

**HEMCHAND YADAV VISHWAVIDYALAYA,  
DURG (C.G.)**

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**SCHEME OF EXAMINATION  
&  
SYLLABUS  
of  
M.Sc. (Home Science) Semester Exam  
UNDER  
FACULTY OF HOME SCIENCE  
Session 2021-22**

**(Approved by Board of Studies)**

**Effective from June 2021**

Dr. Alka Duggal

Dr. Bharti Lathi

Mrs. Mantha R. Deo

Dr. Rupam Ajeet Yadav

Dr. Anli Diwan

# Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

M.SC. (HOME SCIENCE)

SYLLABUS OF SEMESTER SYSTEM

FOOD SCIENCE AND NUTRITION

1<sup>st</sup> SEMESTER

Marking Scheme:

PART I - THEORY

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

PART II - PRACTICAL

No.	Practical	Marks
Practical I	Nutrition & Food Microbiology	100

Dr. Alka Duggal

Dr. Bharti Lethi

Mrs. Manita R. Dco

Dr. Rupam Ajeet Yadav

Dr. Anli Gowan

**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.

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**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 Co<sub>2</sub>. Role of Hemoglobin and buffer systems. Respiratory quotient, hypoxia, and asthma

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

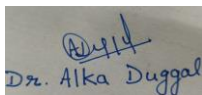
Structure and function of heart and blood vessels. Regulation of cardiac output and blood pressure, heart failure, hypertension. Blood formation, composition, blood clotting and homeostasis: Formation and function of plasma proteins, Erythropoiesis, Blood groups and his to compatibility. Blood indices. 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:**

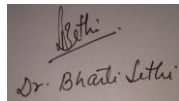
Structure and function of nephron. Urine formation. Role of kidney in maintaining pH of blood. Water, electrolyte and acid base balance, diuretics. Immunity system Cell mediated and hormonal immunity. Activation of WBC and production of antibodies. Role in inflammation and defense Physiological changes in pregnancy.

## References :

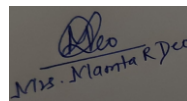
- Ganong W.F. 1985: Review of Medical Physiology 2nd Edition, Lange Medical Publication.
- Moan Camcell E.J. Dickinson C.J.... Edwares C.R.N. and Sikora K. (1984): Clinical Physiiology, 5th Edition .... Publication. Guyton A.C. (1985):
- Guyton, A.C. and Hall, J.B. (1996) Text Book of Medical Physiology, 9th Edition, W.B. Saneers Company... Books Pvt. Ltd. Banglore.
- Wilson KTW and Waugh A (1998): Ress and Wilson Antony and Physiology in Health and .... 4th Edition
- Mc. W.D. Karen F.J. and Katch, V.L. (1996): Excericise Physiology, Energy ,.....perfor-mance, 4th Edition, Williams and Wilkons Batimere Jain A.K. Text Book of Physiiology, Vol I and II Avichal Publishing Co. New Delhi.



Dr. Alka Duggal



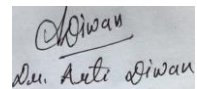
Dr. Bharti Sethi



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Dr. Anli Gowan

**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  
Milk and milk products  
Canned foods
- UNIT- III**    5. **Contamination of foods.**  
**Food Preservation :**  
General principles of food preservation: Asepsis, removal of micro-organism, maintenance of anaerobic conditions.  
Preservation by use of high temperature.  
Preservation by use of low temperature  
Preservation by drying.  
Preservation by food additives  
Preservation by radiation.
- UNIT-IV**    7. **Foods in relation to disease :**  
Food borne illness: Bacterial and viral food borne disorders. Food borne important animal parasites, mycotoxins.  
**Fermented Foods :**  
Role of microbes in fermented foods –  
Fermented dairy products  
Fermented vegetables  
Fermented meat  
Fermented fish  
Beverage and distilled products.
- UNIT-V**    9. **Indices of Food Sanitary Quality:**  
Microbial criteria of food.  
Microbial standards and food safety  
Controlling the microbial quality of foods -  
Quality control using microbial criteria.  
The HACCP (Hazard Analysis and Critical Control Point) system

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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:**

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 - Tyrosinemia, Galactosemia, Phenylketonuria.

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

Arthritis - 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 manifestation, preventive and therapeutic measures for the following –

I. P E M

Nutritional anaemia

II. Vitamin A deficiency

III. IDD

**UNIT-V 10.** Osteomalacia and osteoporosis Etiology, symptoms and nutritional care,

Rickets

Dental caries: Etiology, nursing bottle caries.

Nutrition in AIDS.



## References:

1. Atlas, M. Ronald (1995) principles of Microbiology, 1th Edition Mosby-year Book, Inc., Missouri, U.S.A.
2. Topley and Wission's (1983) Principles of Bacteriology, Virology and Immunity, Edited by S.G. Wilson, A. Miles and M.T. Parkar, Vol.I
3. General Microbiology and Immunity, II: Systematic Bacteriology, 7<sup>th</sup> Edition, Edward Arnold Publish.
4. 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.
5. Garbutt, J (1977) Essentials of Food Microbiology, 1<sup>st</sup> Edition, Arnold International Students Edition.
6. Doyle, P. Benehat, L.R. and Mantville, T.J. (1977): Food Microbiology, Fundamentals and Forntiers, ASM Press, Washington DC.
7. Bensaon, H.J. (1990) Microbiological applications, C. Brown Publishers U.S.A.
8. Roday, S. (1999) Food Hygiene and sanitation, 1st Edition, Tata Mcgraw Hilll, New Delhi. Venderzant, C and D.F. splitts Toesser (1992): Compendium of Methods for the Microbiological Examination of Foods 3<sup>rd</sup> Edition. American Public Health Association, Washington D.C.
9. Frazier, W.C. and Westhoff, D.C. (1998) : Food Microbiology. Tata McGraw Hill Book Company, New Delhi, 4th Edition.
10. James, M.J. (1987) : Modern Food Microbiology, CBS Publishers, New Delhi, 3rd edition.
11. Pelezar, M.I. and Reid, RD. (1993) : Microbiology, McGraw Hill Book Company, New York, 5th edition.
12. Adams, M.R., Moss, M.O. (1995): Food Microbiology, New Age International (P.) Ltd., Delhi.
16. Banwart G.J. (1987) : Basic Food Microbiology, CBS Publishers and Distributors, Delhi.

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Dr. Anil Diwan

**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 balance

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- RISKO factor

Assessment of bone health

Planning diets and formulating dietary guide lines

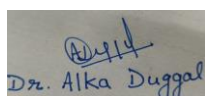
Fitness and health

Prevention of chronic degenerative disorders

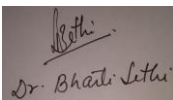
Obesity management

Management of diabetes mellitus and CVD

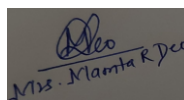
Review of existing alternative diet related systems for physical fitness and health. Planning and preparation of diets for the elderly in health and sickness.



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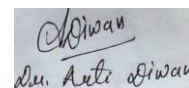
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## Part II

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

Staining of bacteria- gram 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.

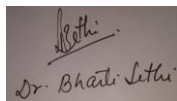
Demonstration of available rapid methods, diagnostic kits used in identification of microorganisms or their products.

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

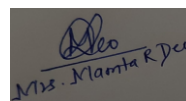
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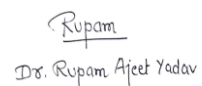
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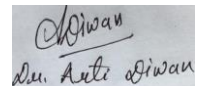
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# Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

M.SC. (HOME SCIENCE)  
FOOD SCIENCE AND NUTRITION  
M.SC. PREVIOUS - 2ND SEMESTER

MARKING SCHEME:

PART I - THEORY

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

No.	Practical	Marks
Practical II	Food Science and Therapeutic Nutrition	100

## PART III - INTERNSHIP / FIELD PLACEMENT

The student will be required to undergo an internship/field placement for a total duration of six to eight weeks in their chosen area of interest after II<sup>nd</sup> 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 IV<sup>th</sup> 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 deviation  
Standard deviation  
Quartile deviation  
Independence of attributes  $2 \times 2$  and  $r \times c$  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

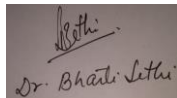
- UNIT-V**
- 9. Correlation-definition, meaning and types.
  - 10. Methods of determining coefficient of correlation
    - Product moment correlation
    - Rank correlation.
    - Working with MS Word
    - Getting started with word, formatting text and paragraph.
    - Applying text and language tools, designing pages, with columns and tables, using graphics.

## References:

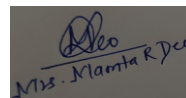
Garrett, Henry E. 1971: statistics in psychology and education, David and co.



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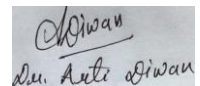
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**PAPER - VI**  
**FOOD SCIENCE**

**OBJECTIVES:**

**Max. Marks 8**

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:

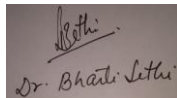
Journal of Food Science Published by the Institute of Food Technologist, Chicago lu U.S.A.

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

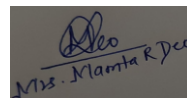
Food Technology Published by the Institute of Food Technologist, Chicago lu, U.S.A.



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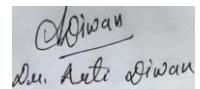
Dr. Bharti Sethi



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Dr. Anli Biswas



**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 and 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.**

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## References:

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

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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.

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**PAPER - VIII**  
**THERAPEUTIC NUTRITION**

**Max. Marks: 80**

- UNIT-I**    **1. Etiopatho physiology, metabolism and clinical aberration:** complications, prevention and recent advances in nutritional management of GIT Disorders  
Gastritis \_ Types, dietary modification  
Peptic ulcer, etiology, symptoms, dietary modification  
Intervals of feeding, bland diet, four stage diet Therapy, prevention of recurrence.  
Diarrhea – Classification, dietary consideration  
Constipation, classification, dietary consideration  
Ulcerative colitis symptom, dietary treatment  
Sprue types, dietary consideration.
- UNIT-II**    **2. Disease of liver and gall bladder.**  
Diseases of liver and gall bladder  
Jaundice – classification and dietary treatment  
Hepatitis – types and dietary management.  
Hepatic coma – causes and dietary management  
Cirrhosis- Type and dietary management  
Cholecystitis- Types and dietary management  
Cholelithiasis- 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.  
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 manifestation, 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  
complications of diabetes

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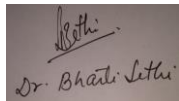
Dr. Rupam Ajeet Yadav

Dr. Anli Biswas

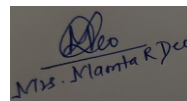
Disorders of thyroid gland: normal thyroid function  
Hyperthyroidism \_ symptoms and treatment



Dr. Alka Duggal



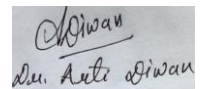
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Mrs. Mamta R Deo



Dr. Rupam Ajeet Yadav



Dr. Anli Siwan

**PRACTICAL - II**  
**FOOD SCIENCE AND THERAPEUTIC NUTRITION**


Max. Marks 100

**Distribution of Marks:**

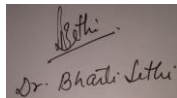
Sessional	-	20
Viva	-	20
Practical	-	60 (Exercises two of 30 each)

**PART- A**

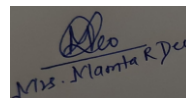
Collection and storage of biological samples for clinical investigation.  
Market survey of commercial nutritional supplements and nutritional support substrates.  
Commonly used test for diagnosis of various - system — wise.  
Interpretation of patient data and diagnostic tests and drawing up of patient 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.



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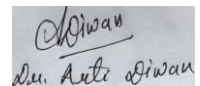
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## PART-B

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, thickeningpower, 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 fat 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. Effect of acid, salt, alkali, sugar, heat) enzymes, polyphenols on milk Khoa, curd, paneer. Cheese (ripened and unripened).

**Egg:** structure assessing egg 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.

# Hemchand Yadav Vishwavidlaya, Durg (C.G)

FOOD SCIENCE AND NUTRITION

M.SC. (HOME SCIENCE) FINAL

3<sup>rd</sup> SEMESTER

Marking Scheme:

PART I - THEORY

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

PART II - PRACTICAL

No.	Practical	Marks
Practical III	Nutritional Biochemistry	100

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**PAPER - IX**  
**ADVANCED NUTRITION**

**Objectives :**

Max. Marks: 80

**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, RM rthermic 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. Interac-tions with other nutrients. Physiological, pharmacological and therapeutic effects, toxicity and deficiency with respect to the following. Fat soluble Vitamins A,D,E, & K  
**Water Soluble:** thiamine riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid, ascorbic acid, cyanocobalamin, choline, inositol, ascorbic acid.



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Bryman, A. and Burgess, J. (1999) Qualitative 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. Quantz, S.A. and Ritenbaugh, S. (1986): Training Manual in Nutritional Anthropology American Association of Anthropology, Washington, D.C.

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## 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.

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## 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 amenorrhea, 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.

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## 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.  
Physiochemical techniques : Principles and methodology of the following - Diffusion  
Osmosis Filtration Surface tension Adsorption Centrifugation
- UNIT-II** 4. Chromatography : Principles, techniques and application of the following -  
Paper chromatography - Circular, ascending and descending.  
Ion exchange chromatography column chromatography  
Thin layer chromatography Gas liquid chromatography High performance liquid  
chromatography
- UNIT- III** 5. Electrophoresis : Principles and techniques of paper and gel electrophoresis.  
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.

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**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  $\alpha$ -carotene and á-tocopherol.

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

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# Hemchand Yadav Vishwavidlaya, Durg (C.G)

## FOOD SCIENCE AND NUTRITION M.SC. (HOME SCIENCE) FINAL

### 4<sup>th</sup> SEMESTER

### Marking Scheme:

### PART I - THEORY

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

### PART II - PRACTICAL

No.	Practical	Marks
Practical IV	Institution Management	100

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Dr. Anli Biswan

## 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-genearative disorders  
Alternative systems for health and fitness like Ayurveda, Yoga, Meditation, Vegetarianism and Traditional diets.

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## **REFERENCES:**

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Sizer, F & Whitney , E. (2000); Nutrition Concepts & Controversies.

8th Edition, Wadsworth, An International Thomson Publishing Co.

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

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

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

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

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

## **Journals**

Medicine and Science in Sports and Exercise.

International Journals of Sports Nutrition.

## PAPER - XIV

### PUBLIC NUTRITION

Max. Marks: 80

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

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**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) Cross linkers,

(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) Anemia,

(v) Malnutrition,

(vi) Constipation.

**UNIT- III 6. Degenerative diseases in old age -**

(1) Atherosclerosis,

(2) Hypertension,

(3) Cancer,

(4) Diabetes mellitus,

(5) 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.
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## Journals:

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

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## 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 shakes. Drink etc. and their  
evaluation. Meal planning, 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  
foods services.
- 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.

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**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**

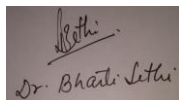
**DISSERTATION ON CURRENT TRENDS IN FOOD AND NUTRITION**

**Max. Marks 100**

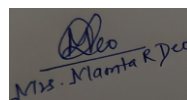
**Dissertation:** In any field of food science, nutrition and systematic writing of report along with statistical analysis of data Current trends in food and nutrition: Acquaintance of the students with current trends in the field of food and nutrition. Collection and compilation of latest reviews. (79)




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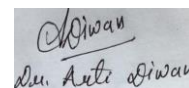
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# Hemchand Yadav Vishwavidlaya, Durg (C.G)

## HUMAN DEVELOPMENT M.Sc. (HOME SCIENCE) PREVIOUS

### 1<sup>th</sup> SEMESTER

### Marking Scheme:

### PART I - THEORY

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

### PART II - PRACTICAL

No.	Practical	Marks
Practical I	Early Childhood Education	100

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# 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

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## 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.

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## 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, Rousseau Theory, Motivational theory by Murray and Maslow, Erikson’s theory

**UNIT-V** 13. Personality theory by All port and Murphy

Adler’s theory of individual psychology Jhon Locke

#### References:

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

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

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

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

Concept of organisation and administration of early childhood centers. 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.**

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**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 - Firsthand experience, interaction with others, using language, reflection. Mathematical concept like: Classification, conservation, serration, comparison, counting, fraction, one to one correspondence addition and subtraction.

## References:

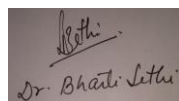
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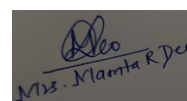
Ruloof, M.E. and Miller, G.R. (ods)(1987):Interpersonal Process: New Direction in Communication Research, Sage, USA. Chatterjee, P.C.(1988): Broadcasting in India, New Delhi, Sage Publications




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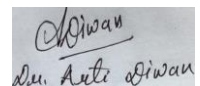
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## PAPER - IV

### 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.

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# 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 basis 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 session, develop a plot of a story with active participation of children and dramatize it with them as role players.

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

### PART - III

Conducting home visits and interviewing/ talking to parents. Arranging workshops for parents. Organizing parent education programmes based on parents needs. Conducting parent-teacher meetings. Reports and resource files to be maintained by students.

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## HUMAN DEVELOPMENT

### M.Sc. (HOME SCIENCE) PREVIOUS

### 2th SEMESTER Marking Scheme:

### PART I – THEORY

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

No.	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 II<sup>nd</sup> 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 Anganwadi 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 IV<sup>th</sup> 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

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## 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 deviation  
Standard deviation  
Quartile deviation Independence of attributes  $2 \times 2$  and  $r \times c$  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.)

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**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 fit  
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.

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**PAPER - VI**  
**ADOLESCENT PSYCHOLOGY**

Max. Marks: 80

- UNIT-I**    1.    **Understanding culture and development**  
Pubertal stage – concept and definition, classification, and characteristics.  
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

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**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 stoning, 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.

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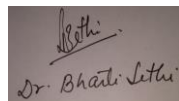
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**UNIT-V**

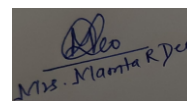
7. Techniques of parent education in preschool setting
- Informal meeting Occasional/accidental meeting, written/printed newsletters.
  - Circular, notices etc.
  - Parent library, toy library
  - Workshop and demonstration center
  - Parents corner
  - Open house
  - Large/small group meeting
  - Individual meeting Home visits, individual sessions
  - Working with vulnerable families.



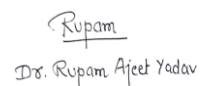
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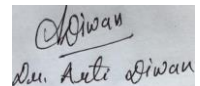
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**PAPER - VIII**  
**MANAGEMENT AND PROJECT PLANNING**

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

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## 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. Organize 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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# Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

## HUMAN DEVELOPMENT M.Sc. (HOME SCIENCE) FINAL

### 3<sup>th</sup> SEMESTER Marking Scheme: PART I – THEORY

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

### PART II – PRACTICAL

No.	Practical	Marks
Practical I	Principles of Guidance and Counseling	100

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Mrs. Manita R. Deo

Dr. Rupam Ajeet Yadav

Dr. Anli Biswan

## 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. Principal 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.

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**PAPER - X**  
**ADVANCED STUDY IN HUMAN DEVELOPMENT**

**Max. Marks 80**

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

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## 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

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## PAPER - XII

### CHILD AND HUMAN RIGHTS

Max. Marks: 80

- UNIT-I**      1. Definition and Evolution of Rights  
Human rights  
Child rights  
Women's rights  
Policy
- UNITII**      2. Status of Indian children and their rights
3. Children in difficult circumstances - Children of prostitutes - Child labour -  
Street children - Refugee children
- UNIT-III**    4. Status of women and their rights - Status 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.

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# PRACTICAL - III

## PRINCIPLES OF GUIDANCE AND COUNSELING

Max. Marks: 100

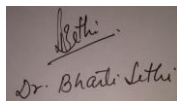
Interaction with practicing counsellor's and therapists through visit to schools, clinics, women centres and hospitals etc. Learn about the counselling process - Role play, mock sessions etc. Observation in various ECCE settings e.g. day care, pre-school, ECCE centres, Anganwadi etc. Planning programmes for various ECCE setting.

Supervising, monitoring and evaluating ECCE programmes in different settings

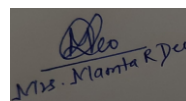
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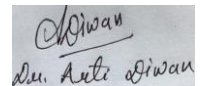
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Dr. Anli Biswas

# Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

## HUMAN DEVELOPMENT M.Sc. (HOME SCIENCE) FINAL

### 4th SEMESTER

### Marking Scheme: PART I - THEORY

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

### PART II - PRACTICAL

No.	Practical	Marks
Practical IV	Methods of Studying Human Development	100

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**PAPER - XIII**  
**METHODS OF STUDYING HUMAN DEVELOPMENT**

- UNIT-I**      1. Different methods of studying human development. Max. Marks 80  
    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 Wechsler Intelligence Scale  
    Draw a man test  
    The Kaufman Assessment Battery for children or K-ABC.  
    Binet Test  
    Relation between intelligence and creativity  
    Self esteemed test.  
    Aptitude test .  
    Interest test.

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## PAPER - XIV

### PERSONS WITH DISABILITIES

Max. Marks 80

- UNIT-I** 1. Various approaches to defining and understanding disabilities-  
Physical  
Crippled or orthopedically 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 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.

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**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 - Modern 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.

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**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

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## PRACTICAL - IV

### METHODS OF STUDYING HUMAN DEVELOPMENT

(Any Six) Max. Marks: 100

Study of social developmental behavior through observation method.

Know about the child through interview method.

Case study based on street children and their problems.

Case study regarding problems behavior 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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TEXTILES AND CLOTHING  
M.Sc. (HOME SCIENCE) PREVIOUS

1st SEMESTER  
Marking Scheme:  
PART I – THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper I	Research Methodology				
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

No.	Practical	Marks
Practical I	Textile Chemistry	100

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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, correlational. 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

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Mrs. Karama R. Deo

Dr. Rupam Ajeet Yadav

Dr. Anu Biwan

## References:

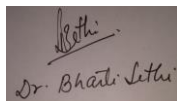
Edwards: experimental design in psychological research.

Kerlinger: Foundation of educational research.

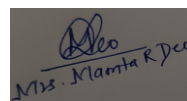
Bhandarkar P.L. and Wilkinson T.S. (2000) methodology and techniques of social research, Himalaya publishing house, Mumbai. Bhatnagar G.L.(1990) research methods and measurements in behavioral and social science Agri Cole publishing agency, New Delhi.



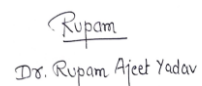
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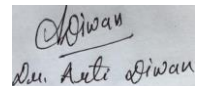
Dr. Bharti Sethi



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Dr. Rupam Ajeet Yadav



Dr. Anli Biswas

## 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-principal. 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, hydrocellulose 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

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## References:

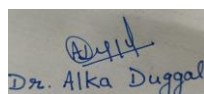
Booth, J.E: Principles of textile testing- newness, better, worth, London.

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

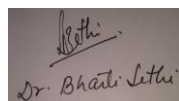
John H. Skinkle- Textile testing- Booking, New York.

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

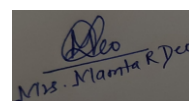
ASTM standards.



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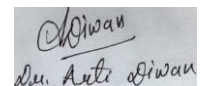
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Dr. Anli Biswas

# 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 croquis (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, Illustring Fashion Blackwell Science Munslow Janine.

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

Ireland, Patrick John, Fashion Illustration, B.T. Batsford Ltd London. Allen Anne Seaman Julian Fashion Drawing The Basic principles, B.T. Batsford Ltd. London.

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**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.

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**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.

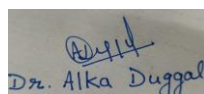
Physical Testing of Textile using appropriate standardized procedures. Fibers-Length, diameter, fineness. Yarn –Count, heaviness twist, crimp, strength. Bursting, Water vapour permeability, cover, stiffness, drapability, crease recovery pilling abrasion. Chemical testing Identification of fibers. Binary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

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

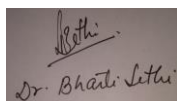
Inspection of final Garment.

Mill visit to acquaint students with modern chemical processing

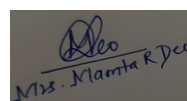
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Dr. Alka Duggal



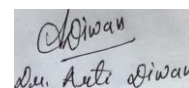
Dr. Bharti Sethi



Mrs. Manita R. Deo



Dr. Rupam Ajeet Yadav



Dr. Anil Biswas

# Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

TEXTILES AND CLOTHING  
M.Sc. (HOME SCIENCE) PREVIOUS - FINAL

2<sup>nd</sup> SEMESTER

Marking Scheme:

PART I - THEORY

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

No.	Practical	Marks
Practical I	Textile Designing	100

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Dr. Rupam Ajeet Yadav

Dr. Anjali Biswan

## 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 IV<sup>th</sup> 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

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Dr. Anil Biswas

## 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 deviation, Standard deviation 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.

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**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, parchmentsation, durable press, wash 'n' wear, wrinkle recovery, chlorination. Resins, their application and chemistry. Special purpose finishes Flame retardant, water repellent, antistatic, 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.

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Dr. Anil Biswas

## References:

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

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

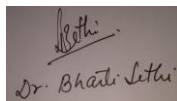
John H. Skinkle- Textile testing- Booking, New York.

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

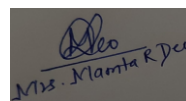
ASTM standards.



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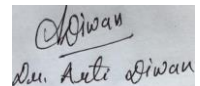
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Dr. Anli Biswas

## 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, Illustring Fashion Blackwell Science Munslow Janine.

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

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

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



# PAPER - VIII

## DYEING AND PRINTING

Max. Marks: 80

### Objectives:

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

- UNIT-I** 1. Dyes Classification, definition, components. Colour and chemical constitution of dyes. Dyeing with chemical dyes. Direct, reactive, vat, sulphur, azo (for cellulosic). Acid, metal complex, chrome mordent (for protein) Basic, nylomine, disperse (for man-made)
- UNIT-I** 2. Dyeing with: natural dyes.  
Use of pigments. Dyeing machines for fibers, yarns and fabrics. Industrial dyeing practices. Dyeing auxiliaries and their uses. Dyeing of blends.
- UNIT-I** 3. Textiles design through dyeing.  
Tie and dye. Union and cross dyeing. Batik Dyeing defects and remedies.
- UNIT-IV** 5. Introduction to printing – difference between dyeing and printing.  
Methods of printing Historical development of printing –block, stencil, screenroller 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

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# 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. Report of visits to processing and printing units (cottage and industrial level).

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TEXTILES AND CLOTHING  
M.Sc. (HOME SCIENCE) FINAL

3<sup>rd</sup> SEMESTER  
Marking Scheme:  
PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper IX	Fabric Construction				
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

No.	Practical	Marks
Practical III	Fabric Construction & Pattern	100

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## 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.

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**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- Stitchformation, 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.

Slamper, 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 equipment's 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

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## 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  
12. Demographic economic ,natural .technological ,political, legal ,social, and cultural environment
- UNIT-V** 13. Analyzing business markets and business buying behavior.  
Corporate and division strategic planning. SWOT analysis

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## PRACTICAL - III

### FABRIC CONSTRUCTION AND PATTERN MAKING

Max. Marks: 100

Marks Distribution:

Sessional	-	20
Viva	-	20
Two Practical	-	30 each

Dart manipulation. Development of variation in sleeves. Sleeves an bodice combination. Development of variation in collars. Roll over collar. Collar with bodice (shawl). Necklines and facings. Scooped necklines. Built up necklines. Cowl necklines. Weaving on simple loom, plain, rib, matt, and twill structures. Visit to weaving mills. Fashion sketches.

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TEXTILES AND CLOTHING  
M.Sc. (HOME SCIENCE) FINAL

4th SEMESTER  
Marking Scheme:  
PART I - THEORY

No.	Title	Marks			
		Theory	Test	Seminar	Total
Paper XIII	Knitting technology and Draping				
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

No.	Practical	Marks
Practical IV	Apparel Designing its Construction and Historic Textiles	100

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**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 warp 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, warp 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 envelops and guide sheet.

**References:**

Spun yarn technology- Eric oxtoby butterwall publication.  
Subodh Kumar Agrawal (1980) Textile Processing and Auxillaries.  
Aswani K.T. weaving mechanisms- Mahajan Book Distributors, Ahemadabad.  
Amalsar D.M yarn and cloth calculation.  
Amalsar handloom Weaving.  
Hillhouse, M.S and Mansfield E.A dress Design, Draping and flat Patterned, London.  
Helen Theory of Fashion.

**PAPER - IX**  
**APPAREL AND ITS SOCIAL, PSYCHOLOGICAL ASPECTS**

Max. Marks: 80

**Objectives:**

To impart an in-depth knowledge of style readings, pattern making and garment construction techniques. To develop and understand the principles of pattern making through flat pattern and draping. To create awareness of quality assurance norms and evaluating of quality in apparel

**UNIT-I**      1. Caps and Hoods

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

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## References:

Avis M. Dry (1961) The psychology of Jung, Methuen and Co. London.  
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Armstrong, Pattern making for fashion design.

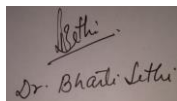
Grate and storm- Concepts of clothing, McGraw Hill Book co., New York.

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

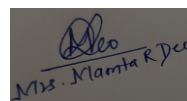
Slampler, Sharp and donnell: Evaluating



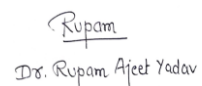
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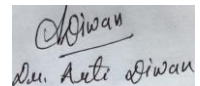
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## PAPER - XV

### 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 10th to 17th costumes) century (Medieval Costume)  
a. India b. French c. European. d. English. Costumes and China and Japan.
- UNIT-IV** 9. Costumes Of 18th century to 20th 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.

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## References :

John and sentence Bryan (1999), World Textiles, Thames and Hudson, London.

Harvey Janet (1996): Traditional Textiles of central Asia, Thames and Hudson, London.

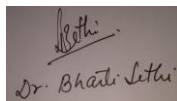
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Paine Sheila (1990): Embroidered Textiles Traditions, Thames and Hudson, London.

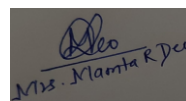
Revolution in Fashion: The Kyoto costume institute, Abbeville Presi, New York.



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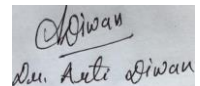
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## PAPER - XVI

### 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, Advertising, 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

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## 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

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