlation
Rank correlation.

11. **Working with MS Word**

Getting started with word, formatting text and paragraph.
Applying text and language tools, designing pages, with columns and tables, using graphics.

References:

Garrett, Henry E. 1971: statistics in psychology and education, David and co.

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PAPER - VI
FOOD SCIENCE

Max. Marks 80

OBJECTIVES:

This course is designed to:

Provide an understanding of composition of various foodstuffs.

Familiarize students with changes occurring in various foodstuffs as a result of processing and cooking.

Enable students to use the theoretical knowledge in various applications and food preparations.

UNIT-I 1. **Introduction to Food Science:**

Water: Physical properties of water and Ice, chemical, nature, structure of the water molecule.

Absorption phenomena, types of water solutions and collidative properties.

Free and bound water.

2. Water activity and Food spoilage.

3. Freezing and Ice structure.

3, **Food Dispersions**-Colloidal solutions, stabilization of Colloidal systems, Rheology of food dispersions.

Gels: Structure, formation, strength, types and permanence.

Emulsions: Formation, stability, surfactants and emulsifiers.

Foams: Structure, formation and stabilization.

UNIT-II 4. Polysaccharides, Sugars and Sweeteners

Starch: Structure, gelatinization, methods for following gelatinization changes. Characteristic of some food starches. gelatinization. Modified food starches.

Non-starch Polysaccharides: Cellulose, hemicelluloses, pectins, gums, animal polysaccharides.

Sugar and Sweeteners: Sugar, Syrups, potent sweeteners, and sugar products.

Sweetener chemistry related to usage in food products: Structural relationships to sweetness perceptions, hydrolytic reactions, solubility and crystallization, hydroscopicity, fermentation, non- enzymatic browning.

UNIT- III 5. **Cereals and Cereal Products**

Cereal grains: Structural and composition.

Cereal products.

Flours and flour quality.

Extruded foods, breakfast cereals, wheat germ burger, puffed and flaked cereals.

6. **Fats, Oils and Related Products**

Sources, composition , effects of composition on fat properties. Functional properties of fat and uses in food preparations. Fat substitutes. Fat deterioration and antioxidants..

UNIT-IV 7. **Proteins**: Classification, composition, denaturation, non-enzymatic browning and other chemical changes.

8, **Enzymes**: Nature of enzymes: stability and action. Proteolytic enzymes oxidizes, lipases, enzymes decomposing carbohydrates and application. Immobilized enzymes.

UNIT-V 9. Milk and Milk Products: Composition. Physical and functional properties De-naturation. Effects of processing and storage. Dairy products, Cultured milk,

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yoghurt, butter, whey cheese, concentrated and used products, frozen desserts, dairy product substitutes

Journals:

Journal of Food Science Published by the Institute of Food Technologist, Chicago lu U.S.A.

Journal of Food Science and Technology published by Association of Food Sciencetists and Technologist (India) CFTRI- MYSORE.

Food Technology Published by the Institute of Food Technologist, Chicago lu, U.S.A.

PAPER - VII

FOOD CHEMISTRY

Max. Marks: 80

UNIT-I 1. **Meat and Poultry:** Muscle composition, characteristics and structure. Post mortem changes processing, preservation and their effects. Heat induced changes in meat variables in meat preparation, Tenderizing treatments, meat products.

2. **Eggs** : Structure and composition, changes during storage. Functional properties of eggs, use in cookery. Egg processing, low cholesterol egg substitutes.

UNIT-II 3. **Fish and sea foods** : Types and composition, storage and changes during storage, changes during processing, by-product and newer products.

4. **Pulses and Legumes:** Structure, composition, processing, toxic constituents.

5. **Nut ad oil seeds:** Composition, oil extraction and by-products.

6. **Protein concentrates** : Hydrolysates and textured vegetable proteins, milk substitutes.

UNIT- III 7. **Fruits and vegetables** : Plant, anatomy, composition , Enzymes in fruits and vegetables. Flavor constituents, plant phenolics, pigments, post harvest changes. Texture of fruits and vegetables. Effects of storage, processing and preservation.

8. **Spices and condiments** : Composition, flavoring extracts - Natural and synthetic

UNIT-IV 9. **Processed foods** : Jams, jellies, squashes, pickles, dehydrated products.

10. **Beverages** : Synthetic and natural, alcoholic and non-alcoholic, carbonated and non-carbonated, coffee, tea, cocoa, malted drinks

UNIT-V 11. **Traditional processed products** : Fermented food - Cereal based, pulse based, fruit/vegetables based like vinegar, pickle

12. **Leavened products** : Leavening agents, biologically leavened and chemically leavened products. Batters and dough, backery products.

13. **Salt and substitutes.**

References:

Charley, H. (1982) Food Science (2nd edition), John Wiley and Sons, New York.

Potter, N. and Hotchkiss, J.H. (1996) Food Science, Fifth edition, CBS Publishers and Distributors, New Delhi.

Belitz, H.D. and Grosch, W. *(1999)* Food Chemistry (2nd edition), Springer, New York.

Abers, RI, (Ed) (1976) Foam, Academic Press, New York.

Cherry, R.J.Ed) : Protein Functionality in Food. American Chemical Society, Washington D.C.

Journals:

Journal of Food Science

Advances in Food Research

Journal of Food Science and Technology

Journal of Agricultural and Food Chemistry

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5. Cereal Science
6. Journal of Dairy Science
7. Journal of the Oil Chemist's Society.

PAPER - VIII

THERAPEUTIC NUTRITION

Max. Marks: 80

UNIT-I 1. **Etiopathophysiology, metabolism and clinical aberration:** complications, prevention and recent advances in nutritional management of GIT Disorders

Gastritis _ Types, dietary modification
Peptic ulcer, etiology, symptoms, dietary modification
Intervals of feeding, bland diet, four stage diet Therapy, prevention of recurrence.
Diarrhea - Classification, dietary consideration
Constipation, classification, dietary consideration
Ulcerative colitis symptom, dietary treatment
Sprue types, dietary consideration.

UNIT-II 2. **Disease of liver and gall bladder.**

Diseases of liver and gall bladder
Jaundice - classification and dietary treatment
Hepatitis - types and dietary management.
Hepatic coma - causes and dietary management
Cirrhosis- Type and dietary management
Cholecystitis- Types and dietary management
Cholelithiases- etiology and dietary management

3. **Pancreatic disorders:** etiology, pathogenesis and nutritional care.

UNIT- III 4. **Renal diseases**

Basal renal functions, classification of renal disease.
Glomerulonephritis- Acute and chronic- symptoms and dietetic treatment
Nephrosis symptoms and principles of nutritional care.
Renal failure- Acute and chronic renal failure, dialysis.
Renal calculi- Etiology, types of stones and nutritional care acid and alkaline ash diet.
Fevers and infections-Types of fever, Tuberculosis, typhoid and malaria dietetic management

UNIT-IV 5. **Cardiovascular diseases:** Classification.

Hyperlipidemia _ Classification and nutritional care.
Atherosclerosis - Etiological factors, pathogenesis dietetic management.
Hypertension - Classification, etiology, nutritional care.

6. **Weight Imbalance:** Regulation of energy in take

obesity - Types, etiology, treatment, diet and other measures, complication of obesity
Under weight ness - causes, dietetics management.

UNIT-V 7. Historical background, prevalence, etiology biochemical and clinical manifestation, preventive and therapeutic measures for metabolic disorders.

8. Diabetic Mellitus.

Incidence and predisposing factors
Symptoms , types and diagnoses
metabolism in diabetes
dietary management and meal management

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Hypoglycemic agents and insulin

complications of diabetes

Disorders of thyroid gland: normal thyroid function

Hyperthyroidism _ symptoms and treatment

PRACTICAL - II

FOOD SCIENCE AND THERAPEUTIC NUTRITION

Max. Marks 100

Distribution of Marks:

Sessional	-	20
Viva	-	20
Practical	-	60 (Exercises two of 30 each)

PART- A

Collection and storage of biological samples for clinical investigation.

Market survey of commercial nutritional supplements and nutritional support substrates.

Commonly used test for diagnosis of various - system — wise.

Interpretation of patient data and diagnostic tests and drawing up of patient diet prescription, using a case study approach.

Follow up- acceptability of diet prescription, compliance, discharge diet plan.

Preparation of diet counseling aids for common disorders.

Planning and preparation of diets for patients with common multiple disorders and complications and discharge diet plans.

PART-B

Effect of solutes on boiling point and freezing point of water.

Effect of types of water on characteristic of cooked vegetables, Pulses and cereals.

Sugar and Jaggery Cookery: Relative sweetness, solubility and sizes of sugars, stages. of sugar cookery, caramelization, crystallization, factors affecting crystal formation

Starches Vegetables Gums and Cereals: Dextrinization, gelatinization, retro gradation, thickening power, Factors affecting gels. Gluten formation and factors affecting gluten formation.

Jams and Jellies: Pectin content of fruits, role of acid pectin and sugar in jam and jelly formation, Use of gums as emulsifiers / stabilizers.

Fat and Oils: Flash point, melting point and smoking point, Role of fast and oils in cookery as: Shortening agent, frying medium, Factors affecting fat absorption. Fat crystals. Plasticity of fats Permanent and semi- permanent emulsions.

Milk & Milk Products: Scalding denaturation ration. Effect of acid, salt, alkali, sugar, heat) enzymes, polyphenols on milk Khoa, curd, paneer. Cheese (ripened and unripened).

Egg: structure assessing egg in quality. Use of egg in cookery: Emulsions air incorporation, thickening, binding, and gelling. Method of egg cookery and effect of heat white foams and factors affecting foams:

Pulses: Effect of various cooking and processing methods on various functional properties of pulses and their products.

Gelatin: Gelatin gel strength and factors affecting gelatin.

Fruits and Vegetables: Pigments: Effects of cooking metal ions, ph, effect of various cooking processes on different characteristics of vegetables. Prevention of enzymatic browning.

Leavened Products: Fermentation- Use of microorganisms ((lactic acid yeast). Steam as an agent, Egg as a chemical agent.

Frozen Desserts: Factors affecting ice crystal formation. Quality characteristics of frozen

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desserts.

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FOOD SCIENCE AND NUTRITION

M.SC. (HOME SCIENCE) FINAL

3rd SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper IX	Advanced Nutrition	80	10	10	100
Paper X	Nutritional Biochemistry	80	10	10	100
Paper XI	Nutrition for Health of Women and Children	80	10	10	100
Paper XII	Methods of Investigation	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical III	Nutritional Biochemistry	100

PAPER - IX

ADVANCED NUTRITION

Max. Marks: 80

Objectives :

This Course is designed to:

Provide in depth knowledge of the physiological and metabolic role of various nutrients and their interactions in human nutrition.

Enable students to understand the basis of human nutritional requirement and recommendations through the life cycle.

Enable students to understand the pharmacological actions of nutrients and their implications.

Familiarize students with the recent advances in nutrition.

UNIT-I 1. **Energy:** Energy content of foods. Physiological fuel value- review. Measurement of Energy Expenditure: BMR, RMr thermic effect of feeding and physical activity, methods of measurement of basal metabolism. Estimating energy requirements of individuals. Regulation of energy metabolism: control of food intake, digestion, absorption and body weight.

UNIT-II 2. **Carbohydrates:** Types, classification, digestion and transport- review, dietary fibre, fructo, oligosaccharides, resistant starch- chemical composition and physiological effects Glycemic index of foods. Sweeteners nutritive and non-nutritive.

UNIT- III 3. **Proteins:** Classification, digestion, absorption and transport- review. Metabolism of proteins: Role of muscle, liver and gastro intestinal tract.in protein metabolism. Protein quality, methods of evaluating protein quality. Protein and amino acid requirements. Therapeutic applications of specific amino acid.

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4. **Lipids:** Classification digestion, absorption, transport- review - Functions of fat E.F.A. Role of n-3 n-6 fatty acids in health and disease. Requirements of total fat and fatty acids. Trans fatty acids, prostaglandins, phospholipids, cholesterol.

UNIT-IV 5. **Water:** Regulation of intra and extra cellular volume - Osmolality, water balance and its regulation.

6. **Minerals:** (Note: For each nutrient sources, bio-availability, metabolism, function, requirements, RDA, deficiency and toxicity, interactions with other nutrients are to be discussed)

7. **Macro minerals:** calcium, phosphorus, magnesium, sodium, potassium and chloride.

8. **Micro minerals:** Iron, copper, zinc, manganese, iodine, fluoride.

9. **Trace minerals:** Selenium cobalt, chromium, Cadmium, silicon ,boron, nickel.

UNIT-V 10. **Vitamins:** Historical background, structure, food sources, absorption and transport metabolism biochemical function, and assessment of status. Interac-tions with other nutrients. Physiological, pharmacological and therapeutic effects, toxicity and deficiency with respect to the following.

Fat soluble Vitamins A,D,E, & K

Water Soluble: thiamine riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid, ascorbic acid, cyanocobalamin, choline, inositol, ascorbic acid.

REFERENCES:

Scrimshaw, N.S. and Gleason, G.R. (1992) Assessment Procedures. Qualitative Methodologies for Planning and Evaluation of Health related Programmes. International Nutrition foundation for Developing Countries, Boston.

Van Maanen (1983)" Quantitative Methodology, Sage Publication.

Cook, T.D. and Richard, C.S. (1979): Qualitative Methods in Evaluation Research, Sage Publications, and London.

Patton, M.Q. (1980): Qualitative Evaluation Methods Sage Publications.

Pettitti, D.B. (2000): Meta analysis, Decision Analysis and cost-effectiveness Analysis:Methods for Quantitaive Methods in Mecinine. Oxford University Press, New York.

Hunter, J.E. and Shmidt (1990): Methods of Meta- analysis- Correcting Error and Blas in Research Findinge, sage Publications London.

Walker, R. (1983): applied Qualitative Research, gower, London.

Margan, D. (1988): rocus Groups as Qualitative research Sage Publication, London.

Creswell, J. (1994): Research Design: Qualitative and Quantitative Approaches. Thousand Oaks, CA Sage Publications.

Margan, D (1993): Successful Focus Groups. Sage Publications.

Mischler, E.G. (1986), Research Interviewing. Context and Narrative, Harvard University Press Cambridge.

Denzin, N.K. and Licoin Y.S. (1994): Handbook of Qualitative Research, Sage Publications.

Janesick , V.J. (1993): Stretching Exercises for Cultivative researches, Sage Publications.

Mienert, C.L. (1986): Clinical Trials: Design, conduct and Analysis, oxford, New York

Schlessetman, J.J. (1982): Case control studies: Design Conduct and Analysis. Oxford New York.

Bryman, A. and Crame: D (1994) Quantitative Data Analysis for Social Scientists.

Bryman, A. and Crame: D (1996) Quantitative Data analysis with Minitabs, Rutledge,

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London.
Cameron, M.E. and van Staveren, W.A. (1988): Manual on Methology for Food consumption Studies, Oxford University Press Oxford.
Quandt. S.A. and Ritenbaugh, S. (1986): Training Manual in Nutritional Anthropology American Association of Anthropology, Washington, D.C.

PAPER - X

NUTRITIONAL BIOCHEMISTRY

Max. Marks: 80

UNIT-I 1. Hetero polysaccharides- Definition classification structure and properties of glycoprotein, and proteoglycans.

2. Inter mediatory metabolism- Reactions, standard for energy changes, and regulating, carbohydrates- glycolysis, gluconeogenesis, citric acid cycle, hexose-mono-phosphate pathway.

UNIT-II 3. Lipids- Beta oxidation synthesis of fatty acids. Synthesis and breakdown of unsaturated fatty acids, cholesterol, phospholipids. And triacylglycerol.

4. Purines and pyrimidines- Synthesis and break down source of various atoms of the purine base. salvage reaction, Biosynthesis of purines and pyrimidines.

UNIT- III 5. Plasma proteins- Nature Properties and functions

6. Nucleic acids- DNA replication and transcription method of replication fork, okazaki segment, rule of sigma factor and core enzyme, DNA recombinant-Bio medical importance, restriction enzyme clowning, libraries & libraries construc-tion.

7. Protein bio synthesis, initiation, formation of UOS, complex formation of complex, elongation.

UNIT-IV 8. Hormones, general characteristic of hormones classification of hormones, mechanism of action. Assay of hormone, functions of Hormones, Thyroxine,TSH.LH. ACTH and insulin.

9. Minerals, trace elements, their physiological function sources, absorption, excretions & deficiency of iron, copper, iodine zinc and selenium

UNIT-V 10. Detoxification in the body- Metabolism of foreign compounds oxidation conjugation, reduction hydrolyses.

11. Major alteration in CHO protein and fat metabolism in chronic nutrition, related generative diseases diabetes, heart diseases.

PAPER - XI

NUTRITION FOR HEALTH OF WOMEN AND CHILDREN

Max. Marks - 80

UNIT-I 1. Role of women in national development.

2. Women in family and community: Demographic changes menarche, marriage, fertility, morbidity, mortality, life expectancy, sex ratio, aging, widowhood.

3. Women in society: Women's role, their resources, and contribution to family, and effect of nutritional status.

UNIT-II 4. Women and health: Health facilities. Disease pattern and reproductive health.

5. Policies and programs for promoting maternal and child nutrition and health.

6. Concept of small family. Methods of family planning-Merits and demerits.

UNIT- III 7. Importance of nutrition prior to and during pregnancy- Prerequisites for successful outcome. Effect of under nutrition on mother and child including

8. pregnancy outcome and maternal and child health- Short term and long term

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effect.

Physiology and endocrinology of pregnancy, embryonic and foetal growth and development.

9. Nutritional requirements during pregnancy: Adolescent pregnancy, pregnancy and T.B., TUGR, gestational diabetes.

UNIT-IV 10. Lactation- Development of memory tissue and role of hormones- Physiology and endocrinology of lactation. Synthesis of milk component, let down reflex, role of hormones. Lactational amenorrhea, effect of breast feeding on maternal health.

11. Human milk composition and factors affecting breast feeding. Human milk banking.

12. Management of lactation : Prenatal breast feeding, skill education.

13. Rooming in problems - Sore nipples, engorged breast, inverted breast. Exclusive breast feeding.

UNIT-V 14. Infant physiology: Preterm and low birth weight infant- Implication for feeding and management.

15. Growth and development during infancy, childhood and adolescents. Feeding of infants and children and dietary management.

16. Malnutrition- Etiology and management.

PAPER - XII

METHODS OF INVESTIGATION

Max. Marks: 80

UNIT-I 1. **Electrolytic dissociation** : Principle, technique and theory of electrolytic dissociation.

2. **Hydrogen ion concentration** : Principle and measurement of pH, indicators, buffer.

3. **Physiochemical techniques** : Principles and methodology of the following -

Diffusion
Osmosis
Filtration
Surface tension
Adsorption
Centrifugation

UNIT-II 4. **Chromatography** : Principles, techniques and application of the following -

Paper chromatography - Circular, ascending and descending.
Ion exchange chromatography
column chromatography
Thin layer chromatography
Gas liquid chromatography
High performance liquid chromatography

UNIT- III 5. **Electrophoresis** : Principles and techniques of paper and gel electrophoresis.

6. **Microbiological assay** : Principle and methodology of the following -

(a) Vitamins (b) Amino acids

UNIT-IV 7. **Colorimetry** : Principle, colorimeter applications.

8. **Radioactive isotopes** : Properties of radioactive isotopes, detection of radiations. Uses of radioactive isotopes in medical science.

UNIT-V 9. **Immunological methods** : Principle and technique of the following -

Radio Immuno Assay (RIA)
Enzyme Linked Immunosorbent Assay (ELISA)

10. Collection of biological samples.

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References ;

Hawk, P.B., Oser, B.K. and Summerson, W.H. Practical Psysiological Chemistry. Tata McGraw Hill.

Varley, H. Practical Clinical Biochemistry. The English language Book Society.

Das, Debjyoti Biophysics and Biophysical Chemistry. Academic Publisher, Calcutta.

Okotore, R.O. : Basic Separation Techniques in Biochemistry. New Age International (P) Ltd. Publishers.

Manual of Laboratory Techniques. National Institute of Nutrition, Hyderabad.

PRACTICAL - III

NUTRITIONAL BIOCHEMISTRY

Max. Marks 100

Objectives :

This course will enable the students to

Understand the principles of biochemical methods used for analysis of food and biological samples.

Perform biological analysis with accuracy and reproducibility

Note : Any ten practical.

PART-A

Calcium : Estimation of calcium in foods and serum.

Phosphorous : Estimation of inorganic phosphorous in foods and serum.

Ascorbic acid : Estimation of ascorbic acids in foods.

Proteins:

Estimation of proteins in foods.

Estimation of albumin, globulin and albumin/globulin ratio in serum and urine.

Estimation of haemoglobin.

Glucose: Estimation of glucose in blood and urine.

Cholesterol: Estimation of cholesterol in blood.

Enzyme assay: Estimation of activity of serum alkaline phosphates and trans aminase.

Urea and creatinine: Estimation of urea and creatinine in serum and urine.

Survey of pathological laboratories.

PART-B

Acids and alkalis: Preparation of dilute solutions of common acids and alkalis and determining their exact normality.

Buffers ; Preparation of phosphate, carbonate-bicarbonate, ascorbic acid, acetate, chloride and pthalate buffers and determination of their pH by the use of indicators and pH meters.

Spectrometer: Beer Lamuert law, absorption maximum, preparation of standard curve and nutrient estimations in UV and visible range, AAS, AES, flame photometry.

Fluorimetry: Estimation of thiamin and riboflavin.

Chromatography: Paper - Identification of amino acid by circular, ascending and descending methods. Ion-exchange - Separation of amino acids. column Separation of proteins. Thin layer - Identification of amino acids, Gas-liquid Estimation of fatty acids, HPLC - Estimation of â-carotene and á-tocopherol.

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15. Electrophoresis: Fractionation of plasma proteins.

FOOD SCIENCE AND NUTRITION

M.SC. (HOME SCIENCE) FINAL

4th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper XIII	Nutrition for Health and Fitness	80	10	10	100
Paper XIV	Public Nutrition	80	10	10	100
Paper X V	Geriatric Nutrition	80	10	10	100
Paper XVI	Institution Management	80	10	10	100

PART II - PRACTICAL

	Practical / Dissertation	Marks
Practical IV	Institution Management	100

PAPER - XIII

NUTRITION FOR HEALTH AND FITNESS

Max. Marks - 80

Objective : Course will prepare the student to -

Understand the components of health and fitness and the role of nutrition in these.

Make nutritional, dietary and physical activity recommendations to achieve fitness and well- being.

Develop ability to evaluate fitness and well- being.

UNIT-I 1. Definitions, components and assessment criteria of age:

2. specific fitness and health status.

3. Anatomical fitness

4. Physiological fitness

5. Psychological fitness

Physiological fitness; Growth and development ,strength ,speed skill stamina, or endurance, specific fitness, general fitness, and health status.

6. Holistic approach to the management of fitness and health: Energy input and output. Diet and Exercise, Effect of specific nutrition on work performance and physical fitness, Nutrition, exercise, physical fitness and health inter- relation-ship

UNIT-II 7. Review of different energy systems for endurance and power activity: Endurance - Definition, classification, and factors affecting endurance. Fuels and nutrients

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to support physical activity: Shifts in carbohydrate and fat metabolism mobilization of fat stores during exercise.

8. Nutrition in Sports: Sports specific requirement.

UNIT- III 9. Pre-game and post- game meals. Assessment of different mutagenic acids and commercial supplements. Diets for persons with high energy requirements, stress, fracture and injury.

10. Water and electrolyte balance: Losses and their replenishment during exercise and sports events, effect of dehydration, sport drink

UNIT-IV 11. Significance of physical fitness and nutrition in the prevention and management of weight control, obesity, diabetes mellitus, CV disorders, bone health and cancer

12. Nutrition and exercise regimes for pre and postnatal fitness. Nutritional and exercise regimes for management of obesity. Critical review of various dietary regimes for weight and fat reduction.

13. Prevention of weight cycling.

UNIT-V 14. Defining nutritional goals/ guidelines appropriate or health fitness and prevention and management of the chronic de-genearative disorders

15. Alternative systems for health and fitness like Ayurveda, Yoga, Meditation, Vegetarianism and Traditional diets.

REFERENCES:

L.K. & Ecott Stump, S.(2000): Krause's Food Nutrition and Diet therapy. Edition, W.B. Saunders Ltd.

Sizer, F & Whitney , E. (2000); Nutrition Concepts & Controversies. 8th Edition, Wadsworth, An International Thomson Publishing Co.

Whitney, E.N. & rolfes, S.R. (1999); Understanding Nutrition, 8th Edition, West/ Wadsworth Thomson learning.

Ira Wokinsky (Ed.) (1998): Nutrition in Exercise and sports, 3rd Edition, CRC Press.

Parizkova, J. Nutrition, Physical activity and health in early life Ed. Wolinsky, I. CRC Press.

Shils, M.E. Olson, J.A. Shike N. and Ross, A.C. (Ed.) (1999): Modern Nutrition in Health & Disease 9th Edition, Williams & Wilkins.

McArdle, W. Katch, F and Katch, V. (1996) Exercise Physiology, Energy, Nutrion and Human Performance, 4th Edition. Williams and Wikins, Philadelphia.

Journals

Medicine and Science in Sports and Exercise.

International Journals of Sports Nutrition.

PAPER - XIV

PUBLIC NUTRITION

Max. Marks: 80

UNIT-I 1. **Concept of Public Health Nutrition** : Relationship between health and nutrition. Role of public nutritionist in the health care delivery system.

2. Sectors and public policies relevant to nutrition.

3. National health care delivery system.

UNIT-II 4. **Population Dynamics**: Demography, demographic cycle, world population trend, birth rates, death rates, growth rates, demographic trends in India, age pyramid, sex ratio.

5. **Environment and Health:**

Water : Water pollution, surveillance of drinking water quality. Air : Air pollution

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UNIT- III 6. **Nutritional Status:** Determinants of nutritional status of individual and populations. Factors affecting nutritional status.

7. **Major Nutritional Problems :** Etiology, prevalence, clinical manifestations. Preventive axtherapeutic measures of -

Macro and micro deficiencies - LBW, PEM, xerophthalmia, nutritional anaemia.

Other nutritional problems like lathyrism, aflatoxicosis, alcoholism and fluorosis.

UNIT-IV 8. National Nutrition Policy

9. Approaches and strategies for improving nutritional status and health.

10. Occupational health

11. Health planning and management

UNIT-V 12. Communication for Health Education.

13. Health planning in India.

14. Health Care of the Community Concept of health care, health system, levels of health care.

PAPER - XV
GERIATRIC NUTRITION

Max. Marks 80

Objectives :

The course is designed to -

- Familiarize the students with the multifaceted aspects of ageing.

Make the students competent for nutritional and health care of the elderly.

UNIT-I 1. **Ageing :** Definition (A) Molecular changes during ageing - (i) Changes in proteins, (ii) Chromatin, (iii) Crosslinkers, (iv) Immune response, (v) Hormones, (vi) Ageing ofcells in culture, (vii) Age pigment.

2. **Mechanism of Ageing -** (A) Somatic mutation, (B) Errors in proteins (C) Gene regulation

3* Socio-psychological aspects of ageing - Especially problems of elderly women.

UNIT-II 4. **Nutritional and food requirement during old age -** Progress of ageing, nutritional requirements, food requirements.

5. Nutrition related problems of old age - (i) Osteoporosis, (ii) Obesity, (iii) Neurological dysfunction, (iv) Anaemia, (v) Malnutrition, (vii) Constipation.

UNIT- III 6. Degenerative diseases in old age - (1) Atherosclerosis, (ii) Hypertension,

Cancer, (iv) Diabetes mellitus, (v) Arthritis.

7. Common complaints during old age.

8. Dietary guidelines

UNIT-IV 9. **Drug** - Food and nutrient reaction in elderly. (a) Effect of drugs on food intake and absorption. (b) Effect of various foods and beverages on drug action.

10. ~~(c)~~ Drug nutritional interaction.

11. Ageing and immunity.

Ageing and nutrition, nutrition and longevity, food habits of elderly people, stress during old age.

UNIT-V 12. Exercise, yoga, meditation in old age.

13. Policies and programmes of the government to the elderly.

14. Policies and programmes of the NGO sector pertaining to the elderly.

References :

Kumar V (1996): Ageing - Indian Perspective and Global Scenario. Proceedings of International Symposium of Gerontology and Seventh Conference of the Association of

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Bagchi, K. and Pun, S. (Ed) (1999) Diet and Aging - Exploring Some Facets. Soc. for Gerontological Research, New Delhi and Help Age India, New Delhi.
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Blau, Zana Smith (1983); Old Age in a Changing Society, New York Prints, New York.
Bose, A.B. and K.D. Gangrade (1988) : Aging in India : Problems and Potentialities, Abhinav Pub., New Delhi.
Cook Alicia Skinner (1983): Contemporary Perspectives on Adult Development and Aging, New York, MacMillan.
Desai, K.G. (1985): Problems of Retired People in Greater Bombay, TISS, Series No.27.
Ghosh, B. (1988): Contemporary Social Problems in India, Bombay, Himalaya Pub.
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Pinkston, P.H. andN.K. Linsk (1984): Care of the Elderly : A family approach, New York, Pergaman Press.
Schiamberg Lawrence, B. (1985): Human Development, New York, MacMillan.
Sharma, M.L. and T.M. Dak (1987) : Aging in India: Challenge for the Society, Delhi, Janta Pub.
Chowdhary Paul D. (1992): Aging and the aged. Inter India Pub., New Delhi.
Cox Harold (1984): Later life : The Reality of Aging, New Jersey, Prentice Hall.
Watson, R.R. (ed.) (2000) ; Handbook of Nutrition in Aged, 3rd edition, CRC Press, Boca Raton,
Nutrition Screening Initiative (1991 and 1992): Nutrition Screening Manual for Profession-als Caring for Older Americans. Washington, D.C. Green Margolis, Mitchell, Burns and Associates.
Chernoff, R. (ed) (1991) : Geriatric Nutrition : The Health Professionals' Handbook, Gaitherburg, MD : Aspen.
The Nutrition Screening Initiative (1994) : Incorporating Nutrition Screening and Interventions into Medical Practice: A Monograph for Physicians.
Watson, R.R. (ed) *(1985):* CRC Handbook of vitamins in the Aged. ERC Pre Boca Raton, Florida.
Bock, G.R.and Whelen, J. (eds) The Childhood Environment and Adult Disease. Chichester, U.K., Wiley.
Berg, R.L. and Casells, LS. (1990): The Second Fifty Years : Promoting Health and Preventing Debility.
Talwar, G.R : Textbook of Biochemistry and Human Biology.
B. Srilakshmi : Dietetics, New Age International (P.) Ltd. Publishers.

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Journals:

American Journal of Clinical Nutrition
Gerontology
Journal of American Geriatric Society
Age Ageing
Journal of Applied Gerontology
Age
Journal of Gerontology

PAPER - XVI

INSTITUTION MANAGEMENT

Max. Marks: 80

UNIT-I 1. Development and scope of food service History of Food Service. 2. Food & Economics Money

UNIT-II 3. **Quantity Cookery:**

Purchase, Selection. Storage and handling of food in relation to cost and food value

Food preparation and different types of service of meals shacks. Drink etc. and their evaluation.

Meal planning or various institutions taking into account regional food habits.

Comparative study of different food groups.

UNIT- III 4. **Organization and Management of food services:**

Personnel Management. Selection training. Supervision labour laws.

Organization of work, space, time tables and work simplification.

UNIT-IV 5. **Food service planning:**

Selection of furnishings and equipment for institution kitchens and dining rooms.

Sanitation and cleaning

Differences in organization and management problems of hostels, annapurnas cafeteria. Hospital. School Lunch Programme with reference to foodservices.

UNIT-V 6. **Accounting procedure and cost control:**

Total budget and its distribution.
Record keeping and accounting.
Selling price and total incomes.
Profit, loss and balance sheet.

PRACTICAL - IV

INSTITUTIONAL MANAGEMENT

Max. Marks 100

Practical work at least in one institution related to the above topics.
Field trips
Management of a canteen in your institution.

OPTIONAL

PRACTICAL - IV

DISSERTATION ON CURRENT TRENDS IN FOOD AND NUTRITION

Max. Marks 100

Dissertation :

In any field of food science, nutrition and systematic writing of report along with statistical analysis of data

Current trends in food and nutrition:

Acquaintance of the students with current trends in the field of food and nutrition.

Collection and compilation of latest reviews.

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HUMAN DEVELOPMENT

M.Sc. (HOME SCIENCE) PREVIOUS

1th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper I	Research Methodology	80	10	10	100
Paper II	Theories of Human Development	80	10	10	100
Paper III	Early Childhood Education	80	10	10	100
Paper IV	Current trends and issues in Human Development	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Early Childhood Education	100

PAPER - I

RESEARCH METHODOLOGY **Max. Marks: 80**

Objectives:

To understand the significance of research methodology in Home Science research.
To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

UNIT-I 1. Science, scientific methods, scientific approach.

2. Role of research in Home science discipline.

3. Objectives of research: Explanation, control and prediction.

4. Types of research: Historical, Descriptive, Experimental, case study,

5. Social research and survey: Meaning, definition, nature, scope, objects, types. distinction between social survey & research.

6. Pre-testing and pilot survey.

UNIT-II 7. **Definition and identification of research problem.**
Selection of research problem.
Justification.

8. **Fact, Theory and concept.**

9. **Hypothesis** : Definition, sources, characteristics, importance, main difficulties in formation of hypothesis, disadvantages, Limitations and Delimitations of the problems.

10. **Types of variables.**

UNIT- III 11. **Basic principles of research design:**
Purposes of research design: fundamental, applied and action, exploratory, and descriptive, experimental, ex-post facto.
Longitudinal and cross sectional, co-relational.

12. **Data gathering instrument.**
Observation,
Questionnaire,
Interview,
Scaling method,
Case study,
Home visits,

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Reliability and validity of measuring instruments.

UNIT-IV 13. **Theory of probability**: Non-probability sampling: purposive, Quota and volunteer sampling/snow ball sampling

14. **Sampling** : Population and sample, Meaning, Characteristics, advantages and disadvantages.

Types :

Probability sampling
Random sampling (Simple random, systematic random sampling,)
Purposive sampling
Stratified sampling
Other sampling methods (two stages and multistage sampling, cluster sampling.

UNIT-V 15. Classification and tabulation of data.
Analysis and interpretation of data
Preparation of report
Diagrammatic presentation of data

References:

Edwards: experimental design in psychological research.
Kerlinger: Foundation of educational research.
Bhandarkar P.L. and Wilkinson T.S. (2000) methodology and techniques of social research, Himalaya publishing house, Mumbai.
Bhatnagar G.L.(1990) research methods and measurements in behavioral and social science Agri Cole publishing agency, New Delhi.

PAPER - II

THEORIES OF HUMAN DEVELOPMENT

Max. Marks: 80

Objectives :

To understand the need for theories in Human development.
To see theories in context.
To examine historical perspectives in the evolution of theory.
To understand the practical applications of theories.
To discuss various theories of Human development. **UNIT-I** 1. Early theory -Aristotle

2. Freud's psychoanalytic theory -,
3. Neo-Freudian-Horney, Sullivan, Eric-fromm ,crosscultural relevance.

UNIT-II 4. Learning theory - Pavlov, Watson, Skinner, Thorndike, cross cultural, relevance and current status of learning theory.

5. Social learning theory Bandura's theory

UNIT- III

6. Theory of self - Roger's.
7. Field theory by Kurt Lewin.
8. Jung's Theory

UNIT-IV 9. Cognitive development theory,- Piaget's theory

10. RousseaueTheory
11. Motivational theory by Murray and Maslow
12. Erikson's theory

UNIT-V 13. Personality theory by Allport and Murphy

14. Adler's theory of individual psychology
Jhon Locke

References:

1. Baker, C.(2000), Culturod Studies, London Sage.

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Berry.J.W.Poolinga. Y.H. & pandey,J.(Eds.)(1981).Handbook of Cross Cultural Psychol-ogy: Theory Method. Boston: Ally and Bacon.
Berry, J.W.Poorlinga, Y.H., Sogull, Mane Dasen P.R. (1992).Cross-cultural application Cambridge: University Press.
Berry, J.W., Dason, P.R. & Saraswathi, T.S.(Eds.)(1997).Handbook of Cross-cultural psychology : Processes and human development (2 edition) Boston: Ally and Bacon.

PAPER - III
EARLY CHILDHOOD EDUCATION

Max. Marks: 80

OBJECTIVE :

To gain knowledge and insight regarding principles of early childhood care and education.

To develop the skills and techniques to plan activities in ECCE centers of different types, to conduct activities in early childhood care and education and to work effectively with parents and community.

To understand the relevance and scope of studying creativity.

To discuss the concept of creativity and various approaches to its study.

To understand the role of the individual, the context and socialization in developing creativity.

To become familiar with psychometric measurement and alternate ways of assessing creativity.

To understand the, significance of parents role in early childhood programmes.

To develop skills to involve parents in early childhood education programmes.

To learn to conduct parents education programmes

UNIT-I 1. **Principles of Early Childhood Care and Education (ECCE)**

Importance, need and scope of ECCE.
Objectives of ECCE
Types of preschools / programmes : play centres, day care, Montessori, Kindergarten.
Balwadi., anganwadi etc.
Concept of non-formal, formal and play way methods.

UNIT-II 2. **Historical trends (Overview)**

Contribution of the following thinkers to the development of ECCE. Their principles, application and limitations in the context of ECCE.

Pestalozzi, Rousseou, Frobel, Maria-Montessori, Jhon Dewey, Tarabai Modak, M.K. Gandhi, Rabindranath Tagore.

UNIT- III 3. **Organisation of pre-school centres**

Concept of organisation and administration of early childhood centres.

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

4. **Building and equipment:** Location and site, arrangement of rooms, different types and size of rooms, playground, storage facilities, selection of different types of outdoor and indoor equipments, maintenance and display of equipment and material.

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

6. **Record and report:** Types, aims and purpose/need, general characteristics anecdotal, cumulative, sample work, medical etc.

UNIT-IV 7. **Programme planning:** Setting goals and objectives of plans, Long term, short

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term, weekly and daily planning routine and schedules.

8. **Activity for ECCE:**

Language arts : Goals of language, types of listening and activities to promote listening various activities (Songs, object talk, picture talk, free conversation, book, games, riddles, jokes, stories, criteria and selection of activities, teachers role).

Art and craft activities - Creative activities of expression Types of activities - Chalk, crayon, paints, paper work and best out of waste. Role of teacher on planning the activity. Motivating children. Fostering appreciation of art and craft activities.

UNIT-V 9. **Music:** Songs , objectives of music education, establishing goals, setting the stage and role of the teacher. Three aspects of music, making listening and singing.

10. **Mathematics** - Goals of mathematical learning, developmental concept at different stages. Principles of teaching mathematics - First hand experience, interaction with others, using language, reflection. Mathematical concept like:

Classification, conservation, serration, comparison, counting, fraction, one to one correspondence addition and subtraction.

References:

Curran. J. et al (1977): Mass Communication and Society, London.

Banerjee (eds) (1985): Cultural and Communication, Paroit Publishers, Delhi.

Ruloof, M.E. and Miller, G.R. (ods)(1987):Interpersonal Process: New Direction in Communication Research, Sage, USA.

Chatterjee, P.C.(1988): Broadcasting in India, New Delhi, Sage Publications

PAPER - IV
CURRENT TRENDS AND ISSUES IN HUMAN DEVELOPMENT

Max. Marks: 80

UNIT-I 1. **Trends and issues related to process of development**

Perceptual development
Cognitive development
Socio emotional development
Language development
Moral development

UNIT-II 2. **Trends and issues related to process of development**

Issues and concerns related to children in difficult circumstances. Street children, adopted children, girl child, single parent children.

Refugee and migrant children, children with disability.

Issues and concerns related to training of ECCE and accreditation process.

UNIT- III 3. **Trends and issues related to life span development**

Infancy
Early childhood
young adulthood
Adulthood
Old age

UNIT-IV 4. **Definition of development and self**

Linking the individual and the group, self concept and self-esteem.

Memories of childhood and their influence.

Family history and its impact on individual

UNIT-V 5. The self in the life span.

Significance of birth. Role of childhood experiences, changing roles and responsibilities.

With age the sense of self at adolescence. ,Adolescent and their problems.

Cultural variations, achieving selfhood and adulthood.

Influence of family peers and school on the development of self esteem.

PRACTICAL - I

EARLY CHILDHOOD EDUCATION **Max.Marks: 100**

Marks Distribution:

Sessional	-	20
Viva	-	20
Two practical	-	30 each

PART - I

Visits to various centers, which cater to the preschool stage e.g.: Day care Centre, Balwadi, Anganwadi, Mobile Creche etc.

Preparing a resource unit file on the basic of play way method/approach.

Preparing teaching material kit and presentation in mock set up.

Story and their techniques, types of puppets and mobiles? Art and craft portfolio, song booklet and low cost musical instruments. Readiness games and material, picture tails and object talk related materials etc.

PART - II

Tests of creativity: Torrance Test of Creative Thinking (TTCT), Baquer Mehdi's Indian adaptation.

Use brainstorming techniques for problem solving.

Use of parne's 5 stage method creative problem solving.

In 6-10 seasons, develop a plot of a story with active participation of children and dramatize it with them as role players.

Use of consensual assessment technique to rate the creative work of children and adults (stories, poems and artwork).

PART - III

Conducting home visits and interviewing/ talking to parents.

Arranging workshops for parents.

Organizing parent education programmes based on parents needs.

Conducting parent-teacher meetings.

Reports and resource files to be maintained by students.

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HUMAN DEVELOPMENT

M.Sc. (HOME SCIENCE) PREVIOUS

2th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper V	Statistics and Computer Application	80	10	10	100

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Paper VI	Adolescent Psychology	80	10	10	100
Paper VII	Parenting in Early Childhood	80	10	10	100
Paper VIII	Management and Project Planning	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical II	Management and Project Planning	100

PART III - INTERNSHIP / FIELD PLACEMENT

The student will be required to under go an internship/field placement for a total duration of six to eight weeks in their chosen area of interest after IInd semester which will facilitate their pursuing a professional career in same field.

This programme could be taken up either as a single block or in two different blocks. It is mandatory that the organization / institution (public/private) participating in the field.

Placement programme will be of good professional standing. The list could include hospitals (children ward/maternity ward), child care centre Angan wadi ICDS, Psycho-therapy counseling centers, nursery schools, etc. The student will be required to submit and present a report of the internship/field placement project after its completion. It is also envisaged that participating organization/institution will give their performance appraisal of the student work. Grade A (60% and above), Grade B (48% to 59%), Grade (40% to 47%) should be given to the student after evaluation of field placement/ internship report by the department. The grade will be mentioned in the mark sheet of the IVth semester of the student.

Excursion trip/field visits should be arranged regularly by the department for the up liftment of the knowledge of the students.

This programme is designed with the following objectives:

To enable the students to acquire an in-depth understanding of the practical aspects of knowledge and skills acquired during the course in the relevant subject/subjects.

To gain hands on experience for higher proficiency in their selected area of expertise To help the students to develop and have their analytical abilities for situation and analysis and bringing about improvements

PAPER - V

STATISTICS AND COMPUTER APPLICATION Max. Marks: 80

UNIT-I Objectives:

To understand the significance of statistics and research methodology in Home Science research.

To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

To understand and apply the appropriate statistical technique to the measurement scale and design.

To understand the role of statistics and computer application in research.

To apply statistical techniques to research data for analysis and interpreting data meaningfully

UNIT-I 1. Conceptual understanding of statistical measures - meaning, definition,

scope, importance, characteristics, distrust of statistics.

2. **Classification and tabulation of data.**

3. **Measurement of central tendency**

Mean

Median

29.6.19

Mode

UNIT-II 4. **Graphic presentation of data**

Frequency distribution
Histogram
Frequency polygons
Frequency curve
Ogive
Binomial distribution
Parametric and non-parametric tests

UNIT- III 5. **Methods of Dispersion and variation**

Mean déviation
Standard déviation
Quartile deviation
Independence of attributes 2×2 and r×c contingency tables

6. Analysis of variance - one way method Direct and short cut.

What is computers characteristics components of computer system, block diagram of computer, CPU, I/O devices and memory (RAM and ROM) second storage devices (hard disk Floppy disk ,Magnetic tape etc.)

UNIT-IV 7. **Computer generations** -Classification of computers; Analog digital hybrid general and special

8. **Types of computers-** Micro Mini Mainframe and super computer

Chi square test Goodness of it
Application of student 't' test for small samples

UNIT-V 9. **Correlation**-definition, meaning and types.

10. **Methods of determining coefficient of correlation**

Product moment correlation
Rank correlation.

11. **Working with MS Word**

Getting started with word, formatting text and paragraph. Applying text and language tools, designing pages, with columns and tables, using graphics.

References:

Garrett, Henry E. 1971: statistics in psychology and education, David and co.

PAPER - VI

ADOLESCENT PSYCHOLOGY

Max. Marks: 80

UNIT-I 1. **Understanding culture and development**

2. **Pubertal stage - concept and definition, classification, and cherecteristics.**

Importance of language
Social development
Personality development
Cognition
Emotion

UNIT-II 3. **The adolescent stage**

Its link with middle childhood and youth.
The concept of adolescence in India
Developmental task
Health and Psychological Hazards

UNIT- III 4. **Physical and sexual development**

29. 6.19

Puberty, development of primary and secondary sex characteristics
Psychological response to puberty
Gender differences, sexuality, sexual needs and sex education.
Roles and responsibilities

UNIT-IV 5. Important agent of influence

Family, community and culture
Electronic media
Social and emotional development
Interests in adolescents

UNIT-V 6. Delinquency and disturbance

Juvenile delinquency: Causes and prevention

7. Psychological disturbances

Depression, suicide, substance abuse
Causes of HIV/AIDS and prevention

PAPER - VII

PARENTING IN EARLY CHILDHOOD

Max. Marks: 80

UNIT-I 1. Science – Activities for ECCE

Thinking, observing, inferring, classii5'ing, communicating. Concept formation - Differentiation, grouping and labeling. Role of science. Developing scientific outlook by a spirit of inquiry, objectivity and observation. Role of teacher in some important sciences experiences.

Social studies: - Goals of social studies. Field trips of fostering good self-concept and respect for others. Promoting social studies through celebrations of festivals. Role of teachers,

UNIT-II 2. Definition and concept of creativity

The role of the individual
Cognition, abilities, interests, attitude, motivation, intelligence, knowledge, skills, beliefs, values and cognitive styles.
Relationship between creativity and intelligence.
Influence of child bearing practices, family and culture.
Enhancing creativity : Brain stonning, problem solving, creative dramatics and visualisation
Methods of assessing creativity.

UNIT- III 3. Introduction to

The task of parenting and the concept of parenting skills
Changing concept of parenthood and childhood
Being a competent parent

4. Individual parenting roles

Determinants of parenting behavior
Characteristics of the parenting role.
The mothering role
The fathering role
5 ± Concept of family, the family life cycle stages.

UNIT-IV 6. Developmental interaction in early childhood years

Parents role in developing self-awareness in children
Family relations and communication
Helping the child to learn to express and control emotions
Helping children discover personal capabilities

Establishing routines and showing responsible behaviour.
Learning social role and interactions with others
Meeting the family needs during this stage
Meeting the children's needs.

UNIT-V 7. Techniques of parent education in preschool setting

Informal meeting Occasional/accidental meeting, written/printed newsletters.
Circular, notices etc.
Parent library, toy library
Workshop and demonstration centre
Parents corner
Open house
Large/small group meeting
Individual meeting Home visits, individual sessions
Working with vulnerable families.

PAPER - VIII

MANAGEMENT AND PROJECT PLANNING Max. Marks: 80

UNIT-I 1. Management

Meaning ,importance ,Principles, and characteristics of management
Management skills, review of success and failure of different programmes.

UNIT-II 2. Programmes for children and family

Identification of specific programmes for children according to Indian and western educationists.
Types of programmes and their management. Family counseling.

UNIT- III 3. Maternal and child nutrition

Feeding, weaning, supplementary food, diet for preschool children.
Nutritional problems of children
Diet during pregnancy and lacatation.
Need and importance of women and child welfare programmes at government level.

UNIT-IV 4. Planning

Basic concepts, need, purpose, feasibility, project, formulation.
Functions of planning
Steps in planning, define the objectives, quality, specification and
Outcomes, decide the time frame plan, the cost, dimension, plan implementation details.

UNIT-V 5. Project identification

Identification and defining the project goals.
Project design and strategic planning
Management of the project

6. Monitoring and evaluation Supervisory meeting to plan overview

Project appraisal, feedback, follow-up meeting
Project report

PRACTICAL - II

MANAGEMENT AND PROJECT PLANNING Max. Marks: 100

Prepare a project based on the information secured on an existing program in the locality (as a learning exercise on a known case).
Prepare short term/long term plan's for enhancing quality of any program/project that exists

29.6.19

in the locality.

Organise and implement some activities and evaluate impact. Prepare report.

Draft action plan for sustainability for any program in the locality, for women and children.

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HUMAN DEVELOPMENT

M.Sc. (HOME SCIENCE) FINAL

3th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper IX	Principles of Guidance and Counseling	80	10	10	100
Paper X	Advanced Study in Human Development	80	10	10	100
Paper XI	Childhood Psychopathology	80	10	10	100
Paper XII	Child and Human Rights	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Principles of Guidance and Counseling	100

PAPER - IX
PRINCIPLES OF GUIDANCE AND COUNSELING

Max. Marks: 80

UNIT-I 1. Constructs of guidance, counseling and therapy
Guidance Meaning, scope and needs.
Basic differences

2. Guidance and counseling needs of individuals, families and system.
- Role of culture in influencing counselling needs and practices.

UNIT-II 3. Principals of counseling and therapy

4. Approaches to counseling at different developmental stages.
Family therapy approach

5. Qualities and skills of a counselor.
The process of counseling
First contact, assessment, intervention, closure, follow-up.

UNIT- III 6. Nature of psychological disorders at different stages that require counseling and therapy
At childhood
At adolescent and youth
At adulthood
In old age

7. Types of Guidance
Educational guidance
Vocational guidance

UNIT-IV 8. Basic concepts and facts about HIV/AIDS
Transmission of HIV infection, sign and symptoms of AIDS.
Diagnosis of HIV infection.

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9. Management and care of HIV infected persons. · Prevention of HIV infection.

UNIT-V 10. HIV/AIDS Counseling

The principles of counseling, goals of HIV/AIDS counseling. The pre-requisites of counseling, stages of counseling, specific counseling skills.

11. Assessment of risk behavior

Characteristics and attitude of a counselor, the do's and don'ts in counseling.

Content of communication about HIV/AIDS.

PAPER - X

ADVANCED STUDY IN HUMAN DEVELOPMENT Max. Marks 80

UNIT-I 1. **Principles and concept of development**

Principals and growth of development

Developmental tasks

Basic concepts of development: Maturation and learning, sensitive periods, individual differences.

2. **Prenatal Development**

Recapitulation of stages in prenatal development, genetic and environmental factors, maternal conditions.

UNIT-II 3. **Infancy: (Birth - 2years)**

The new born Birth process and the neonate, physical description, sensory capacities and reflexes, becoming coordinated - feeding, sleeping and crying.

Initiation, objects permanence and other cognitive accomplishments.

Early language development

Social relationship during infancy

UNIT-III 4. **Early childhood (2 to 6 years)**

Transition from infancy to childhood

Physical and motor development

Play and social relationship

Language, cognition and emotions in early years

Early childhood education

5. **Middle childhood**

Physical and motor development Changes and challenges

Personality development

Social relationship - Peers and parents

UNIT-IV 6. **Adolescence (11-18 years)**

Transition from childhood to sexual maturity, puberty and its consequences.

Emotional changes

Role of family, peers and community

Conformity

7. **Youth / Young Adulthood (20-35 years)**

Developmental Needs - Importance of social organization.

Life Cycle Approach - Sexuality, marriage, marital adjustment, parenthood.

UNIT-V 8. **Middle Adulthood (35-50 years)**

Parenting adult off springs and their marriage

Menopause in women. Health and disease.

Work and *career* development, gender differences.

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9. **Late Adulthood (50-65 years)**
   Continuity and change in personality, the family life cycle.
   Gerard parenthood - Inter generational relations.
   Occupational continuity and change - Effect on identity

10. **Old Age (65+ years)**
   Physical aspects of ageing
   Health and disease

PAPER - XI

CHILDHOOD PSYCHOPATHOLOGY

Max. Marks: 80

UNIT-I 1. **Normality** - Meaning, Concept and criteria's of normality
   Cultural differences in normal adaptation
   Features of normal adaptation
   Normal adjustment changes with age
   Meaning and criteria's of abnormality.

UNIT-II 2. **Stress and adaptation to stress**
   Nature of stress
   Types of stress
   Sources of stress
   Effect of stress in psychological functioning

3. **Effect of stress on physical health**
   Responding to stress
   Measurement of stress
   Theories of stress
   Factors of moderating the impact of the stress

4. **Mental health-** Definition, concept, and contents. Importance of mental hygiene.

UNIT- III 5. **Introduction to psychopathology**
   History and different models
   Etiology of mental disorders - Psycho-social models
   Psychopathology of neurotic, stress related and somato form disorders.
   Anxiety disorders
   Dissociative disorders

UNIT-IV 6. Obsessive and compulsive disorder

7. Phobic anxiety disorders

8. Adjustment disorders and behavioral syndromes associated with psychophysi-ology disturbances.

UNIT-V 9. **Psychopathology of psychotic disorders.**
   Schizophrenia ,Paranoia.
   Mood disorders

10. Psychopathology of personality and behavioral disorders
   Specific –personality disorders.
   Habit and impulse disorders
   Mental and behavioral disorders

PAPER - XII

CHILD AND HUMAN RIGHTS

Max. Marks: 80

UNIT-I 1. **Definition and Evolution of Rights**
   Human rights
   Child rights
   Women's rights
   Policy

UNITII 2. **Status of Indian children and their rights**

3. **Children in difficult circumstances**
   - Children of prostitutes
   - Child labour
   - Street children
   - Refugee children

UNIT-III 4. **Status of women and their rights -**
   - Status ofwornen in India
   - Women and human rights

5. **Types of violation of women rights**
   - Violence against women in home, work place and society

UNIT-IV 6. **Types of violation against women**
   - Sexual harassment
   - Rape
   - Crime against women

7. **Classification of human rights**
   - Moral rights
   - Legal rights

UNIT-V 8. **Human rights**
   Civil and political rights
   Social rights
   Emotional rights
   Cultural rights

Advocacy of human rights.

PRACTICAL - III

PRINCIPLES OF GUIDANCE AND COUNSELING

Max. Marks: 100

Interaction with practicing counsellor's and therapists through visit to schools, clinics, women centres and hospitals etc.

Learn about the counselling process - Role play, mock sessions etc.

Observation in various ECCE settings e.g. day care, pre-school, ECCE centres, Anganwadi etc.

Planning programmes for various ECCE setting.

Supervising, monitoring and evaluating ECCE programmes in different settings

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HUMAN DEVELOPMENT

M.Sc. (HOME SCIENCE) FINAL

4th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper XIII	Methods of Studying Human Development	80	10	10	100
Paper XIV	Persons with Disabilities	80	10	10	100
Paper X V	Study of Family in Society	80	10	10	100
Paper XVI	Communication Technologies	80	10	10	100

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PART II - PRACTICAL

	Practical	Marks
Practical IV	Methods of Studying Human Development	100

PAPER - XIII

METHODS OF STUDYING HUMAN DEVELOPMENT

Max. Marks 80

UNIT-I 1. Different methods of studying human development.

Introspection method
Experimental method
Longitudinal method
Cross cultural method
Survey method
Field study method

2. Issues and concerns related to children in difficult circumstances

· Street children, girl child, single parent children, adopted children.

UNIT-II 3. Observation Methods -

Theoretical perspective, use of checklists, establishing reliability in observations, maintaining an observation record, report writing and evaluation.

4. Cognitive development
5. Language development
6. Moral development

UNIT- III 7. Interview Methods -

Theoretical perspectives
Development of different types of interview, protocols, analysis and coding of interviewed data.

8. Trends and issues related to process of development

· Perceptual development

UNIT-IV 9. Questionnaire Method -

Theoretical perspectives, development of different types of questionnaire, protocol, analysis and coding of questionnaire data.

10. Trend and issues related to life span development

Infancy
Childhood
Adulthood
Old age

UNIT-V 11. Case study method

Theoretical perspectives, development of different types of case study, protocols, analysis and coding of data.

12. Some Psychometric Methods -

The Wechster Intelligence Scale
Draw a man test
The Kaufman Assessment Battery for children or K-ABC.
Binet Test
Relation between intelligence and creativity
Self esteemed test.
Aptitude test .
Interest test.

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PAPER - XIV

PERSONS WITH DISABILITIES — Max. Marks 80

UNIT-I 1. Various approaches to defining and understanding disabilities-

Physical
Crippled or orthopaedically handicapped child
Unhealthy handicapped children
Education of physically handicapped

UNIT-II 2. Sensory handicapped -

Visually handicapped
Aurally handicapped
Speech handicapped

3. **Emotional**

UNIT- III 4. Intellectual Handicapped -

Nature, causes and classification.
Characteristics and identification
Diagnosis of mental retardation
Formal planning, treatment, educational provision
Education of mentally retarded children

UNIT-IV 5. The role of context in the meaning of normality and disability, attitudes of people towards disability.

6. Welfare and rehabilitation for handicapped.
7. Guidance of the disabilities

UNIT-V 8. Physical and social bafflers in the development of persons with disabilities. Modification of physical and social environment. Participation of persons with disabilities as a contributing member of a society.

9. Examples of programmes and policies for persons with disabilities.

PAPER - XV

STUDY OF FAMILY IN SOCIETY — Max. Marks: 80

UNIT-I 1. The family in social context

Family as a component of social system, structure and context.
Family as an evolving and dynamic institution

2. **Functions of family**

Basic and universal functions of family

3. Changes in family

UNIT-II 4. Socio-cultural studies of family patterns in India -

Family structure : Traditional / Extended / Joint families
Nuclear families : Single parent, childless

5. Causes and effect of different family structure on changing role of families.

UNIT- III 6. Forms and types of family -

Modem family
Urban family
Rural family

7. Role of family in the development of personality

UNIT-IV 8. Family and society exchanges / influences

Work and family
Education and family
Health and family
Religion and family

9. **Contemporary Issues and Concerns -**

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Family violence, battered women, sexual abuse
Dowry and family violence
Child rearing and socialization

UNIT-V 10. **Family Disorganization** -
Concept and features of family disorganization
Causes of family disorganization
11. Family tension - Types of family tension
12. Divorce - Types and causes of divorce
13 Re-marriage.

PAPER - XVI

COMMUNICATION TECHNOLOGIES

Max. Marks 80

UNIT-I 1. Meaning of communication
2. Concept of communication
3. Scope of communication
4. Communication process
5. Approaches to communication

UNIT-II 6. Elements of Communication: Their significance and characteristics
7 Introduction to new communication technologies
8 Development and use of transparencies
9 Use of video projector, slide and computers.

UNIT- III 10. Innovation
11. Factors influencing innovation
12. Diffusion of innovation and communication
13. Characteristics of innovation
14. Innovation adoption process

UNIT-IV 15. Mass media of communication : Development of mass communication
16. Different media, their characteristics and use -
A. Press B. Radio C. Television D. Films E. e-mail
17. Inter-dependence of mass media on communication
18. Mass media of communication and advertisement. **UNIT-V** 19. Designing -
(a) Leaflets (b) Pamphlets (c) Newspaper
(d) Photograph (e) Posters (f) Flash card
(g) Slide and film strip (h) Television (i) Puppets
20. Presentation using Power Point

PRACTICAL - IV

METHODS OF STUDYING HUMAN DEVELOPMENT

(Any Six) **Max. Marks: 100**

Study of social developmental behaviour through observation method.
Know about the child through interview method.
Case study based on street children and their problems.
Case study regarding problems behaviour of the child.
To study the curriculum and management of pre-primary standard children in your area.
Development and use of transparencies.
Designing - Leaflets/Pamphlets/Cover pages/Posters
Self concept test.
Personality test.
Vocational interest test.

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RESOURCE MANAGEMENT

M.Sc. (HOME SCIENCE) PREVIOUS

1st SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper I	Research Methodology	80	10	10	100
Paper II	Theory of Management	80	10	10	100
Paper III	Consumer Economics	80	10	10	100
Paper IV	Environment Management	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical I	Communication Technology	100

PAPER - I

RESEARCH METHODOLOGY

Max. Marks: 80

Objectives :

To understand the significance of research methodology in Home Science research.
To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

UNIT-I 1. Science, scientific methods, scientific approach.

2. Role of research in Home science discipline.

3. Objectives of research: Explanation, control and prediction.

4. Types of research: Historical, Descriptive, Experimental, case study,

5. Social research and survey: Meaning, definition, nature, scope, objects, types. distinction between social survey & research.

6. Pre-testing and pilot survey.

UNIT-II 7. **Definition and identification of research problem.**
Selection of research problem.
Justification.

8. **Fact, Theory and concept.**

9. **Hypothesis** : Definition, sources, characteristics, importance, main difficulties in formation of hypothesis, disadvantages, Limitations and Delimitations of the problems.

10. **Types of variables.**

UNIT- III 11. **Basic principles of research design:**
Purposes of research design: fundamental, applied and action, exploratory, and descriptive, experimental, ex-post facto.
Longitudinal and cross sectional, co-relational.

12. **Data gathering instrument.**
Observation,
Questionnaire,
Interview,
Scaling method,

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Case study,
Home visits,
Reliability and validity of measuring instruments.

UNIT-IV 13. **Theory of probability:** Non-probability sampling: purposive, Quota and volunteer sampling/snow ball sampling

14. **Sampling** : Population and sample, Meaning, Characteristics, advantages and disadvantages.

Types :

Probability sampling
Random sampling (Simple random, systematic random sampling,)
Purposive sampling
Stratified sampling
Other sampling methods (two stages and multistage sampling, cluster sampling.

UNIT-V 15. Classification and tabulation of data.

16. Analysis and interpretation of data

17. Preparation of report

18. Diagrammatic presentation of data

References:

Edwards: experimental design in psychological research.

Kerlinger: Foundation of educational research.

Bhandarkar P.L. and Wilkinson T.S. (2000) methodology and techniques of social research, Himalaya publishing house, Mumbai.

Bhatnagar G.L.(1990) research methods and measurements in behavioral and social science Agri Cole publishing agency, New Delhi.

PAPER - II

THEORY OF MANAGEMENT

Max Marks - 80

Objectives :

To understand the significance of management in the micro and macro level organizations.

To know the conceptual human & scientific aspects of management functions.

To develop the ability to evaluate the management efficiency & effectiveness in the family & the other organisations.

To enhance the understanding of the similarities among all areas of management education & research & dissemination of the professional knowledge, skills & attitude.

To acquaint the students with housekeeping department & it's management in the hospitality industry.

To enable students to manage resources in the housekeeping department to fulfill the hospitality function.

UNIT-I 1. **History and development of management in India & else where**

Industrial
Farm & Agricultural
institutional
Household
Education

2. **Managements System**

Definition
Elements

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Types
Advantages and limitations of systems approach
Application in Family Resource Management

UNIT-II **3. Management Abilities**

Conceptual
Human
TeDhnical

4. Decision making

Meaning
Types of decision
modes of decision – making
Techniques and tools for decision making Decision tree
Cost benefit analysis

UNIT- III 5. **Managenient Functions and Processes**

Planning – Objectives, Principles, policies, strategies
Organising, - Purpose, Principles, processes, delegation authority, respon-sibility & account ability.
Staffing, purpose, principles, recruitment, appraisal
Guiding, directing, leadership, motivation,. Communication
Controlling, tools for management control, feedback
Appraisal/evaluation – Tools & Techniques.

UNIT-IV 6. Human Behaviour in Organisation

Personality, attitudes, motivating factors.
Group behaviour and dynamics
Team management
Stress & Conflict Management

UNIT-V 7. Ends Sought through Management

Goals– factors affecting, ends
Values – Sources of value patterns, status, security
Standards – Quality control, Total Quality Management
Harmony Ethics

PAPER - III

CONSUMER ECONOMICS

Max. Marks - 80

Objectives:

To Familiarize the students with the changing economic environment and the rising consumerism.

To enhance the understanding of the marketing system and the marketing strategies.

To have an overview of the consumer behaviour and the consumer movement.

To help them to become wise consumer for judicial use of resources in the present market systems and environment.

To Become aware of the socio-economic environment of the families.

To become aware of the aspects of financial management.

To familize the students with the changing economic environment and the rising consumerism.

To develop an understanding of the marketing system & marketing strategies keeping in view the consumers.

To know the techniques of consumer decision making and the aid for wise decision making.

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UNIT-I 1. **Consumer and the Indian Economic Environment –**

Definition and characteristics of consumers.
Definition, role, types and how does an economy function, problem of economy.
Background of Indian economic environment.
Role of consumer in the economy of the nation.

2. **Contemporary Economic Environment –**

Introduction of market Meaning, definition, characteristic, types.
Changing business environment – Tele markets, global, privatization of monopolistic services, e-business and e-commerce.

UNIT-II 3. **Consumer Behaviour -**

Understanding Consumers and their wants.
Determinates of consumer behaviour- Opinion, leadership, group influence, social class and culture, consumer dissatisfaction.
Market strategies influencing consumer behaviour.
Guidelines for wise purchasing practices.

4. **Market practices that exploit consumers**

Types of exploitation – Adulteration, packaging, label, weights & measures, advertising & sale gimmicks.
Causes of expoitation.
Consumer problems & their solutions.

UNIT- III 5. **Consumer protection Need & Rationale**

History of consumer movement in India- Origin, growth, causes for slow growth.
Role of consumer organisations – National, regional and international.
Role of government agencies, legislation
Empowerment of consumers.
Ways of promoting consumerism.

UNIT-IV 6. **Socio-economic environment**

National income.
Income distribution, per capital income
Inequalities of Income
Consumer price index
Inflation Vs. Deflation
Wages & earrings principles of wages determination
Waste differentials

7. **Financial Planning and implementation**

Budgeting – allocation of resources, identifying aspiration, expectations and goals, objectives, advantages of budgeting, control in the context of changing economic conditions.
Purchase storage coste reduction.
Planning a budget for a Family
Family of fixed income
Restaurant / hostel / any selected organisation
f. Boutique
Small industry

UNIT-V 8. **Record keeping and Accounting -**

Fundamental principles of accounts
Income and expenditure accounts

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Revenue and capital items of expenditure.
Balance sheet/ledger
Ratio analysis, cash flow, Fund flow

9. **Financing of enterprises / consumer durables.**
Housing
Automobile
Equipment
Education
Small Scale Industry

PAPER - IV
ENVIRONMENT MANAGEMENT & LANDSCAPING

Max Marks - 80

Objectives:

To be aware of the holistic ecological approaches to environment.
To be aware of the environmental problems, hazards and risks.
To understand tile aspect of environmental pollution and waste management.
To be aware of the environmental policies, movements and etics.
To study and to Understand the Landscape designing and its appropriate application.
To get familiar with the various materials related to landscaping.

UNIT-I 1. **Fundamentals of environment**
Environment definition. Scope of environment studies.
Life and the environment. Physico-chemical factors in the environment changes in the environment – anthropogenic and non anthropogenic.
Environmental hazards and risks.
Natural resources – conservation and sustainable development.

2. **Eco-system – Earth, Man and Environment**
Ecosystem of the world.
Forest ecology.
Pathways ill ecosystem.
Environment implications of energy use.
Problem of sustainability of ecosystems.

UNIT-II 3. **Population and Environment**
Carrying capacity: Limits to population growth.
Population growth and natural resources.
Impact of population growth on economic development and environment.

4. **Land and water resources of the earth**
Land resources of tile earth
Land Use
Water resources of the earth.

5. Factor affecting changes in ecosystem and environment (Socio, economic, cultural and geographic)

UNIT- III 6. Population and environment with reference to Air, Water, Soil, Noise
Source of pollution
Effect of pollution
Remedies to control pollution

7. Environment and Public Health
Environmental population and community health
Water borne diseases

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Air borne diseases
Chemical insecticides and its impact on health
Toxic actions of metals and biological substances

UNIT-IV 8. Waste Management

Types of waste
Methods of waste management
Water pollution and treatment of waste
Solid waste management
Air pollution control technology

UNIT-V 9. Environmental Control Measurement

Environmental legislation
Environmental polices
Human rights issues relating to environment
Environment movements
Women and environment

10. Environment ethics

Role of Municipal authority, government agencies in propitiating better health environment.

PRACTICAL - I
COMMUNICATION TECHNOLOGY

Max. Marks 100

DISTRIBUTION OF MARKS

Sessional	-	20
Viva	-	20
Two Practical	-	60

Concept of communication, Scope of communication process, approaches to communication.
Different media, their, characteristics and use.
Use of video projector, slide/filmstrip Projector computers.
Introduction to new communication technologies.
Satellite distribution and broadcast networking.
Developing close circuit television package on (CC TV) topics
Incorporating the use of video films in presentation i.e. The selected clippings.
Slides : Making use of slides with audio commentaries for presentation.
Development and use of transparencies.
Digital method of communication.
Computer Graphic Designing.
Preparation of graphics for research reports /seminars/other presentation.
Designing- leaflets/pamphlets/booklets/cover pages! posters.
Presentation using power points.

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RESOURCE MANAGEMENT

M.Sc. (HOME SCIENCE) PREVIOUS

2nd SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper V	Statistics and Computer Application	80	10	10	100
Paper VI	Hospitality Administration	80	10	10	100
Paper VII	Public Finance	80	10	10	100
Paper VIII	Landscaping	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical II	Landscaping	100

PART III - INTERNSHIP / FIELD PLACEMENT

The student will be required to under go an internship/field placement for a total duration of six to eight weeks in their chosen area of interest after IInd semester which will facilitate their pursuing a professional career in same field.

This programme could be taken up either as a single block or in two different blocks. It is mandatory that the organization / institution (public/private) participating in the field.

Placement programme will be of good professional standing.. The student will be required to submit and present a report of the internship/field placement project after its completion. It is also envisaged that participating organization/institution will give their performance appraisal of the student work. Grade A (60% and above), Grade B (48% to 59%), Grade C (40% to 47%) should be given to the student after evaluation of field placement/ internship report by the department. The grade will be mentioned in the mark sheet of the IVth semester of the student.

Excursion trip/field visits should be arranged regularly by the department for the up liftment of the knowledge of the students.

This programme is designed with the following objectives:

I. To enable the students to acquire an in-depth understanding of the practical aspects of knowledge and skills acquired during the course in the relevant subject/subjects.

I. To gain hands on experience for higher proficiency in their selected area of expertise To help the students to develop and have their analytical abilities for situation and analysis and bringing about improvements

PAPER - V

STATISTICS AND COMPUTER APPLICATION Max. Marks: 80

Objectives :

To understand the significance of statistics and research methodology in Home Science research.

To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

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To understand and apply the appropriate statistical technique to the measurement scale and design.

To understand the role of statistics and computer application in research.

To apply statistical techniques to research data for analysis and interpreting data meaningfully

UNIT-I 1. **Conceptual understanding of statistical measures** - meaning, definition,

scope, importance, characteristics, distrust of statistics.

2. **Classification and tabulation of data.**

3. **Measurement of central tendency**

Mean
Median
Mode

UNIT-II 4. **Graphic presentation of data**

Frequency distribution
Histogram
Frequency polygons
Frequency curve
Ogive
Binomial distribution
Parametric and non-parametric tests

UNIT- III 5. **Methods of Dispersion and variation**

Mean déviation
Standard déviation
Quartile deviation
Independence of attributes 2×2 and r×c contingency tables

6. Analysis of variance - one way method Direct and short cut.

What is computers characteristics components of computer system, block diagram of computer, CPU, I/O devices and memory (RAM and ROM) second storage devices (hard disk Floppy disk ,Magnetic tape etc.)

UNIT-IV 7. **Computer generations** -Classification of computers; Analog digital hybrid general and special

8. **Types of computers-** Micro Mini Mainframe and super computer

Chi square test Goodness of it
Application of student 't' test for small samples

UNIT-V 9. **Correlation**-definition, meaning and types.

10. **Methods of determining coefficient of correlation**

Product moment correlation
Rank correlation.

11. **Working with MS Word**

Getting started with word, formatting text and paragraph. Applying text and language tools, designing pages, with columns and tables, using graphics.

References:

Garrett, Henry E. 1971: statistics in psychology and education, David and co.

PAPER - VI

HOSPITALITY ADMINISTRATION

Max. Marks 80

UNIT-I 1. Types of institution offering hospitality services. 2. Hospitality functions

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Role of housekeeping in hospitality industry.

3. Housekeeping in relation to commercial and welfare sections. Management of housekeeping department.

UNIT-II 4. Layout of housekeeping department:

Planning, organizing and communication of housekeeping activities.

Coordination with other departments

Roles/responsibilities of personnel in the housekeeping department.

UNIT- III 5. Administrative policies:

Personnel management : Recruitment , training ,handling personnel promotion, evaluation, distribution of jobs , Job analysis.

Money Management, Budget

UNIT-IV 6. Safety, security and sanitation: Safety, fire fighting, first aid, safety in equipment use, pest control, sanitation standard.

7. Uniform, types, selection, distribution and control.

8. Hostess training

9. Banquet Management

UNIT-V 10. **Energy and water management:** Power requirement, flushing system, music and television.

11. **Maintenance:** Repairs and redecoration programmes.

12. **Human behaviour in organization:**

Personality, attitudes, motivating factors

Group behaviour and dynamics

Team management

Stress and conflict management

References:

Kapur, S.K. (1996) Professional Management, S.K. Publishers, New Delhi.

Deacon, R.E. and Firebaugh F.M. (1975) Home Management : Context and Concept. Houghton Mill Boston.

Deacon, R.E. and Firebaugh, F.M. (1981) Resource Management Principles and Application, Allyn and Bacon & Bacon, Boston.

Sherman, A.W. et al (1988) Managing Human Resources, South Western Publication Co., Cincinnati.

PAPER - VII
PUBLIC FINANCE

Max. Marks 80

UNIT-I 1. **National income:**

Income distribution, per capita income

Inequalities of income

Consumer price index

Inflation vs Deflation

Wages and earning principles of wage determination

Wage differentials

UNIT-II 2. **Financial planning and implementation:**

Budgeting : Allocation of resources, identifying aspiration, expectations and goals, objectives and advantages of budgeting, control.

Planning a budget for a:

Family of fixed income

Restaurant/hostel/ any selected organization

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Boutique
Small industry

UNIT- III 3. **Tax planning:**
Types of taxes
Principles and procedures of income tax
Preparation of statement of income and filling of income tax in case of returns.
Individuals (Salary class)
Knowledge of various exemptions and deductions

4. **Channel of distribution:**
Meaning and types of channels of distribution
Advantage and disadvantage of types of channels
Factors considered in the selection of channels

UNIT-IV 5. **Saving and investments:**
Importance of savings components
Savings facilities and investment opportunities
Evaluations of savings components
Economics security and components
Economics security and financial alternatives

6. **Impact of globalization and direct foreign investment on** business **opportunities in India.**
Income and property rights - Wills, trusts and legal aspects of economic insecurity.
Unemployment, its nature and causes. Government programmes designed to increase family financial security.

UNIT-V 7. **Markets and Marketing:**
Basic concept of market and marketing
Types of markets : Wholesale, retail, speciality, local, residential.
Changing nature of the business world i.e. e-business and c-commerce.
Marketing environment, marketing theories, models.

8. **Markets and prices:**
Definition and types of market prices
Pricing under perfect and imperfect competition and monopoly.

PAPER - VIII

LANDSCAPING **Max. Marks 80**

UNIT-I 1. Introduction of landscaping from interior design point of view.
2. Historical references of landscape.
3. Location & Orientation.
4. Climatic condition
5. Land Profile
6. Soil types.

UNIT-II 7. Availability of Water sources
8. Understanding of various materials for paving, walk way etc. (Stone masonry Brick masonry).
9. Fencing to entrance gate and other gates.
10. Tree guards sit-outs.

UNIT- III 11. Open franie sheds for semi-shady plants. **12.** Green House

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13. Gazebo
14. Pedestals, monuments, status, abstract etc.
15. Pargoles ill various materials.
16. Study of Indoor & outdoor plant species.(Natural / Artificial)
17. Variety of Shrubs, Creepers grass etc. (Natural / Artificial).

UNIT-IV 18. Drainage
Storm water drains
Troughs potted plants
Rain water form rrace
Waterproofing & checking the strength of Terrance slab for terrance garden
19. Water Bodies : a. Natural & Artificial
20. Garden Furniture

UNIT-V 21. Study of indoor and outdoor plant species (Natural/artificial)
Variety of shrubs, creepers, grass etc. (natural/artificial).
22. Pot Culture.

PRACTICAL - II

LANDSCAPING **Max. Marks 80**

Sessional	-	20
Viva	-	20
Two Practical	-	60

Designing of Terrace Garden.
Designing of partly outdoor & Indoor Landscaping.
Preparation of Herbarium file-shrubs, creepers, flowers & grass.
Water bodies- natural & artificial.
Garden Furniture.
Kitchen garden & horticulture Making scheme.
Bonsai

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RESOURCE MANAGEMENT

M.Sc. (HOME SCIENCE) FINAL

3rd SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper IX	Ergonomics	80	10	10	100
Paper X	Entrepreneurship	80	10	10	100
Paper XI	Housing	80	10	10	100
Paper XII	Fuel Technology	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical III	Ergonomics	100

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PAPER - IX

ERGONOMICS

Max. Marks 80

UNIT-I 1. **Ergonomics :**

Definition and meaning of Ergonomics
Scope of Ergonomics in home & other occupations.
Nature of work in household & other occupations.
Importance of Ergonomics study.

2. Sources of Energy for muscular work
3. Energy requirement for muscular work & eftic

UNIT-II 4. Physiological Aspects of Work

Structure & function of the muscles and joint
Physiological Factors involved in muscular
Carbohydrates ,*fats* & proteins
Oxygen
Cardio Vascular & respiratory system

UNIT-III 5. Thermo regulatory system.

6. Energy expenditure for different activities.
7. Anthropometry and Bio-mechanic

Definition, Scope
Human body as a system of levers

UNIT-IV 8. Identification and analysis of postures, Types of postures

9. Effect of wrong postures on cardio vascular & muscular skeletal system
10. correct techniques of lifting &. carrying weights

UNIT-V 11. Environment

Physical
Heat
Heat regulation of the body at rest

12. Factors responsible for exchange heat between body & surrounding

Heat strers
Thermal comfort

References:

Astrand P.O. and Rodahi, K. (1986): Textbook of Work Physiology, McGraw Hill, New York

Haupt. W.Q. and Feinleis, ME. (1979): Physiology of Movements, Vol. 7, Verlog Publications ; Berlin Spinger.

Grandjean, E. (1968): Fitting the Task to the Man; A Textbook of Occupational Ergonomics: Taylor and Francis, London.

McArdle, 11W. Katch, F.l. and Katch, V.L. (1981 & 1991): Exercise Physiology, 4th Edition, Henry Kempton Publishers, Baltimore.

Chaffin, D.B. and Anderson GB. (1984): Occupational Siomechanics, John Wiley and Sons.

Wells, K. and Luttgens Kathryn (1978): Kinesiology: Scientific Basis of Human Motion th Edition.

Davies, DR. and Shackleton, V.J. (1975): Psychology of Work, Motunen & Co. Ltd.

Eastman Kodak Company (1986); Ergonomic Design for People at Work, Vol. 1 & 2, Van Nostrand Reinhold New York.

Obome David (1980): Ergonomics at Work;, John Wiley and Sons, New York, London

Nag, P.K. (1996): Ergonomics and Work Design: Emerging Issues in Organisational Science, New Age International (P) Ltd. New Delhi.

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Kumar Shrawan (1997): Perspectives in rehabilitation ergonomics: Taylor & Francis, London.
Steidle and Braton : Work in Home.
Close Guy (1980): Work Improvement, John Wiley and Sons ,New York.
Grandjeans Ettiens (1978): Ergonomics of the Home, Taylor and Francis , London.
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Wogalter, M. DeJoy, 0. and Laugherty, K. (2001): Warnings and RiskCommunlcanon; Taylor & Francis London.

PAPER - X

ENTREPRENEURSHIP **Max. Marks 80**

Objectives:

To provide conceptual inputs regarding entrepreneurship management.
To sensitize motivate the students to wards entrepreneurship management.
To orient and impart knowledge towards identifying and implementing entrepreneurship opportunities.
To develop management skills for entrepreneurship management.

UNIT-I 1. **Conceptual Framework**

Entrepreneurship
.i Concept, nature & types of Entrepreneurship.
i. Development of Entrepreneurship in India,
i. Entrepreneurship and socio-economic development.

UNIT-II 2. **Entrepreneurship**

Institutional finance and Entrepreneurship orgnaisation, concept, nature process and importance of organisation.

3. **The Entrepreneur:**

i. Meaning, definition, characteristics and function, i. Social responsibility of an Entrepreneur, i. Effectiveness of Entrepreneurs.

UNIT-III 4. **The Entrepreneurs:**

Organisation supporting Entrepreneurs
5. Licensing & regulation of industries
6. Infrastructure facilities

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UNIT-IV 7. Launching & organising Entrepreneurship
.i Economic and sociological view points.
i. Entrepreneurial development programmes

UNIT-V 8. Preparation of a new project
Project report
Start and expansion of a new business.

References:

Meredith, G.G. et at (1982): Practice of Entrepreneurship. ILO, Geneva.

Patel, V.C. (1987): Women Entrepreneurship — Developing New Entrepreneurs, Ahmedabad ED!!.

Akhauri, M.M.P. (1990): Entrepreneurship *for* Women in India, NIESBUD , New Delhi.

Hisrich, RI). and Peters, M.P. (1995): Entrepreneurship — Starting, Developing and Managing a New Enterprise, Richard 0., irwin, INC,USA.

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PAPER - XI
HOUSING

Max. Marks 80

Objectives :

To enable the students to:
Recognize the role of housing for national development
Be aware of the housing problems in India and the measures for alleviating the problems.
Understand and apply the principles of design in housing.

UNIT-1 1. History of Housing
Housing — Needs definition and importance.
Changes in Housing needs & standards.
2. Housing In India As Affected by Trends In
Population
Establishment of Households
Level of Income Per Households
Occupation
3. Family Mobility
4. Technological Development

UNIT-II 5. Present Housing Condition in India
Rural L& Urban
Cost of Housing
Quality of Housing Available.
6. Private and Public Housing
Various Hong Schemes & Local Government Programs, Industrial Housing.
7. Study of building materials.

UNIT- III 8. Factors To Be Considered While Designing
Orientation
Grouping of user's area
Circulation between & within user's area
Light & Ventilation
Flexibility
Privacy
Roominess

Services
Aesthetics
Cost

UNIT-IV 9. Study of various Types of fixtures fitting used in interiors their use, selection and case.

10. Types of Floor

11. False Ceilings – Different types in various materials.

12. Kitchen Platform and types.

13. Storage areas – Need and Rules for storage. - Storage arrangements in different rooms.

UNIT-V 14. Socio-Economic environment impact of families and organisation.
Environmental Issues – Human & Environment.
Entrepreneurship management.
Housing Research
Agencies for research & Development
Methods & Techniques

References:

Ambedkar. V.N. & Modak, N.y. (1971): Town & Country Planning & Housing Orient Longmafl.

Deshpande, R.S. (1974): Modem Ideal Homes for India, United Book Corporation.

Faulkner, S. (1979): Planning a House, Holt, Richard & Wirison.

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Graham, L (1982): Lighting your Home, Wills and BooflS Ltd.

Rangwala, S.C. (1974): Town Planning: Charotar Book Stall, Anand.

Publication of Housing Boards, NBO, lSl, HUCPO etc.

Chudley, B. (1985): Construction Technology, VoL 1 to 5.

Chafra. J.O. and Callendar, J.H. (1980): Time Saver Standard for Building Types, McGraw Hill , New York.

Agan, T., The house – Its Plan and Use.

PAPER - XII
FUEL TECHNOLOGY

Max. Marks 80

Objectives :

To understand the potential and limitation of different energy sources and environment impacts of their use.

To understand the need and the ways of energy conservation.

To study the innovation in fuel technology and energy management.

UNIT-I 1. Sources of energy and their classifications, non-renewable us renewable. Alternative, conventional vs non conventional commercial Vs Non - Commercial.

2. Energy Consumption Pattern.

UNIT-II 3. Fossil fuels power; Fossile fuels – The theories of their formation.

4. **Fuel -** Introduction, what is a Fuel?, Classification of fuel, solid liquid & Gaseous origin & Artificial fuel, Solid , Liquid & Gaseous their properties and composition.

UNIT- III 5. **Solar Energy**
Solar radiation reaching the earth surface.
Characteristics of Solar Energy.
Application of Solar Energy to system for.
i. Water heating ii. Refrigeration iii. Cooking

UNIT-IV 6. Air Energy – Introduction, Use , Air Rotator, Air Energy in India.

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UNIT-V 7. Energy from Bio-mass Thermal conversion processes available for obtaining gaseous and liquid fuels from bio-mass, Bio-gas plant and advances gasohol. Energy plantations.

8. Energy Conservation

Principles of improving the efficiencies of 1) Combustion, 2) heat exchange, energy conservation, 4) waste heat recovery and utilisation etc.

Proper use and maintenance's of domestic heating, cooking, lighting and other appliances.

Energy conservation in the transport sector.

References:

Rai, G.D. (1996): Non-Conventional Energy, Khanna Publishers, New York

Chaman Kashkari: Energy Resources Demand and Conservation – Tata McGraw Hill.

Chatterji Manas (1981): Energy and Environment in Developing Countries, John Wiley, Chichester.

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Jam, H.C. (1986): Non-conventional Sources of Energy, Sterling Publication, New Delhi.

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Dayal, M. (1989): Renewable Energy, Environment and Development, Konark Publishers.

Gusain, P.P.S. (1990): Renewable Energy in India, Vikas Publishing House, New Delhi.

Agarwal, M.P. (1985): Solar Energy. S. Chand & Co., New Delhi

Sukhatme, S.P. (1985): Solar Energy; Principles of Thermal Collection and Storage, Tata McGraw Hill, New Delhi.

Deshpande, B.G. (1992): The World of Petroleum, Wiley Eastern Ltd., New Delhi.

Twidell, J. & Wier (1986): Renewable Energy Resources. E&F.N. Spon Ltd., New York.

Reddy, B.S. (1998): Urban Energy Systems, Concept Publishing Co., New Delhj,,,

PRACTICAL - III

ERGONOMICS

Max. Marks 100

Distribution of marks

Seasonal	–	25
Work Book	–	35
Practical Work	–	20
Viva	–	20

Contents :

Use of instiumais employed in ergonomics research (any five)

- Treadmill, step-stool
- ECG, Heat rate monitor
- Noise level meter, environment kit
- Skin thermometer
- Sphygmomanometer
- Height & weight measuring instruments
- Stopwatch

Determination of workload using heart rate - Treadmill or By-cycle ergo meter

Determination of workload of some selected household activities by using

- Pulse rate techniques
- Time and motion study
- Energy cost
- Temporal cost

Postures

Identifying the types of posture assumed by women during work, analysis &

interpretation to risks.

5. Analysis of individual approaches

RESOURCE MANAGEMENT

M.Sc. (HOME SCIENCE) FINAL

4th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper XIII	Residential and Establishment	80	10	10	100
Paper XIV	Consumer Education	80	10	10	100
Paper XV	Space Design	80	10	10	100
Paper XVI	Management of Human Recourses	80	10	10	100

PART II - PRACTICAL

	Practical	Marks
Practical IV	Housing & Space Science	100

PAPER - XIII

RESIDENTIAL AND ESTABLISHMENT

Max. Marks 80

Objectives :

To familiarise the students with the various services in residences and other establishments.

To analyse the services the respect to design cost and maintenance.

UNIT-I 1. Water supply system

Water supply system to commercial and residential buildings.
Water pipes and traps used in water supply system.
Types of water supply system.
Water supply to bathrooms, Toilets, W.C. and Kitchen.

UNIT-II 2. Drainage System

Drainage system – with municipal drain line.
Septic tank
Soak pit
Drainage system using septic tank and soak pit
Types of drains, pipe size for drain.

UNIT- III 3. Electrical layout and wiring system

Types of lamps and light fixtures
Types of wiring system

4. Air Conditioning

General purposes
System of Air Condition
Essentials of A/c System

UNIT-IV 5. Building safety constructions

Termite proofing - Essentials of Termite Proofing, Method of Termite Proofing

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Damp prevention - Sources of damp, Effects of damp, Techniques of damp prevention, Methods of damp prevention
Heat Insulation – Definition, Principles, Materials

UNIT-V 6. Fire fighting
General measures of fire safety in building.

7. Building Disaster Management
Anti disaster constructions.

8. Garbage Disposal
Vermi composting
Vermi culture

References:

Rangawala S.C. (1992) Water supply and Sanitary Engineering, Charotar pulilishing House, Anand.

Patil S.M. *(1995)* Plumbing Engineering , Seama Publication Bombay.

Kamala A and Khanthrao, D.L. (1988), Environmental Engineering water supply. Sanitary Engineering and pollution Tata Mcgraw Hill Publication company Ltd. New Delhi.

Hussain S.K. (1974) Text book of water supply sanitary engineering oxford & TBH Pub. Co.Pvt. Ltd., New Delhi.

PAPER - XIV
CONSUMER EDUCATION

Max. Marks 80

Objectives :

To sensitize the students with the need for consumer education.

To develop an understanding of market environment and business strategies for better consumption practices.

To strengthen the consumer knowledge and to equip them to face challenges in the market situations.

UNIT-I 1. Consumer Education
Brief History, b. Definition, concept and significance / need., Objectives

UNIT-II 2. Approach to consumer education – Economic, environment, sociocultural, health & safety and legal.

3. Action line for consumer education
Action plan – knowing situation, formulating plan of action, implementing, evaluation and follow –up.
Methods for imparting lucation – Role-plays and games, project testing and evaluation

UNIT- III 4. Resource management, decision-making, sound purchasing habits, learning skills, conservation and protection of environment.

5. Resources – Media- Written, audio and visual. Market place, government agencies consumer organisations.

6. Problems faced and remedial measures.

7. Classification selection.

UNIT-IV 8. Teaching Consumerism
Plans for teaching better consumption practices, factors affecting.
Consumer aids – Meaning, Classification types.
Consumer Rights and responsibilities.

UNIT-V 9. Consumer Protection
Need, measures and methods.

Role of consumer organisations- National and International.
Consumers International regional Office at Pune India.
Consumer laws- Role and Provisions of the acts – Implications.

PAPER - XV
SPACE DESIGN

Max. Marks: 80

Objectives :

To understand the factors influencing space design organization for optimum comfort and functionalism.
To understand the application of anthropometric data in designing interior.
To evaluate ergonomically residential interior space for various activities.
To provide adequate facility for work, relaxation, rest, comfort, privacy, care aesthetics etc. through interior space designing.
To study the materials along with fittings and fixtures used in residential interiors.
To develop skills of drawing the working details and execution drawings.

UNIT-I 1. Analysis of Housing Design

.i Selection of site
i. Analysis of Plan – Needs and definition importance
iii. Process of Map making.
iv. Site plan & floor plan

UNITII 2. Types of Designs

i. Structural design decorative design Styles of Interior Designs, Traditional style, cottage style, modem style.
i. Design and Colour, Colour theory, dimensions of colour, classification of colours, Psycho-social and physical effects of colours, types of colour schemes.
iii. Decoration : History of development of decoration. Object of decoration.

UNIT- III

3. Furniture Design – Fundamentals of Furniture arrangement in various rooms. Classification selection.
Residential Furniture – Sketch, form and sizes of all and details of any 6 items, such as sofa, diwan, chairs, buffe centre table , wall unit, dining table , side board, kichen Unit, bed, wardrobe, dressing table etc.

UNIT-IV 4. The Special Needs

Division of Rooms and their arrangement.
Circulation in building.
Space needs in relation to furniture and fitments
Space in room and passage.

5. Layout and dimensions of rooms

Entrance wall & front door.
Living & drawing Room
Bedroom & Children Room
Guest Room
The Kitchen Dining Room
Bathroom & W.C.

UNIT-V 6. Current Trends in Interior Design

Place of Art in the Home.
Use of Principle of Art in the decoration
Uses of colour in Home decoration.
Current trends of Indian decorative regional art.

References:

Alexander, N.J., Mercoust Brace (1972): Designing 'Interior EnvirOnment. Havanovich Inc.
Ball, Victoria K1655 (1980): The Art of Interior Design. Mc Millan & Co. New York.
Bhatt, P.D., Goenka S. (1990): Foundation of Arts Design, Lakhari Book Depot. Bombay.
Butler Margaret G.E. Greaks Berlyt S. (1980): Fabric Furnishing, E.T. Badsford Ltd., London.
Chudley, R. (1978): Construction Technology Vol.1-2 (-1BS Long Man Ltd., New York.
G.V. Robert (1983): Rendering with Pen + Ink. Thames, Hudson. London
Gustafsan karen arid Yes Robert (1983): Corporate Design, Thomas and Hudson. . London
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Grandjean Ettiens (1979): Human Dimensions and Interior Space Whitney, New York
Laoch, Ski Del Har , Techniques of Interior Design, Rendering and Presentation, McGraw Hill, New York.
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Rangawala, N., Building Materials.
Encydopaedla of Interior Design

PAPER - XVI

MANAGEMENT OF HUMAN RESOURCES

Max. Marks 80

Objectives :

To increase awareness of human beings as resource potentials of attaining goals of maily life and as an important national resources

To acquire ability to use scientific facts and principles for decisions related to use of time and energy.

To develop the ability to use and revaluate , to improve human resources.

To recognise the need for further research in practical life in relation to use of human resources.

UNIT-I 1. Principles of human resources use.

2, Fatigue and impairment in man Physiological – Causes and remedy Phychological – Causes and remedy

UNIT-II 3. Motivation

- Meaning of motivation
- Nature and characteristics of Motivation
- Process of motivation
- Methods of motivation
- Importance of motivation
- Factors of Motivation.

4, **Productivity**

- Meaning of Productivity
- Factors in productivity
- Effect of motivation on productivity.

UNIT- III 5. **Methods and techniques for improving resources use**

- Development of labour saving device
- Improvement of working conditions
- Changing of attitudes
- Development of efficient work methods.

6. **Personality & Development of Manager**

- Introduction and Definition
- Types of personality
- Development of Manager's
- Development methods of Executive Management

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UNIT-IV 7. Training

Introduction and definition
Objectives of Training
Characteristics of Training
Principles of training
alue of Training
Methods of training

8, Leadership

Introduction
Quality of leader
Styles of leadership

UNIT-V 9. Training for personality development & Leadership

Goals of training and development

10. Efficiency in use of human resources

Concept of efficiency Vs effectiveness
Types of efficiency
Factors affecting efficiency
Factors affecting effectives

References:

Cascio Wayne, F. (1985): Managing Human Resource, McGraw 1-1111 Book Co, New York.

Rae, NP. (1986); Human Resource Development in Management and Administration, B.K. Publishers, Delh(

Rao, T.V. (1992): Appraising and Developing Managerial Performances, Academy of Human Resource Development. BK. Publishers. Delhi.

Singh, P.N. (1993): Developing and Managing Human Resources, Suchāridm Publishers Ltd. , Bombay.

Leap, T.L and Curio, M.D. *(1990)* Personnel! HRM-, Macmillan Pub. Co. New York.

Kamilc, V.0. (1984): Personnel Management, Jaico, Bombay.

Mamoria, G.B. (1982): Personnel Management: Management of Human Resources Himalaya, Bombay.

Säiyadin Mirza (1988): Human Resources Management., Chaitanya Publishing. Alahabad.

Kuchal, S.C. (1982): Financial Management An Approach and Conceptual Approach., Tata McGraw Hill, New Delhi.

Soloman, E. and Pnngle, J.D. (1978): Introduction to Financial Management,Prantice Hall of India, New Delhi.

PRACTICAL IV- HOUSING & SPACE DESIGN

Distribution of Marks : Seasonal - *25*
Work Book - 35
Practical Work - 20
Viva - 20

Floor Plan Evaluation
Drawing house plan for various income groups.
Study of building materials.
Drawing sketches of interior decorative aspect like – Interior schemes of rooms.
Color Schemes.
Analysis rate of certain items like stool, tables etc.
Preparation of art object.

99. 6. 19