



# SYLLABUS

2016-2017



PT. RAVISHANKAR SHUKLA UNIVERSITY  
RAIPUR  
CHHATTISGARH

FACULTY OF HOME SCIENCE

**M.Sc. (Home Science)**

**Session 2016-17**

FOOD AND NUTRITION

1<sup>st</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper I	Research Methodology	4
2	Paper II	Physiology	4
3	Paper III	Food Microbiology	4
4	Paper IV	Problem in Human Nutrition	4
	<b>Practical</b>	Nutrition & food Microbiology	4
<b>Total credit</b>			<b>20</b>

# FOOD AND NUTRITION

## 2<sup>nd</sup> Semester

### Part A

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper v	Statistics and Computer Application	4
2	Paper VI	Food Science	4
3	Paper VII	Food Chemistry	4
4	Paper VIII	Therapeutic Nutrition	4
	<b>Practical</b>	Food Science & Therapeutic Nutrition	4
<b>Total credit</b>			<b>20</b>

# FOOD AND NUTRITION

## 3<sup>rd</sup> Semester

### Part A

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper IX	Advanced Nutrition	4
2	Paper X	Nutritional Biochemistry	4
3	Paper XI	Nutrition for Health of Women and Children	4
4	Paper XII	Method of Investigation	4
	<b>Practical</b>	Nutritional Biochemistry	4
<b>Total credit</b>			<b>20</b>

## FOOD AND NUTRITION

### 4<sup>th</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper XIII	Nutrition for Health & Fitness	4
2	Paper XIV	Public Nutrition	4
3	Paper XV	Geriatric Nutrition	4
4	Paper XVI	Institution Management	4
	Optional	Research Methods in Food & Nutrition	4
	<b>Practical</b>	Institution Management	4
	Optional	Dissertation on current trends in food & Nutrition	4
<b>Total credit</b>			<b>20</b>

## M.Sc. (Home Science)

Session 2016-17

### HUMAN DEVELOPMENT

1<sup>st</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper I	Research Methodology	4
2	Paper II	Theories of Human Development	4
3	Paper III	Early Childhood Education	4
4	Paper IV	Current trends and issues in Human Development	4
	<b>Practical</b>	Early Childhood Education	4
<b>Total credit</b>			<b>20</b>

# HUMAN DEVELOPMENT

## 2<sup>nd</sup> Semester

### Part A

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper v	Statistics and Computer Application	4
2	Paper VI	Adolescent Psychology	4
3	Paper VII	Parenting in Early Childhood	4
4	Paper VIII	Management and Project Planning	4
	<b>Practical</b>	Management and Project Planning	4
<b>Total credit</b>			<b>20</b>

# HUMAN DEVELOPMENT

## 3<sup>rd</sup> Semester

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper IX	Principles of Guidance and Counselling	4
2	Paper X	Advanced Study in Human Development	4
3	Paper XI	Childhood Psychopathology	4
4	Paper XII	Child & Human Rights	4
	<b>Practical</b>	Principles of Guidance and Counselling	4
<b>Total credit</b>			<b>20</b>



# HUMAN DEVELOPMENT

## 4<sup>th</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper XIII	Method of studying Human development	4
2	Paper XIV	Persons with Disabilities	4
3	Paper XV	Study of Family in society	4
4	Paper XVI	Communication Technologies	4
	<b>Practical</b>	Method of studying Human development	4
<b>Total credit</b>			<b>20</b>

## M.Sc. (Home Science)

Session 2016-17

Resource Management

1<sup>st</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper I	Research Methodology	4
2	Paper II	Theory of Management	4
3	Paper III	Consumer Economics	4
4	Paper IV	Environment Management	4
	<b>Practical</b>	Communication Technology	4
<b>Total credit</b>			<b>20</b>

# Resource Management

## 2<sup>nd</sup> Semester

### Part A

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper v	Statistics and Computer Application	4
2	Paper VI	Hospitality Administration	4
3	Paper VII	Public Finance	4
4	Paper VIII	Landscaping	4
	<b>Practical</b>	Landscaping	4
<b>Total credit</b>			<b>20</b>

# Resource Management

## 3<sup>rd</sup> Semester

### Part A

S.No.	Paper No.	Title	credit
1	Paper IX	Ergonomics	4
2	Paper X	Entrepreneurship	4
3	Paper XI	Housing	4
4	Paper XII	Fuel Technology	4
	<b>Practical</b>	Ergonomics	4
<b>Total credit</b>			<b>20</b>

## Resource Management

### 4<sup>th</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper XIII	Residential and Establishment	4
2	Paper XIV	Consumer Education	4
3	Paper XV	Space Design	4
4	Paper XVI	Management of Human Resources	4
	<b>Practical</b>	Housing & Space Science	4
<b>Total credit</b>			<b>20</b>

## M.Sc. (Home Science)

Session 2016-17

Textiles and clothing

First Semester

S.No.	Paper No.	Title	credit
1	Paper I	Research Methodology	4
2	Paper II	Textile Chemistry	4
3	Paper III	Fashion Retailing	4
4	Paper IV	Textile Designing	4
	<b>Practical</b>	Textile Chemistry	4
<b>Total credit</b>			<b>20</b>

# Textiles and clothing

## 2<sup>nd</sup> Semester

S.No.	Paper No.	Title	credit
1	Paper v	Statistics and Computer Application	4
2	Paper VI	Quality Control in Textiles	4
3	Paper VII	Fashion Illustration	4
4	Paper VIII	Dyeing and Printing	4
	<b>Practical</b>	Textile Designing	4
<b>Total credit</b>			<b>20</b>

## Textiles and clothing

### 3<sup>rd</sup> Semester

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper IX	Fabric Construction	4
2	Paper X	Apparel Design	4
3	Paper XI	Historic Textile	4
4	Paper XII	Textile Industry	4
	<b>Practical</b>	Fabric Construction & Pattern Making	4
<b>Total credit</b>			<b>20</b>



## Textiles and clothing

### 4<sup>th</sup> Semester

<b>S.No.</b>	<b>Paper No.</b>	<b>Title</b>	<b>credit</b>
1	Paper XIII	Knitting technology and Draping	4
2	Paper XIV	Apparel and its Social, Psychological Aspects	4
3	Paper XV	Historic Costumes	4
4	Paper XVI	Fashion Merchandising	4
	<b>Practical</b>	Apparel Designing its Construction and Historic Textiles	4
<b>Total credit</b>			<b>20</b>

**M.SC. (HOME SCIENCE)**  
**SYLLABUS 2016-17**  
**SYLLABUS OF SEMESTER SYSTEM**  
**FOOD SCIENCE AND NUTRITION**  
**1st SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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,

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

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**

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  $\text{CO}_2$ . 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, Erythropoiesis, 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 2<sup>nd</sup> Edition, Lange Medical Publication.  
Moan Camcell E.J. Dickinson C.J... Edwares C.R.N. and Sikora K. (1984): Clinical Physiiology, 5<sup>th</sup> Edition ... Publication.  
Guyton A.C. (1985):  
Guyton, A.C. and Hall, J.B. (1996) Text Book of Medical Physiology, 9<sup>th</sup> Edition, W.B. Saneers Company... Books Pvt. Ltd. Banglore.  
Wilson KTW and Waugh A (1998): Ress and Wilson Antony and Physiology in Health and ... 4<sup>th</sup> Edition  
Mc. W.D. Karen F.J. and Katch, V.L. (1996): Excericise Physiology, Energy ,...perfor-mance, 4<sup>th</sup> 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

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
- .f 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

.f 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

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

**Stress and trauma :** Diet in surgery, burns, fracture.

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

**5. Neurological disorders:**

*B.Sc. (Home Science) - Part-I,II,III, M.H.Sc*

Neuritis - Etiology, nutritional care.

Migraine - Diet management

Anorexia Nervosa - Etiology, treatment.

**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

**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., Missouri, 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, 7<sup>th</sup> 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, 6<sup>th</sup> Edition, Aspen publishers, Inc., Maryland.

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

Garbutt, J (1977) Essentials of Food Microbiology, 1<sup>st</sup> 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, 1<sup>st</sup> Edition, Tata Mcgraw Hilll, New Delhi.

Venderzant, C and D.F. splitts Toesser (1992): Compendium of Methods for the Microbiological Examination of Foods 3<sup>rd</sup> 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.

**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.

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**FOOD SCIENCE AND NUTRITION**  
**M.SC. PREVIOUS - 2ND SEMESTER**  
**SYLLABUS 2016-17**

**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.



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.

**Classification and tabulation of data.**

**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 2x2 and rxc contingency tables

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

**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.

**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**  
**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.

Water activity and Food spoilage.

Freezing and Ice structure.

**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, hygroscopicity, 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.

**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.

**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,

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.

**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.

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

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

**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.

**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

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

**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:**

1. Journal of Food Science

2. Advances in Food Research

3. Journal of Food Science and Technology

4. Journal of Agricultural and Food Chemistry
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
- f) 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
- f) Cholecystitis- Types and dietary management
- Cholelithiases- etiology and dietary management
- 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.
- )f 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.
- 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 manifesta-**  
tion, preventive and therapeutic measures for metabolic disorders.
- Diabetic Mellitus.
- Incidence and predisposing factors
  - Symptoms , types and diagnoses
  - metabolism in diabetes
  - dietary management and meal management

Hypoglycemic agents and insulin  
f) 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

desserts.

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**FOOD SCIENCE AND NUTRITION**  
**M.SC. (HOME SCIENCE) FINAL**  
**SYLLABUS 2016-17**  
**3rd SEMESTER**  
**Marking Scheme:**  
**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.



**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.

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

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

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

**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. Interactions 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 :**

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- Schlessetman, J.J. (1982): Case control studies: Design Conduct and Analysis. Oxford New York.
- Bryman, A. and Burgess, D (1994) Quantitative Data Analysis for Social Scientists.
- Bryman, A. and Burgess, D (1996) Quantitative Data analysis with Minitabs, Rutledge,



London.

Cameron, M.E. and van Staveren, W.A. (1988): Manual on Methodology 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.  
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.  
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  
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 cloning, libraries & libraries construction.  
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.  
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.  
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.  
Women in family and community: Demographic changes menarche, marriage, fertility, morbidity, mortality, life expectancy, sex ratio, aging, widowhood.  
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.  
Policies and programs for promoting maternal and child nutrition and health. 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 pregnancy outcome and maternal and child health- Short term and long term

effect.

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

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

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

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

Management of lactation : Prenatal breast feeding, skill education.

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.

Growth and development during infancy, childhood and adolescents.

Feeding of infants and children and dietary management.

Malnutrition- Etiology and management.

## PAPER - XII

### METHODS OF INVESTIGATION

Max. Marks: 80

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

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

**Physicochemical 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.

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

(a) Vitamins

(b) Amino acids

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

**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)

Collection of biological samples.

**References ;**

- Hawk, P.B., Oser, B.K. and Summerson, W.H. Practical Physiological 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 phthalate 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  $\beta$ -carotene and  $\alpha$ -tocopherol.

15. **Electrophoresis:** Fractionation of plasma proteins.

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**FOOD SCIENCE AND NUTRITION**

**M.SC. (HOME SCIENCE) FINAL**

**SYLLABUS 2016-17**

**4th SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
Paper XIII	Nutrition for Health and Fitness	80	10	10	100
Paper XIV	Public Nutrition	80	10	10	100
Paper XV	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:

specific fitness and health status.

Anatomical fitness

Physiological fitness

Psychological fitness

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

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

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

**UNIT-V 14.** Defining nutritional goals/ guidelines appropriate or health fitness and prevention and management of the chronic de-generative disorders  
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. 8<sup>th</sup> Edition, Wadsworth, An International Thomson Publishing Co.

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

Ira Wokinsky (Ed.) (1998): Nutrition in Exercise and sports, 3<sup>rd</sup> 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 9<sup>th</sup> Edition, Williams & Wilkins.

McArdle, W. Katch, F and Katch, V. (1996) Exercise Physiology, Energy, Nutrition and Human Performance, 4<sup>th</sup> 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.

Sectors and public policies relevant to nutrition.

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.

#### **Environment and Health:**

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

- UNIT- III 6. Nutritional Status:** Determinants of nutritional status of individual and populations. Factors affecting nutritional status.  
**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  
 Approaches and strategies for improving nutritional status and health.  
 Occupational health  
 Health planning and management
- UNIT-V 12.** Communication for Health Education.  
 Health planning in India.  
 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 of cells in culture, (vii) Age pigment.  
**Mechanism of Ageing -** (A) Somatic mutation, (B) Errors in proteins (C) Gene regulation  
 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.  
 Common complaints during old age.  
 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.  
 (c) Drug nutritional interaction.  
 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.  
 Policies and programmes of the government to the elderly.  
 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

Gerontology (India).

- 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.
- Chaudhary, A. (Ed) (2001) Active Aging in the New Millennium, Pub. Anugraha, Delhi.
- Shils, M.S., Olson, J.A., Shike, M. and Ross, A.C. (Ed) (1999) 9th Edition, Williams and Wilkins.
- Sharrna, O.P. (Ed) (1999) : Geriatric Care in India - Geriatrics and Gerontology A Text book, MIS, AND Publishers.
- Aiken, L.R. (1978) The Psychology of Later Life, Philadelphia, WB Saunders Company.
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- 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.

**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 snacks. 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.



**HUMAN DEVELOPMENT**  
**M.Sc. (HOME SCIENCE) PREVIOUS**  
**SYLLABUS 2016-17**

1th SEMESTER

Marking Scheme:

PART I - THEORY

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.  
 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,  
 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**

#### **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

Freud's psychoanalytic theory -,

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.

Field theory by Kurt Lewin.

Jung's Theory

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

RousseauTheory

Motivational theory by Murray and Maslow

Erikson's theory

**UNIT-V 13.** Personality theory by Allport and Murphy

Adler's theory of individual psychology

Jhon Locke

**References:**

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

Berry, J.W., Pooling, Y.H. & Pandey, J. (Eds.) (1981). Handbook of Cross Cultural Psychology: Theory Method. Boston: Allyn and Bacon.

Berry, J.W., Poorling, 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: Allyn 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, Rousseau, Froebel, 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.

**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.

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

**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

term, weekly and daily planning routine and schedules.

**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.

**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**

**SYLLABUS 2016-17**

**2th 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 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, Psychotherapy 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.

**Classification and tabulation of data.**

**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  
 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  
**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.  
**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**  
 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**

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 5. Delinquency and disturbance**

Juvenile delinquency: Causes and prevention

**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, classifying, 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  
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 lactation.  
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

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**

**SYLLABUS 2016-17**

**3th SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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  
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  
Approaches to counseling at different developmental stages.  
Family therapy approach  
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  
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.

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.

**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.

**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

**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

**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.

**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

**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  
**Effect of stress on physical health**  
Responding to stress  
Measurement of stress  
Theories of stress  
Factors of moderating the impact of the stress  
**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**  
Phobic anxiety disorders  
Adjustment disorders and behavioral syndromes associated with psychophysiology disturbances.
- UNIT-V 9. Psychopathology of psychotic disorders.**  
Schizophrenia ,Paranoia.  
Mood disorders  
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

- UNIT-III 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 of women 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**  
**SYLLABUS 2016-17**  
**4th SEMESTER**  
**Marking scheme:**  
**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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

**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  
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.  
Cognitive development  
Language development  
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.
- 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.

**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
- 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. Welfare and rehabilitation for handicapped. 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. 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  
**Functions of family**  
Basic and universal functions of family  
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  
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  
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  
**Contemporary Issues and Concerns -**

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  
Family tension - Types of family tension  
Divorce - Types and causes of divorce  
Re-marriage.

**PAPER - XVI**

**COMMUNICATION TECHNOLOGIES**

**Max. Marks 80**

- UNIT-I 1.** Meaning of communication  
Concept of communication  
Scope of communication  
Communication process  
Approaches to communication
- UNIT-II 6.** Elements of Communication: Their significance and characteristics  
Introduction to new communication technologies  
Development and use of transparencies  
Use of video projector, slide and computers.

**UNIT- III 10.** Innovation  
Factors influencing innovation  
Diffusion of innovation and communication  
Characteristics of innovation  
Innovation adoption process

- UNIT-IV 15.** Mass media of communication : Development of mass communication  
Different media, their characteristics and use -  
A. Press B. Radio C. Television D. Films E. e-mail  
Inter-dependence of mass media on communication  
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**  
**SYLLABUS 2016-17**  
**1st SEMESTER**  
**Marking Scheme:**  
**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.  
 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,  
 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**

**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

**Managements System**

Definition  
Elements

- Types  
Advantages and limitations of systems approach  
Application in Family Resource Management
- UNIT-II 3. Management Abilities**  
Conceptual  
Human  
Technical
- 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. Management Functions and Processes**  
Planning – Objectives, Principles, policies, strategies  
Organising, – Purpose, Principles, processes, delegation  
authority, responsibility & accountability.  
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 judicious 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 familiarize 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.

- 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.
- 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 exploitation.  
 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 & earnings 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 cost 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

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 the aspect of environmental pollution and waste management.  
To be aware of the environmental policies, movements and ethics.  
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.

**Eco-system - Earth, Man and Environment**

Ecosystem of the world.  
Forest ecology.  
Pathways in 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.

**Land and water resources of the earth**

Land resources of the earth  
Land Use  
Water resources of the earth.

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  
Environment and Public Health  
Environmental pollution and community health  
Water borne diseases

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  
)f 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**  
**SYLLABUS 2016-17**

**2nd SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.



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.

**Classification and tabulation of data.**

**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

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

**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.

**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

Role of housekeeping in hospitality industry.  
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.  
Uniform, types, selection, distribution and control.  
Hostess training  
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

- 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
- 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  
**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.
- 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.  
Historical references of landscape.  
Location & Orientation.  
Climatic condition  
Land Profile  
Soil types.
- UNIT-II 7.** Availability of Water sources  
Understanding of various materials for paving, walk way etc. (Stone masonry Brick masonry).  
Fencing to entrance gate and other gates.  
Tree guards sit-outs.
- UNIT- III 11.** Open franie sheds for semi-shady plants. **12.** Green House

Gazebo  
 Pedestals, monuments, status, abstract etc.  
 Pergoles in various materials.  
 Study of Indoor & outdoor plant species. ( Natural / Artificial)  
 Variety of Shrubs, Creepers grass etc. (Natural / Artificial).

**UNIT-IV 18. Drainage**

Storm water drains  
 Troughs potted plants  
 Rain water form race  
 Waterproofing & checking the strength of Terrace slab for terrace garden

Water Bodies : a. Natural & Artificial  
 Garden Furniture

**UNIT-V 21.**

Study of indoor and outdoor plant species (Natural/artificial)  
 Variety of shrubs, creepers, grass etc. (natural/artificial).  
 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**

**SYLLABUS 2016-17**

**3rd SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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

**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.  
Sources of Energy for muscular work  
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.  
Energy expenditure for different activities.  
Anthropometry and Bio-mechanic  
Definition, Scope  
Human body as a system of levers

**UNIT-IV**

8. Identification and analysis of postures, Types of postures  
Effect of wrong postures on cardio vascular & muscular skeletal system  
correct techniques of lifting & . carrying weights

**UNIT-V**

11. Environment  
Physical  
Heat  
Heat regulation of the body at rest  
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, Verlag Publications ; Berlin Spinger.  
Grandjean, E. (1968): Fitting the Task to the Man; A Textbook of Occupational Ergonomics: Taylor and Francis, London.  
McArdle, llW. 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.

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.

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Murell, K.F,H. (1965): Ergonomics, Champman Hall, London.

Anshel, Jeffrey (1993): Visual Ergonomics in the Workplace, Taylor and Francis; London.

Maclead, Dan (1996): The Ergonomics edge: Improving Safety, Quality and Productivity,: Van Nostrand Reinhold New York,

Crossman, Richard (1995): Ergonomics Pocket Guide, Genium Publication.

Dul, Jan and Weerdneester Bernard (2001): Ergonomics for Beginners: Taylor & Francis, London.

Parsons, K.C. (2001): Human Thermal Environments: Taylor & Francis, London.

Ringdah! Lars Harms (2001): Safely Analysis: Taylor & Francis; London.

Jordan, P.W. (2001): Pleasure with Products: Taylor & Francis; London.

Norris, B. and Wilson, J.R. (2001); Designing Safety into Products: Taylor & Francis, London,

Wilson, J.R. and Covlett, N. (2001): Evaluation of Human Work. A Practical Ergonomics Methodology: Taylor & Francis, London.

Pheasant Stephan (2001): Body Space, Anthropometry, Ergonomics and the Design of Work,: Taylor & Francis London

Jordan Pat (1998): Human Factors in Product Design: Current *Practice* and Future Trends; Taylor & Francis London.

Wogalter, M. DeJoy, O. 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.

##### The Entrepreneur:

- i. Meaning, definition, characteristics and function, i. Social responsibility of an Entrepreneur, i. Effectiveness of Entrepreneurs.

#### UNIT-III The Entrepreneurs:

Organisation supporting Entrepreneurs  
 Licensing & regulation of industries  
 Infrastructure facilities

- 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 al (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, R.I. and Peters, M.P. (1995): Entrepreneurship - Starting, Developing and Managing a New Enterprise, Richard O., Irwin, INC, USA.  
Hisrich, R.D. and Brush, C.G (1986) The Women Entrepreneurs, D.C. Heath & Co., Toronto.

**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.  
Housing In India As Affected by Trends In  
Population  
Establishment of Households  
Level of Income Per Households  
Occupation  
Family Mobility  
Technological Development

- UNIT-II 5.** Present Housing Condition in India  
Rural L& Urban  
Cost of Housing  
Quality of Housing Available.  
Private and Public Housing  
Various Housing Schemes & Local Government Programs, Industrial Housing.  
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.  
Types of Floor  
False Ceilings – Different types in various materials.  
Kitchen Platform and types.  
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.  
George, D: (1981): How to be your own Electrician, Saence Stall Book, Harper and Row.  
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.  
Energy Consumption Pattern.
- UNIT-II 3.** Fossil fuels power; Fossile fuels – The theories of their formation.  
**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.



**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.

**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.  
 Duukerley, J. (1990): Patterns of Energy use in Developing Countries.  
 Jam, H.C. (1986): Non-conventional Sources of Energy, Sterling Publication, New Delhi.  
 Parich, J.K. (1980): Energy, Systems and Development, OUP, New Delhi.  
 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

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**RESOURCE MANAGEMENT**  
**M.Sc. (HOME SCIENCE) FINAL**  
**SYLLABUS 2016-17**  
**4th SEMESTER**  
**Marking Scheme:**  
**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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

**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

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.  
Building Disaster Management  
Anti disaster constructions.  
Garbage Disposal  
Vermi composting  
Vermi culture

**References:**

Rangawala S.C. (1992) Water supply and Sanitary Engineering, Charotar publishing 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.

Action line for consumer education

Action plan – knowing situation, formulating plan of action, implementing, evaluation and follow-up.

Methods for imparting education – 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.

Resources – Media- Written, audio and visual. Market place, government agencies consumer organisations.

Problems faced and remedial measures.

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 10. 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

**UNITIII 11. Types of Designs**

- i. Structural design decorative design Styles of Interior Designs, Traditional style, cottage style, modern 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**

- 12. 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, buffet centre table , wall unit, dining table , side board, kitchen Unit, bed, wardrobe, dressing table etc.

**UNIT-IV 15. The Special Needs**

Division of Rooms and their arrangement.  
Circulation in building.  
Space needs in relation to furniture and fittings  
Space in room and passage.

**16. 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 17. 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 (-lBS 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  
 Grandjean Ettiens (1978): Ergonomics of the Home, Taylors and Fracis Ltd., London  
 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.  
 Leinbac (1986): Visualisation Techniques, McMiIIian (Prentice Hall), New Jersey.  
 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 reevaluate , 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.**

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.

**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

#### UNIT-IV 7. Training

Introduction and definition  
Objectives of Training  
Characteristics of Training  
Principles of training  
Value of Training  
Methods of training

#### Leadership

Introduction  
Quality of leader  
Styles of leadership

#### UNIT-V 9. Training for personality development & Leadership

Goals of training and development  
Efficiency in use of human resources  
Concept of efficiency Vs effectiveness  
Types of efficiency  
Factors affecting efficiency  
Factors affecting effectiveness

#### 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, Delhi
- 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.O. (1984): Personnel Management, Jaico, Bombay.
- Mamoria, G.B. (1982): Personnel Management: Management of Human Resources Himalaya, Bombay.
- Sāiyadin 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

<b>Distribution of Marks :</b>	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.

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

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**TEXTILES AND CLOTHING**  
**M.Sc. (HOME SCIENCE) PREVIOUS**

**SYLLABUS 2016-17**

**1st SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.  
 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,  
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**  
**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.

**Polymer chemistry:**

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



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

Characterization of polymers using chemical and instrumental method.

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

**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.

**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.

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

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

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

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 Collier 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

- 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).  
 Maintenance and ordering of stocks, preparation of sales reports
- UNIT-V 7. Visual Merchandising.**  
 Plans and schedule -seasons, holiday promotions, sales, themes / ideas.  
 Types and displays -Window displays interior displays.  
 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, Illustrating 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.  
 Sources of inspiration for basic sketching and painting: nature, religion and mythology arts and crafts architecture.  
 Understanding the tools and equipment and their appropriate use for sketching, painting and achieving textural effects.  
 Process of designing
- UNIT- III 6. Components of fashion:**  
 Silhouette  
 Colour  
 Texture  
 Trims

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.  
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.

Reagents used and their application.

Specific preparatory steps for cotton, wool, silk and man made fibers.

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

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**TEXTILES AND CLOTHING**  
**M.Sc. (HOME SCIENCE) PREVIOUS - FINAL**  
**SYLLABUS 2016-17**  
**2nd SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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.

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.

**Classification and tabulation of data.**

**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

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

**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 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, parchmmentisation, 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.

#### 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.

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.

**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 Collier 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)**

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, Illustrating 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 mordant (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

**Dyeing defects and remedies.**

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

**Methods of printing**

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



**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.

**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).**

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**TEXTILES AND CLOTHING**

**M.Sc. (HOME SCIENCE) FINAL**

**SYLLABUS 2016-17**

**3rd SEMESTER**

**Marking Scheme:**

**PART I - THEORY**

No.	Title	Marks			Total
		Theory	Test	Seminar	
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

**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.

**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

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

**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 - X**

**APPAREL DESIGN**

**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.** 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  
Study the interrelationship of needles, thread.  
Stitch length, and fabric  
Stitch Types
- UNIT- III 6.** **Methods of pattern making.**  
Drafting.  
Flat pattern.  
Draping.  
Coping paper pattern.
- UNIT-IV 7.** Understanding the commercial paper patter  
Layouts on different fabrics, widths and types  
Buying criteria for-  
• Knits, silks, denim and other special fabrics
- UNIT-V 10.** Readymade garments.  
Fitting- factors affecting good fit, common problems encountered and remedies for fitting, defects (upper and lower garments).  
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.  
Slampller, 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.

- 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 5. Folk dance costumes of India:**  
 a. Rajasthan.                                  b. Maharashtra.  
 c. Gujarat.                                    d. Chhattisgarh.  
 Madhya Pradesh.
- UNIT-IV 3. 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  
**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  
 Merits and Demerits of textile industry in India  
 Textile Industry-concept, history, Manufacturing unit and importance of knitting ,garment, and testing industry  
 Co-operation ,co-operative societies  
 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.
- 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,

12. and cultural environment
- UNIT-V** 13. Analyzing business markets and business buying behavior.  
Corporate and division strategic planning.  
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 and 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.

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**TEXTILES AND CLOTHING**

**M.Sc. (HOME SCIENCE) FINAL**

**SYLLABUS 2016-17**

**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

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.

Various types of looms and their drive.

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.

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

Textile design through weaving.

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

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.

Pattern markings, pattern envelopes 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

- 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.  
Standards for evaluating the various components.
- UNIT-IV 7. Origin of clothing.**  
Why costumes differ all over 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  
**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.  
Natalie 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  
Slampller, 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  
Resist dyeing and ikat fabrics.  
Printed and painted fabrics.  
Banarasi saree  
Sarees of M.P.  
Costume in ancient civilization emphasize on fabric, garment features, use of

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<sup>th</sup> to 17<sup>th</sup> century** (Medieval costumes)

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

**UNIT-IV 9. Costumes Of 18<sup>th</sup> century to 20<sup>th</sup> 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.

**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 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  
Brand management and brand image building the making of a brand.  
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.

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





Elements of store environment ,Allocating space ,circulation.  
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.  
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