

Department of Higher Education, Govt. Of M.P.
Semester wise syllabus for Postgraduates
As recommended by Central board of Studies and
Approved by HE the Governor of M.P.

M.Sc. (Home Science) ,
Food and Nutrition

SEMESTER-I

PAPER-I

Applied Physiology

Dec - 2020

Objectives

M.M. 100

This course will enable students

1. To understand the integrated functions of all systems in the science of physiology.
2. To understand the structure and functions in various organs and systems in relation to the diseased conditions.
3. To understand the advance issues to the relevant topics of Human physiology.

UNIT-I

1. **Cell and Tissues:** Structure and fiction of cell, structural organization of cell organelle.
Tissues – Formation of tissues, organ and system, elementary tissues in Human body.
2. **Musculoskeletal System:** Types of muscles (skeletal, smooth, and cardiac muscles) their properties, characteristics, structure and functions Fatigue, exercise mechanism of contraction
Structural and function of Bone, cartilage and connective tissue. Disorders of skeletal muscle.

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UNIT-II

1. **Blood:** Formation, Functions and composition of blood, Hematopoiesis erythropoiesis, leukopoiesis, Formation and functions of plasma proteins Factors influencing erythropoiesis – RBC Indices – Blood groups, Blood clotting, Hemoglobin synthesis, Blood abnormalities.
2. **Immune system:** Natural Immune system cell mediated and humoral immunity components of immune mechanism (cellular and chemical) Role of Inflammation/defense (acute and chronic). Activation of WBC and production of anti bodies. Disorders – Immune deficiency, Hypersensitivity.
3. **Reproductive System:** Male and female reproductive organ, menstrual cycle spermatogenesis.

UNIT-III

1. **Circulatory System:** Structure and functions of heart and blood vessels, cardiac output and blood pressure, cardiac cycle, Heart rate and heart sound conditions affecting the heart, Heart failure, Hypertension, Mechanism of cardio vascular system.
2. **Respiratory system:** Structure and functions of respiratory tree, Mechanism of Breathing. Ventilation and its control. Exchange of gases and role of lungs in exchange of gases. Transport of O₂ and CO₂. Role of Hemoglobin and Buffer system Cardio respiratory response to exercise.

UNIT-IV

1. **Digestive System:** Introduction of digestive system structure of digestive tract functions of digestive system, Salivary glands and its secretion. Stomach and its section, pancreas, Bile, small Intestine, Large Intestine Digestive Juices. Gastrointestinal Hormones.
2. **Excretory system:** Structure and function of kidney, nephron, Role of Kidney in maintaining pH of blood, Mechanism of urine formation, Mechanism of filtration Electrolyte and acid-base balance. Renal function tests (Urine and blood) Diuretics.

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UNIT-V

1. **Endocrine glands:** Structure function and classification according to chemical signals. Hormones, role of hormone, regulation of hormonal secretions and its control, disorders of endocrine glands.
2. **Nervous system:** Structure and function of brain, spinal cord, neuron. Reflex and its classification; nerve impulse - Afferent and efferent nerves Hypothalamus and its role in various body functions - Obesity sleep and memory
3. **Sense organs:** structure and functions General Senses and special senses, receptors of sensory nerves and perception of stimuli.

References

1. Ganong. W.F. (1985): Review of Medical Physiology, 12th Edition, Lange Medical Publication
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3. Guyton, A.C. (1985): Function of the Human Body. 4th Edition, B. Sanders Company, Philadelphia.
4. Gayton, A.C. and Hall, J.B. (1996): Text Book of Medical Physiology, 9th Edition, W.B. Sanders Company, Priser Books (Pvt.) Ltd. Bangalore.
5. Wilsion, KJ.W. and Waugh, A. (1996): Ross and Wilson Anatomy and Physiology in Health and illness, 8th Edition, Churchill Livingstone.
6. McArdle, W.D. , Katch, F.L. and Katch, VL. (1996): Exercise Physiology, Energy, Nutrition and Human Performance, 4th Edition, Williams and Wilkins Baltimore.
- Jain, AK. Textbook of Physiology, Vol I and II Avichal Publishing Co. New Delhi 8.
- Text book of physiology Vol I & II



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M.Sc. (Home Science)
Food and Nutrition

SEMESTER-I
PAPER-II
Advanced Nutritional Biochemistry

M.M. 100

Objectives

- Augment this Biochemistry knowledge acquired at the undergraduate level.
- Understand the mechanism adopted by the human body for regulation of metabolic pathways
- Get on insight into interrelationship between various metabolic pathways: -Become proficient for specialization in nutrition
- Understand integration of cellular level metabolic events to nutrition disorder and imbalances.

UNIT - I

Plasma proteins nature, properties and functions. Purines, and pyrimidines: synthesis and breakdown

UNIT-II

Intermediary metabolism an overview and its regulation. Equilibrium and Non equilibrium reaction committed steps; allasteric modification, covalent modulation, hormonal induction and repression, cross over theorem, starve feed cycle, calorie homeostasis and futile

UNIT - III

1. **Carbohydrates:** glycolysis, gluconeogenesis, citric acid cycle, hexose monophosphate pathways and gluconeogenesis.
Lipids: Beta - oxidation, de novo synthesis of fatty acids. Synthesis and breakdown of unsaturated fatty acids. Cholesterol, phospholipids and triacylglycerol significance.

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UNIT-IV

Major alterations in protein, carbohydrates and fat metabolism and chronic nutritional related degenerative diseases e.g. diabetes and hypertension.

Nucleic acids: DNA replication and transcription. DNA repair system, DNA recombination, genetic mutation, regulation of gene expression and protein biosynthesis.

UNIT - V

Hormones: Mechanism of action. Negative feedback, hormone receptor, intracellular messengers.

Conversion of amino acids to specialized.

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M.Sc. (Home Science)
Food and Nutrition
SEMESTER I PAPER - I & II
Human Physiology & Advanced Nutritional Biochemistry

M.M. -100

Practical –I

Practical Section -A

1. Preparation and staining of blood film.
2. Identification of different components at blood in a blood film
3. Estimation of blood count WBC count, RBC count
4. Hemoglobin estimation
5. Recording of blood pressure.
6. Vital capacity and different components of vital capacity
7. Urine estimation (Renal function test)

Section - B(Any one)

Protein (a) Estimation of proteins in foodstuff.

(b) Estimation of albumin, globulin and A: Gratio in serum and urine

Estimation of glucose in blood and urine.

Glucose Estimation of glucose in blood and urine.

Lipid Estimation of lipid in food by soxholet extraction method.

Calcium Estimation of calcium in food and serum

Phosphorus Estimation of inorganic phosphorus in food and serum.

Buffer Preparation of phosphate, carbonate and acetate buffer and determine of their pH values.

survey survey of pathological laboratories to obtain information about different methods uses in blood serum anylis.

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M.Sc. (Home Science)
Food and Nutrition

SEMESTER I

PAPER - III- Public Nutrition

Objectives

M.M. 100

1. Develop a holistic knowledge base and understanding of public nutrition concept.
2. Understand the health economic, food situations and determinations of nutritional status.
3. Be familiar with various approaches to nutrition and health interventions, programmes and policies.

UNIT-I

1. Concept of Public Nutrition
2. Definition and concepts of health. Determinants of health
3. Relationship with health and nutrition.
4. Role public nutritionists the health care delivery.
5. Population dynamics: Demographic transition population structures fertility behavior. Nutrition and quality of life.

UNIT - II

1. Food and Nutrition security

(a) Food production. Access, Distribution, Losses and consumption

2. Nutritional Status

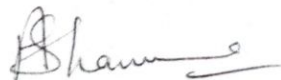
(a) Determinants of nutritional status

(b) (i) Nutrition Indicators - Functional indicators such as grip strele respiratory fitness

Harvard step test, squatting test

(ii) Non-mutational indicators of nutritional status (Socioculta biological, environmental and economic)

(c) **Health Economics and Economics of Malnutrition.** Its impact on productivity and national development



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UNIT-III

1. **National Food and Nutrition Policy, Plan of Action**
 - (a) Sectors and public relevant to nutrition - National and International organization of nutrition. Specific community nutrition programmes in India. Case studies of selected strategies and programs.

UNIT - IV

1. **Approaches and strategies for improving nutritional status.**
 - (a) Programmable Option: Health and nutrition based interventions, supplementary feeding, fortification and genetic improvement of foods.
 - (b) Merits and demerits of these options
 - (c) Factors in feasibility of these programmes ie political support available resource (human infrastructural financial)
2. **Program planning, implementation, Operation, monitoring surveillance and evolution.**
3. **Nutrition Education**
 - (a) Definition, purpose, importance
 - (b) Methods and tools
 - (c) Channels of nutrition education
 - (d) Evaluation of nutrition education

UNIT-V

1. **Public Health Administration**
 - (a) Central and State Health organizations
 - (b) Primary Health Care in India
 - (i) Elements of Primary Health Care
 - (ii) Principles of Primary Health Care
 - (iii) Primary - Health Care of village level sub center level and primary health centre level, community health centers.
 - (c) Health Care Systems



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References

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2. Paris KL (2000) Park's Textbook of Preventive and Social Medicine, 18th Edition M / s Banarasidas Bhanat, Jabalpur.
3. SCN News: UNACC / SCN Subcommittee on Nutrition.
4. State of the World's Children. UNICEF
5. Census Reports
6. Berg A (1973): The Nutrition Factor the Brookings Institution. Washington.
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8. Bami MS Rao, P.N. Reddy. V. (Eds.) (1996) Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd. , New Delhi
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11. Gopalan, C. (Ed) (1987) Combating Under nutrition - Basic Issues and Practical Approaches, Nutrition Foundation of India
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National Family Health Survey I & III (1993-2000) International Institute for Population Studies Mumbai.
13. National Plan of Action of Nutrition Board, Dept. of WCD, Govt. of India.
14. National Nutrition Policy (1993) WCD, Govt. of India.
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16. Allen, L. And Ahluwalia N. (1997) Improving Iron Status Through Dist. Application of knowledge correcting Dietary Iron Bio availability in Human Population OMNI/US AID Arlington, VA USA.
17. Nestle, P. (ed.) (1995) Proceeding: Interventions for Child Survival OMNI/USAID Arlington, Arlington VA, USA.
18. Documents and Reports published by the intervention Vitamin A consultative Group.



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19. Documents and Report of the International Nutritional Anemia consultative group
20. Howson C Kennedy and Horwiz A (ed) (1998). Prevention of Micronutrient Deficiencies. Tools for Policymakers and Nutrition Board
21. Fortification to End Micronutrient Malnutrition. The Micronutrient Initiative Ottawa Canada. Micronutrient initiative, Ottawa Canada.
22. Micronutrient Initiative (1998). Fortification to end micronutrient Malnutrition, The Micronutrient Initiative. Ottawa Canada.
23. Mary C Lopez A. (eds); H99-V' Comparative Assessments in the Packages Collected articles from the Bulletin of the world health organization Geneva Switzerland
24. Mary C and Lopez A (eds) (1996) Global Burden of Disease!
25. Injunt Harvard University Press Cambridge MA, USA
26. World Health Organization (1998) World Health Report Life Center Report of the Director General WHO Center Switzerland.
27. Ramkrishanan, C. (eds) (2001). Nutritional Anaemia CRC Press in Modern Nutrition CRC Press, Boca Raton.
28. McCollum, E.V. (1957) History of Nutrition Houghton Mifflin Co.
29. Waterlow, I.C. (1992) Protein Energy Malnutrition, Arnold, A Division of Hodde & Stoughton.
30. Bauemfeind J Christopher (Ed) Vitamin A. Deficiency and its control Acade Press.
31. WHO (1979) Fluorides and Human Health.
32. Rajiv Gandhi Drinking Water Mission Prevention and Control of Fluorosis Ministry of Rural Development.
33. Beaton, G.H. and Bengca, J.M. (Eds) (1976) Nutrition in prevention Medical WHO.
34. Gopalan C (RD) (1993) Recent Trends in Nutrition, Oxford University Press.
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36. Shils, ME Oison J.A. Shike, N. and Ross, A.C. (Ed) (1996) Modern Nutrition and Health & Disease. 9th Edition, Williams & Wilkins.
37. Bamji. M.S. Rao P.No. and Reddy V (Eds) (1996) Textbook of Human Oxford & IBH Publishing Co. Pvt. Ltd. Textbook of Human Life science in Quite
38. Publication of the Intern
39. UNICEF's State of the World's Children

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M.Sc.(Homè Science)
Food and Nutrition
PRACTICAL-II
Public Nutrition
First Semester

M.M. 100

1. Collect data and compare the rural and urban communities through analysis for:
 - (a) Determinants of malnutrition.
 - (b) Socio - economic groups
 - (C) Types of nutritional problems in different segments and age groups
2. Development of methods and tools of nutritional education
3. Plan prepare and calculate one dish meal specific to your own region for
 - (a) Pregnant woman
 - (b) Lactating mother
4. Prepare and administer a food frequency questionnaire on a 4 - year old child to assess his intake of energy. proteins, iron and vitamin A rich food.
5. Dietary Assessment
 - (a) Conduct a 3 - days 24 - hours recall on an adolescent girl and comment on her nutritional status.
 - (c) Evaluate her dietary assessment after a month for feedback
6. Case study of existing intervention program in voluntary and government sector.
7. Development of a plan for nutrition intervention project in the community.

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FOOD & NUTRITION
M. Sc. - 1ST SEMESTER
Paper COURSE - IV
RESEARCH METHODS AND STATISTICS

Marks: 100

OBIECTIVES:

- To understand the significance of statistics and research methodology in home science research.
- To understand stand the types tools, methods of research and develop the ability to construct data gathering instrument appropriate to the research design.
- To understand and apply the appropriate statistical technique for the measurement and design.

CONTENTS

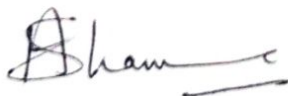
UNIT - I

- Research: Meaning, objectives and significance of research.
- Science, scientific methods, scientific approach.
- Role of statistics and research in Home Science discipline.
- Types of Research: Historical, descriptive, experimental, case study, social research, observation research.

UNIT - II

Definition and Identification of a Research Problem.

- Selection, justification & limitation of research problem.
- Hypothesis - meaning nature, characteristics, types & functions of hypotheses.
- Variables: Meaning, nature, type & selection of variables.



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UNIT- III

Sampling Methods

- Population and sample
- Probability & semi probability sampling - simple random, systematic random sampling, two stages and multistage sampling, cluster sampling.
- Non - Probability sampling purposive, quota and volunteer sampling.
- Merits & demerits sampling.

UNIT - IV

Research Design

- Meaning, features concept & purpose of research design.

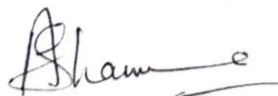
Qualitative research method

- Definition theory design types reliability & validity of :-
 - i. case study
 - ii. Interview
 - iii. Observation

UNIT - V

Quantitative research method

- Definition theory design types reliability & validity of
 - i. Sociometric scale
 - ii. Questionnaire
 - iii. Schedule
- Writing a research report



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M.Sc. (Home Science)

Food and Nutrition

SEMESTER-II

PAPER - I

Advance in Food Microbiology

June - 2021

Objectives M.M.100

1. The course will enable the students to gain deeper knowledge of micro organism in human environment and to understand the importance of microorganism in foods technology.
2. To understand legal aspects in the areas.
3. To develop skills in handling food safety
4. To know the food borne diseases and how to prevent it.

UNIT-I

Introduction to Food Microbiology:

1. Historical development of Microbiology and Food Technology Regulations and Standards in food legislation.
2. **Environmental Microbiology:** Bacteria Mold, fungi, yeast and virus their morphology, cultural characteristics biochemical activities, their sources in foods.
3. Factors affecting growth of micro organism in Foods Intrinsic and extrinsic parameters. Conditions that influence microbial growth in food.

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UNIT -II

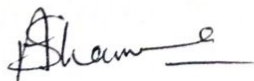
Estimation and Isolation of Micro Organisms:

1. Historical Development of Microbiology and Food Technology Regulations and Standards in Food legislation.
 - Conventional methods; SPC
 - Immunological Methods: RIA, ELISA, FIA
 - Chemical Method: ATP measurement and PCR (Polymers - Chain Reaction)
 - Rapid methods (new techniques)
2. Microscope colony count, Analysis, DMC (Direct Micro Scopic Count).
3. Estimation of the number 'O' Microorganisms, MPN (Most Probable Numbers)

UNIT - III

Microbiology of different foods:

1. Major cause of food spoilage, principles of food preservation control of microorganisms: by destruction and by retarding growth. Microbial Intoxication in food groups such as, Milk & Milk products cereals, Meat, fish egg, fruits & vegetables canned foods.
2. Foods, Borne diseases: (Bacterial and Virus) Signs / Symptoms and prevention
 - Staphylococcal Gastro enteritis
 - Clostridium perfringens
 - Botulinum and Vibrio
 - E - Coil, Salmonella, Shigellae
 - Poliomyelitis
 - Infectious Hepatitis.



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UNIT - IV

Microbiology safety of foods:

1. Indicators of food safety and quality, Indicator organisms methods for detection
Microbiological criteria of various foods products and their significance definition
sampling plan
2. HACCP System, Food safety used in controlling Microbiological Hazards
3. Antimicrobial compounds: Biologically based preservation system, probiotic Bacteria

UNIT V

Role of Microbes:

Its advantages and disadvantages in food production. Use of Microorganism in Dairy Products, Meat, Fish, Beverage.

Bread and Idli: Beer, Wine, Yoghurt etc.

Apparent health benefits of fermented foods and the role of microbes.

GMF (Genetically Modified Foods)

Definition, Use advantages and Characteristics of GMF. GM applications, Food future by genetically modified organisms.

References:

1. Topley and Wislons (1983) Principles of Bacteriology, Virology and Immunity, Edited by S.S. Wilson, A Miles and M.T. Parker, Vol. I: General Microbiology and Immunity, II: Systematic Bacteriology, 7th Edition Edward Arnold Publisher
2. Block, J.G. (1999) Microbiology Principles and Explorations, 4th Edition John Wiley and Sone Inc.
3. Frazier, W.C. (1988) Food Microbiology, Mc Graw hill Inc. 4th Edition.
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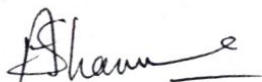
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11. Venderzant, C. and D.F. splits Toesser (192): Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, American Public Health Association, Washington DC.

Journals

12. Journal of Food Science Published by the Institute of Food Technologists, Chicago lu. USA
13. Journal of Food Science and Technology Published by Association of Food Scientists and Technology (India) CFTRI Mysore
14. Food Technology published by the Institute of Food Technologists, Chicago lu. USA



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - II
PAPER - II
Applied Biochemistry and Technique

Objectives M.M. 100

This course will enable students to:

1. Augment this Biochemistry knowledge acquired at the undergraduate level.
2. Understand the mechanisms adopted by the human body for regulation of metabolic pathways.
3. Get an insight into interrelationship between various metabolic pathways,
4. Become proficient for specialization in nutrition.
5. Understand integration of cellular level metabolic events to nutrition disorder and imbalances.
6. Understand the principals of various analytical for nutrition research.
7. Familiarize with the application of the above techniques.

UNIT - I

Vitamins and trace elements in the function of enzymes.

Detoxification in body metabolism of foreign compounds

UNIT - II

Membrane structure assembly and function.

Hemoglobin and its metabolism.

UNIT - III

Basie of instrumentation physico-chemical principals and methodology colorimetry.
Photometry- flourimetry, flame photometry and atomic absorptionmetry

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UNIT – IV

Electrophoresis - principles and applications in paper and gel electrophoresis Chromatography principles and applications in paper (circular, ascending and descending) ion exchange column thin layer gas liquid and high performanus chromatographic techniques.

Isotopes and their use radio active and stable isotopes.

Immunological method RIA and ELISA.

UNIT - V

Bioenergetics and metabolism a survey of metabolism anabolic catabolic pathways, their differences role of ATP cycle in bioenergetics.

Biological oxidation respiratory chain oxidative phophorylation

Project- project report to be submitted by the students guided by the teachers based on the course content of the paper.

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M. Sc. (Home Science)
Food and Nutrition
SEMESTER - II
PRACTICAL - I
Food Microbiology and Applied Biochemistry & Techniques

Total Marks: 100 Seasonal 20 viva: 20 Pract. Exem. 60 (30 Section A) (30 Section B)

Section - A (Any five)

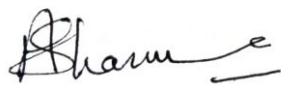
1. Preparation of common laboratory media and special media for cultivation of bacteria yeast and molds.
2. Staining of Bacteria: Gram's staining acid fast, spore, capsule and flagellar, staining, motility of bacteria.
3. Staining of yeast and molds.
4. Cultivation and identification of important molds and yeast (slides and mold culture)
5. Study of environment around us sources of transmission of micro - organism in foods: assessment of surface sanitation of food preparation units, swab and rinse techniques.
6. Bacteriological analysis of foods: both processed and un processed vegetables and fruits, cereal, spices and canned food, using conventional methods, yeast and mold count in foods.
7. Demonstration of available rapid methods and diagnostic kits used in identification of micro - organism or their products.
8. Visits (at least two) to food processing units or any other organization dealing with and advanced method in food microbiology.

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Section - B (*Any five*)

- | | |
|-------------------------|--|
| 1. Ascorbic acid: | Estimation of ascorbic acid in foods. |
| 2. Cholesterol: | Estimation cholesterol in serum. |
| 3. Enzyme assay: | Estimation of activity of serum. Alkaline phosphates and transaminase. |
| 4. Urea and creatinine: | Estimation of urea and creatinine in serum and urine. |
| 5. Acids and alkalis: | Preparation of dilute solutions of common acids and alkalis and determining their normalities |
| 6. Spectrometry: | Beer Lambert's Law, absorption maximum preparation of standard curve. Nutrient estimation in UV and visible range. |
| 7. Chromatography: | Paper, ion exchange and column chromatography, |
| 8. Electrophoresis: | Fractionation of plasma protein. |



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - II
PAPER - III
Nutrition and Health Problems

M.M. 100

Objectives

The course will enable students to:

1. Understand the nature of important nutrition problems and their prevention and control
2. Study and understand the Epidemiology of communicable diseases and nutrition related problems prevalent among the affluent and the less privileged groups
3. Study the biochemical and clinical manifestations preventive and therapeutic measures of common nutrition and health problems.

UNIT-I

Epidemiology

Definition aims and approaches

Measurements and its roles

Method in Epidemiology in brief

Use of epidemiology

Epidemiology of communicable diseases

Dengue Plague cholera mumps tetanus rabies tuberculosis etc.

UNIT - II

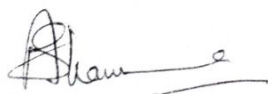
Dynamics of disease transmission

Sources Modes and susceptible host.

Disease prevention and control early diagnosis, notification, investigation, isolation, quarantine, treatment and disinfections.

Host defenses: Active and Passive Immunity.

Immunization program in India.



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UNIT - III

Nutritional problems of the community.

Problems of vulnerable groups

National and Global Nutritional problems prevention and control of Famine Disaster, War, Relief feeding Emergency feeding etc.

Basic concepts and facts about HIV / AIDS

- (a) Transmission of HIV infection, signs & symptoms of AIDS
- (b) Diagnosis of HIV infection.
- (c) Management & care of HIV infected persons.
- (d) Content of communication about HIV / AIDS
- (e) Preventive of HIV infection

UNIT - IV

Historical background, prevalence, etiology, biochemical and clinical manifestation, preventive and therapeutic measures for the following

Protein Energy Malnutrition

Vitamin A deficiency

Nutritional Anaemia

Iodine deficiency disorders

Rickets osteomalacia and osteoporosis

Fluorosis

UNIT - V

Historical Background, prevalence, etiology, biochemical and clinical manifestation, preventive and therapeutic measures for the following

Obesity and Overweight

Diabetes Mellitus

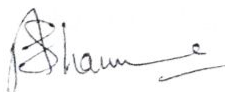
Coronary Heart Disease

Cancer

SARS, Covid 19

Other nutritional problems

Lathyrism, dropsy, aflatoxicosis, alcoholism.



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - II
Nutrition and Health Problems

M.M. 50

Practical-

1. Development of low.cost recipes suitable for various vulnerable groups.
2. Survey the local schools and plan 6 days cyclic menu for nutritious snacks / lunch for pre school children.
3. Plan a project for the prevention of any disease condition. (Deficiency or some other)
4. Study of various deficiency diseases: Prevalence and etiology on the basis of analysis of primary and secondary data.
5. Visit to any operational public nutrition program for field experience and writing a report.
6. One day activity in your college: to develop a questionnaire based on nutritional knowledge. Assess it on college going girls and provide nutritional counseling to them.
7. Develop a suitable teaching aid to increase awareness regarding AIDS, Drug abuses and anaemia among college going girls through lectures. Posters, charts, etc.

Ashwani

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M.Sc. - Food and Nutrition
IIND SEMESTER
PAPER - IV
STATISTICS & COMPUTER APPLICATION

OBJECTIVES MARKS: 100

- To understand the role of statistics and computer applications in research,
- To apply statistical techniques to research data for analyzing and interpreting data meaningfully .

Note: Special instructions should be send to paper setter to set one theoretical question and its option should numerical question.

UNIT - I

- Classification and tabulation of data,
- Graphic presentation, Frequency distribution, Histogram, frequency polygons, Ogive
- Average of position in individual, discrete and continuous series.

UNIT - II

- Normal distribution - Characteristics, deviation from normality
- Measures of variability - range quartile deviation, Mean Deviation, Standard Deviation or SD.

UNIT - III -

- Testing of hypothesis, Type I and Type II errors.
- Non parametric Methods Chi - square test, Application of student T test for small samples. Difference in proportion for means and difference in means - Critical ratio.

UNIT - IV

- Correlation - Meaning, types,
- Coefficient of correlation by scatter diagram, rank correlation, product movement method
- Analysis of variance - nature use & basic concept one and two - way.

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UNIT- V

- Experimental Designs- Nature type - Single group - two group control & Experimental Group.
- Randomized block design
- Latin square design
- Factorial design

PRACTICAL

TOTAL MARKS: 50

STATISTICS & COMPUTER APPLICATION

1. Tabulation.
2. Graphic Presentation, Frequency curve, Histogram, Frequency, Polygons, Ogive.
3. Calculation of Mean, Median, Mode.
4. Calculation of Standard Deviation.
5. Correlation.

Note: Students should be given hands - on experience to use appropriate software packages for selected statistical analyses.

Reference:

- Garrett, Henery E. (1971) Statistics in Psychology and education, David Heley and Co.
- Edwards: Experimental Design in Psychological Research.
- Kerlinger: Foundation of Educational Research.
- SPSS / PC for the IBM PC / Xt. SPSS inc.
- Goyal Mathematics statistics.
- Levin Statistics for Management.
- Yule An Introductory to the theory of statistics.
- Moud Introduction to the theory of statistics,
- Freund Mathematical statistics.
- Nag Mathematical statistics.
- Patri Statistical Methods.
- Choundan Statistics for Business and Economics
- Singh Principal of Statistics
- Thamligom research methodology,
- Kothari research methodology.
- Agrarwal Basic Statistics.
- Sankhyakike mule sidhant (Hind) Or. H.K. Kapil.
- Sanjhakiyavidhiyavayvhar park vigyanonai by Dr. S.P. Gupta.
- Fundamental of research Keriliger
- AnusandhanVidhiyaByParasnath.

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M.Sc (Home Science)

Food and Nutrition

SEMESTER - III ~~2020~~ Dec. 2021

PAPER - I

Advanced Nutrition

Objectives M.M. 100

The 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 requirements and recommendations through the life cycle.
- Familiarize students with the recent advances in nutrition.

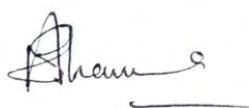
UNIT - I

Energy: Energy content of food. Physiological fuel value - review. Measurement of energy expenditure, BMR thermic effect of feeding and physical activity. Methods of measurement. Estimating energy requirement of individual and groups. Regulation of energy metabolism: control of food intake, digestion absorption and body weight

UNIT - II

Carbohydrates: Digestion and transpost review - dietary fiber fructooligosaccharides, resistant starch - chemical composition and physiological effects, glycemic index of foods . Sweeteners nutritive and non - nutritive.

Non-nutritive food components with potential helath effects: Polyphenols, tannis, phytate, phytostrongens. Cyanogenic compounds, lectins and saponins



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UNIT - III

- (a) **Protein:** Digestion, absorption transport- review, Metabolism of proteins role of muscle, liver and gastrointestinal tract.
- (b) **Protein quality;** methods of evaluation protein needs. Therapeutic application of specific amino acids: Branched chain, glutamine arginine homocysteine, cysteine.
- (c) Nutritional regulation of gene expression.
- (d) Inborn errors of metabolism: Sickle cell Anaemia, Thalassemia, Cystinuria. Phenylketonuria, Hereditary Lactose intolerance, crout.

UNIT - IV

Lipids: Digestion, absorption transport review.

Functions of essential fatty acids. Role of n-3, n-6 fatty acids. Prostaglandins. Fat requirements.

Minerals: Note: For each nutrient sources bioavailability, metabolism, function, determination of requirement RDI / ESADDI, deficiency and toxicity, interactions with nutrients are to be discussed.

Macro minerals: Calcium, phosphorus. Magnesium sodium, potassium and chloride.

Micro minerals: Selenium, cobalt, Chromium, vanadium, silicon, boron, nickel.

UNIT - V

(A) **Vitamins:** Historical Background, structure food sources, absorption and transport, metabolism, biochemical function, assessment of needs, interaction with other nutrients physiological, pharmacological and therapeutic effect toxicity and deficiency with respect to following

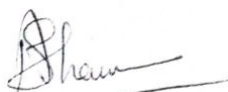
- I. Fat soluble : Vitamin A, D, E & K
- II. Water soluble: Thiamine, riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid, ascorbic acid, Cyanocobalmin, choline, Inositol.

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References:

1. Annual Reviews of Nutrition Annual Review Inc. California, USA
2. Shils, M.E., Osson, J., Shike, M. and Roos, C. (1998) Modern Nutrition in Health and Disease 9th edition. Williams and Williams, A. Beverly Co. London.
3. Bodwell, C.E and Erdman, J. W. (1998) Nutrient interactions. Marcel Dekker Inc. York.
4. World Reviews of Nutrition and Dietetics.
5. WHO Technical Report Series.
6. Indian Council of Medical Research, Recommended Dietary Intakes for Indians - Latest Recommendations.
7. Indian Council of Medical Research. Nutritive Value of Indian Foods. Latest Publication.
8. Berdanier, CD. and Harrgrove, JI (ed) (1996): Nutrients and Gene Expression: Clinical Aspects. Boca Raton FL CRC Press.
9. Baurle, P.A. (ed) (1994) Inducible Gene Expression Part - I: Environmental Stresses and Nutrients Boston: Birkhauser.
10. O. Chandra, R.K. (ed) (1992) Nutrition and Immunology. ARTS Biomedical. St. John's New Foundland.
11. Malan, L.K & Ecott Stump, S. (2000): Krause's Food Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
12. Sizer, F & Whitney. E. (2000) Nutrition-Concepts & Controversies 8th Edition. Wadsworth Thomson Learning.
13. Whitney, E.N. & Rolfes, S.R. (1999): Understanding Nutrition, 8th Edition, West/Wadsworth, An international Thomson Publishing Co.
14. Ira Wolinsky (Ed) (1998): Nutrition in Exercise and Sports, 3rd Edition. CRC Press.
15. Shils, M.E. ; Olson, J.A. ; Shike, N. and Roos, A.C. (Ed) (1999): Modern Nutrition in Health and Disease 9th Edition, Williams and Wilkins,
16. McArdle, W.Katch, F. and Katch (1996) Exercise Physiology. Energy Nutrition and Human Performance 4th edition, Williams and Wilking, Philadelphia.



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Journals

1. Nutrition Reviews.
2. America Journal of Clinical Nutrition.
3. America Journal of Clinical Nutrition.
4. British Journal of Nutrition.
5. European Journal of Clinical Nutrition.
6. International Journal of Vitamin and Nutrition Research.
7. International Journal of Food Science and Nutrition.
8. Nutrition Research.
9. Ann Nutrition Metabolism.



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - III
PAPER - II
Clinical and Therapeutic Nutrition

Objectives

M.M. 100

The course will be enable the students to:

- Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient needs.
- Know the effect of the various diseases on nutritional status and nutritional and dietary requirements.
- Be able to recommended and provide appropriate nutritional care for prevention and treatment of various diseases.
- Orient the students with all the important state of the art methodology applied in nutritional assessment and surveillance of human groups.
- Develop specific skill to apply the most widely used method.

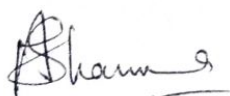
UNIT - I

(A) Role of dietitian

- (a) Responsibilities of nutritional counselor.
- (b) Communication of dietary advice, skills of communication.
- (c) Motivation of patients.
- (d) Teaching and used in dietary advice.

(B) Principles of nutritional care

- i. Nutritional care process
 - (a) Assessment
 - (b) Objectives of nutritional care
 - (c) Implementation of nutritional care
 - (d) Evaluation of nutritional care.



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(C) Nutritional intervention

1. Current methodologies of assessments of nutritional status in clinical situation their implementation and comparative application for the following
 - (a) Food consumption
 - (b) Anthropometry
 - (c) Clinical assessment
 - (d) Laboratory tests
2. Assessment of patients nutritional needs.
 - (a) Dietary calculations
 - (b) Meal exchange system
 - (c) Diet prescription
3. Diet Modification
 - (a) Adequate normal diet as bases for therapeutic diet.

UNIT - II

A. Nutritional care for hospitalized patients.

- 1) Identification of high risk patients.
- 2) Assessment of patients need based on interpretation of patient data clinical biochemical, biophysical etc.
- 3) Hospital food service.
- 4) Routine hospital diets (a) Regular (b) Light (c) Soft, (d) Fluid
- 5) Modes of feeding
- 6) External - tube feeding
- 7) Parenteral (i) Peripheral vein feeding (ii) Total Parenteral nutrition
- 8) Psychological factor in feeding the sick person
- 9) Effect of food, nutrients and nutritional status on drug dosage and efficiency.

UNIT - III

(A) Overweight and obesity

1. Definition
 - (a) Classification
 - (b) Assessment
 - (c) Causes, Physiology of obesity, mathematics of weight reduction.
2. Treatment of obesity
 - (a) Dietary management and calorie restriction plans
 - (b) Exercise
 - (c) Other approaches of weight reduction

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(B) Underweight

1. Definition
 - (a) Criterion
 - (b) Etiology
2. Treatment
 - (a) High calorie diet

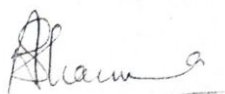
(c) Injection and fever

1. Metabolism, effect on body mechanism and classification
2. Etiology. Pathology symptoms and treatment of a
 - (a) Acute fever - viral fever, Conavirus
 - (b) Chronic fever - typhoid and TB

UNIT - IV

(A) Diseases of gastro intestinal tract causes. Pathogenesis. Symptoms and dietary management of:

- (1) Diseases of esophagus
 - (b) Achalasia
 - (c) Oesophagitis
- (2) Disease of stomach
 - (a) Indigestion
 - (b) Gastritis
 - (c) Peptic ulcer
 - (d) Esophagi tis
- (3) Disease of intestine
 - (a) Constipation
 - (b) Diarrhea
 - (c) Hemorrhoids
 - (d) Steatorrhoea
- (4) Inflammatory diseases of bowel.
 - (a) Diverticular disease
 - (b) Ulcerative Colitis
- (5) Malabosorbtion Syndrome
 - (a) Sprue
 - (b) G - IT enzyme deficiency



UNIT -V

A. Diseases of liver exocrine pancreas and biliary system Physiology Etiology, Pathogenesis. Symptoms and Management

1.
 - (a) Physiology of liver
 - (b) Diet and liver diseases

- (2) Liver diseases
 - (a) Cirrhosis
 - (b) Viral hepatitis
 - (c) Hepatic coma
 - (d) Wilson's disease

3. Disorder related to gall bladder
 - (a) Cholecystitis
 - (b) Gall stones

4. Disorders related to pancreas
 - (a) Pancreatitis

Practical: M.M. 100

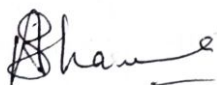
1. Calculating BMR using the Kymograph
2. Calculate the energy balance of an Individual
3. Calculate the energy carefully using the Satyanarayan Method.
4. Calculation of percent energy supplied by carbohydrate in the diet
5. To find out the high fiber products available in market and critically evaluate the content
6. Evaluation of protein quality of food preparations
 - (a) To calculate the chemical score of food item using the SAAP. PAAP reference protein
 - (b) Calculation of NDP cal% of dishes.
7. To estimate the calcium content of feces and urine and to assess the calone balance of an individual.
8. To estimate the total nitrogen intake based on the protein intake and calculate the N2 balance of and individual.
9. Dietary calculation using food exchange.
10. Planning, calculation and preparation of diets mentioned in theory.
11. Nutritional supplement, nutritional support substrats.

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References

1. Manual of Dietetics Practice - Brony Thomas
2. Nutrition in Health and Disease – Anderson
3. Normal and Therapeutic Nutrition - CH. Robinson
4. Basic Nutrition and Diet Therapy - William 10 /c
5. Nutrition and Diet Therapy - William 10 /c
6. Food Nutrition and Dietetics - URVI
7. Nutrition and Diet Therapy - Stanfield
8. Modern Nutrition in Health and Disease - Robert S. Goodhart
9. Nutrition Principles and Clinical Practices - Sara W. hunt and James.
10. Nutrition in Critical Care - Zaroga
11. Fundamentals of Clinical Nutrition 93 - Weinster
12. Dietetics - Shrilaxmi
13. Nutrition and Dietetics - Shubhangini Joshi
14. Human Nutrition and Dietetics - Davidson Passmore
15. Clinical Dietetics and Nutritional - F.P. Antia
16. Textbook of Nutrition and Dietetics - Kumud Khanna Etal
17. Mohan, L.K. and Excott Stump (2000) Krause's Food Nutrition Diet Therapy 10th Edition W.B. Saundes Ltd. Shils. M.F. Olson. J.A. Shike M. and Ross A.C. (1999)
18. Modern Nutrition Health and Disease 9th Edition Williams and Wilkins



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - III
PAPER - III
Food Science & Current Trends

Objectives: M.M. 100

This course is designed to:

- Provide an understanding of composition of various foods stuffs.
- Familiarize students with changes occurring in various foodstuffs as a result of processing and cooking.
- Enable students to use the theoretical knowledge in various application and food preparations.
- Create awareness regarding current trends, issues and researches in various aspects of food and nutrition.

UNIT - I

- (a) **Introduction of Food Science:** Development of Food Science as a discipline.
- (b) **Water and food dispersions:** Physical properties of water and ice chemical nature, structure of the water molecule.
- Absorption phenomena, types of water
 - Free and bound water

UNIT - II

- Physico chemical properties of food.
- Colloidal salts, stabilization of colloidal systems.
- Gels structure, formation and stabilization
- Emulsions; formation, stability surfactants and emulsifier.

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UNIT - III

- Starch: Structure, gelatinization methods for following gelatinization changes. Characteristics of some food starches. Effect of ingredients and conditions on gelatinization. Modified food starches
- Non - starch Polysaccharides: Cellulose, Hemicelluloses, Pectin's gums, animal polysaccharide
- Sugar and Sweeteners: Sugars, syrups, alcohols, potent sweeteners, sugar products. Alternative sweeteners. Browning
- Reactions of sugar: Caramelization, Hydrolysis; Crystallization, Indian Confectionery

UNIT - IV

Cereals and Cereal Products:

Cereal Grains: Structure and Composition

Cereal Products

Flour and Flour Quality

Extruded Foods breakfast cereals wheat germ, bulgur, puffed and flaked cereals,

UNIT - V

(a) **Milk and Milk Product:** Composition, Physical and functional properties: Denaturation, effects of processing and storage and dairy products: cultured milk, yogurt, butter, whey cheese concentrated and dried products Frozen desserts, daily product substitutes

(b) **Pulses and Legumes:** Classification, composition, denaturation non enzymatic browning and other

Practical's:MM 50

1. Effect of solutes of boiling point and freezing point of water
2. **Sugar and Jaggery Cookery:** Caramelization, crystallization factors affecting crystal formation. Preparation of standardized chikki, laddos gulabjammin, jalebi, shakarparas, chocolates,
3. **Starches, vegetable gums and cereals:** Gelatinization properties of starches, factors affecting gelatinization formation. To see the effect of soaking time on the quality of rice. To study the formation of gluten.
4. **Jams and Jellies:** Pectin content of fruits, role of acid pectin and sugar on jam and jelly formation
5. **Fat and Oils:** Flash point, melting point and smoking point. Role of fats and oils in cookery, plasticity of fats. Permanent and semi permanent emulsions. To study the effects of various factors affecting the fat absorption. Use of various types of fats (unsaturated & saturated) in cookery.

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M.Sc. (Home Science)
Food and Nutrition
IIIRD SEMESTER

PAPER IV

SCIENTIFIC WRITING & COMMUNICATION TECHNOLOGY OBJECTIVES

Marks: 100

OBJECTIVES

- To be able to appreciate and understand importance of writing scientifically
- To develop competence in writing and abstracting skills.
- To write either a draft research proposal or a chapter of dissertation

CONTENTS

UNIT-I

1. Scientific writing as a means of communication.
 - different forms of scientific writing.
Articles in journals, Research
notes Monographs
bibliographies
2. how to formulate outlines
 - The reasons for preparing outlines.
As a guide for plan of writing.
As skeleton for the manuscript.
 - kinds of outline
 - Topic outlines
 - Conceptual outline
 - Sentence outline, Combination of topic and sentence outlines.

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UNIT-II

3. Drafting titles, sub title, tables, illustrations.

- Tables as systematic means of presenting data in rows and lucid way of indicating relationships and results.
- Formatting tables, title, body tab, tab column, column head, spanner head Box, head.
- Appendices: Use and guidelines.

UNIT III

4. The writing process

Getting started

Use outline as a starting device

Drafting

Reflecting, Re-recording

Checking organization

Checking headings

Checking content

Checking clarity

Checking grammar

Brevity and precision in writing Drafting and re-drafting

Based on critical evaluation

UNIT-IV

5. Parts of dissertation /research report/article

- Introduction
- Review of Literature
- Method



As

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- Results and discussion
- Ask questions related to content, continuity. Clarity, validity, internal consistency and objectively during writing each of the above parts.

UNIT - V

Clearly state the question to be addressed
Rationale and importance of the question being addressed
Empirical and theoretical conceptualization
Presenting pilot study / data
Research proposal and time frame
Clarity. Specificity of method
Clear organization
Outcome of study and its implications
Budgeting
Available infrastructure and resources
Executive summary.

References:

1. APA (1984). publication manual of American psychological association (3rd edition), Washington: AP A
2. Cooper H.M. (1990) .integrating research: A guide for literature reviews (2nd edition). California: Sage.
3. Dunn, F.V. & others (Ed.) (1991). Disseminating research: Changing Practice NY. Sage.
4. Harman, E & Montagnes, I (Eds.) (1997) The thesis and the book. newdelhi: Vistaar.
5. Locke, L.F. and others (1987) Proposals that Work: A guide for planning Dissertations & Grant proposal (2nd Ed.) Beverly Hills: Sage.
6. Mullins, C.J (1997) A Guide to Writing and Publishing in social and

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behavioral sciences New York. John Whey & Sons. 7 Richardson L. Writing strategies
Reaching Diverse Audience, California: Sage.

PRACTICAL:

Total Marks: 50

OBJECTIVES

- To develop understanding regarding the vital aspects of communication and behaviors Audio and Visual Media and their use.
- To develop understanding regarding the new communication technologies and their use.
- To develop skills in developing using different communication technology for various presentations.

CONTENTS:

1. **Concept for communication, scope of communication, communication process.**
Approaches of communication.
2. Different media their characteristics and use.
3. Use of Video projector slide / Filmstrip projector computers.
4. Introduction to new communication technology.
 - Satellite distribution Broadcast networking.
 - Developing close circuit television package on (CCTV) Topics
 - Incorporating the use of video films in presentations i.e. the selected clippings.
 - Slide: making use of slides with audio commentaries for presentations.
 - Development and use of transparencies.
 - Digital method of communication technologies.
 - Computer graphic design.
5. **Preparation of graphics for research reports / seminars / other presentations.**
6. **Designing - Leaflets / pamphlets/Booklets/ Cover pages/Posters.**
7. **Presentations using power point.**

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M.Sc. (Home Science)
Food and Nutrition
SEMESTER-IV
PAPER I- Health and Fitness

June 2022

Marks: 100

OBJECTIVES

- Understand the components of health and fitness and the role of nutrition in these. Make nutritional. Dietary and physical recommendations to achieve fitness and well-being.
- Develop ability to evaluate fitness and will.

UNIT - I

(A) Body Composition

(1) Methods

- (a) Chemical analysis.
- (b) Nutritional anthropometry
- (c) Skin fold Thickness
- (d) Body density
- (e) Dilution Technique
- (f) ^{40}K Analysis
- (g) Other methods: Concept

(2) Compositional changes concept

- (a) Human foetal development
- (b) Material weight gain-Distribution composition
- (c) Compositional changes between birth and maturity
- (d) Compositional changes with weight changes: Physical activity, Obesity.

(B) Holistic approach to the management of fitness and health: Nutrition, Exercise, Physical fitness and health inter-relationship

- (a) Energy input and output
- (b) Diet and Exercise
- (c) Importance of yogic practices to increase the lungs vitality

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UNIT - II

- (A) Effect of specific nutrients on work performance and physical fitness shifts in carbohydrate and at metabolism, mobilization of fat stores during nutrition in sports: Sports specific requirements. Diet manipulation. Pre-game and Post game meals.

UNIT - III

- (A) **Water:** Regulation of intra and extra cellular volume osmolality, water balance and its regulation. Water electrolyte losses and their replenishment during exercise and sports events, effects of dehydration, importance of sports drinks
- (B) Diet for persons with high energy requirements stress and starvation.

UNIT - IV

- (A) Defining nutrition goals/guidelines appropriate to health, fitness and Prevention and management of Chronic degenerative disease diabetes mellitus CV disorders, bone, health and cancer
- (B) Nutrition and exercise regimes for management of obesity. Critical review of various dietary regime for weight and fat reduction. Prevention of weight cycling.

UNIT - V

- (A) Nutrition and exercise regimes for pre and post natal fitness.
- (B) Alternative systems for health and fitness like ayurveda yoga, meditation, vegetarianism and traditional diet.
- (C) Nutrition Management in special conditions: Space travel, high altitudes, low temperatures submarines.

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Semester wise syllabus for Postgraduates
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4. World Reviews of Nutrition and Dietetics.
5. WHO Technical Report Series.
6. Indian Council of Medical Research. Recommended Dietary Intakes for Indians Latest Recommendations.
7. Indian Council of Medical Research. Nutritive Value of Indian Foods Latest
8. Berdanier, C.D. and Hargrove, J.L. (ed) (1996): Nutrients and Gene Expression: Clinical Aspects. Boca Raton FL CRC Press.
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14. Shils, M.E.; Olson, J.A.; Shike, N. and Roos, A.C. (ed) (1999): Modern Nutrition in Health and Disease, 9th edition, Williams and Wilkins.
15. McArdle, W. Katch, F. and Katch (1995) Exercise Physiology. Energy Nutrition and Human Performance 4th edition, Williams and Wilking Philadelphia, Mahan.

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Journals

1. Nutrition Reviews
2. America Journal of Clinical Nutrition
3. British Journal of Clinical Nutrition
4. European Journal of Clinical Nutrition
5. International Journal of Vitamin and Nutrition Research
6. International Journal of Food Science and Nutrition.

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Department of Higher Education, Govt. Of M.P.
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M.Sc. (Home Science) 45

Food and Nutrition

SEMESTER - IV

PAPER - II - Clinical & Therapeutic Nutrition

Objectives M.M. 100

1. Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patients need.
2. Know the effect of various diseases on nutritional requirement and nutritional status.
3. Be able to recommend and provide appropriate nutritional care for preventions and treatment of various diseases.
4. Orient the students with all the important state of art methodology applied in nutritional assessment and surveillance of human groups.
5. Develop specific skills to apply the most widely used methods

UNIT - I

A. Nutritional care in Cardio - vascular disorders.

1. Hypertension

- a) Definition
- b) Criterion
- c) Types
- d) Causes
- e) Nutritional Management
- f) Drugs.

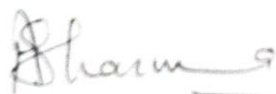
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Department of Higher Education, Govt. Of M.P.
Semester wise syllabus for Postgraduates
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2. Hyperlipidemia
 - a) Lipo Proteins and their metabolism
 - b) Classification of hyperlipidemia
 - c) Clinical and nutritional aspects of hyperlipidemia
 - d) Dietary Care
3. **Coronary Heart Disease (CHD)**
 - a) Atherosclerosis
 - i. Etiology
 - ii. Pathogenesis
 - b) Risk factors associated with CHD
 - c) Management of CHD
 - i) Dietary Management
 - ii) Exercise
 - d) Prevention of CHD

UNIT - II

- (a) **Cerebrovascular disorder and nutritional management**
 - a. Pathogenesis
 - b. Etiology
 - c. Nutritional
- (b) **Diet in Disease of endocrine pancreas**
 - (a) Etiology
 - (b) Classification
 - (c) Symptoms and diagnosis
 - (d) Management clinical vs. Chemical control
 - (e) Insulin Therapy
 - (f) Oral hydroglycemic drugs
 - (g) Glucose monitoring at home
 - (h) Dietary care with and without insulin
 - (i) Specific Diabetic food
 - (j) Sweetness and sugar substitutes
 - (k) Diabetic coma
 - (l) Insulin reaction
 - (m) Patient education



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UNIT - III

A. Nutritional care in Hypoglycemia

- (1) Hypoglycemia
 - (a) Symptoms
 - (b) Types
 - i. Reactive Hypoglycemia
 - ii. Idiopathic Hypoglycemia
 - (c) Dietary treatment

B. Nutritional care for patient with disease of Kidney

- 1) Review of physiology and function of normal kidney
- 2) Nephritis
 - (a) Classification
 - (b) Etiology
 - (c) Characteristics
 - (d) Nutritional care and management

C. Nephritic syndrome

- (a) Etiology
- (b) Characteristics
- (c) Nutritional care and management

D. Acute and Chronic renal failure

- (a) Etiology
- (b) Types
- (c) Nutritional care and management

UNIT IV

Nutritional care for patients having surgery and burns

A. Surgery

- 1) Pre operation nutritional care
- 2) Post operative nutritional care
 - (a) Gastric surgery
 - (b) Gall bladder surgery
 - (c) Colon surgery
 - (d) Tonsil surgery
 - (e) Oesophagus surgery



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B. Burns

1. Fluid and electrolyte replacement
2. Nutritional care
3. Rehabilitation

C. Cancer

- (1) Dietary factors and cancer causation
- (2) Cancer treatment: Radio therapy, surgery and chemotherapy
- (3) Alternative or complementary diets
- (4) Prevention

UNIT – V

Nutritional care HIV immune suppressed patients and management of infancy and childhood nutritional problems.

i. HIV diseases and AIDS

- (a) Nutritional problems associated with HIV diseases
- (b) Role of diet and nutritional support

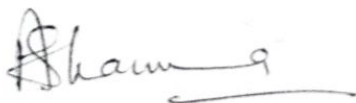
ii. Diets for immune suppressed patients

iii. Nutritional management of

- (a) Kwashiorkor
- (b) Marasmus
- (c) Vitamin A deficiency

iv. Latest researches and concepts in management of various life style problems. Practical: M.M. 100

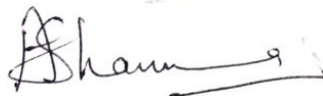
1. Planning calculation and preparation of diets mentioned in theory.
2. Interpretation of patient data and diagnostic test and drawing up of patient diet prescription using a case study approach
3. Follow up acceptability of diet prescription, compliance, discharge diet plan,
4. Preparation of diet counseling aids for common disorders.
5. Spotting



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2. Nutrition in Health and Disease – Anderson
3. Normal in Therapeutic Nutrition - CH. Robinson
4. Basic Nutrition and Diet Therapy - William 10 /c
5. Nutrition and Diet Therapy - William 10 /c
6. Food Nutrition and Dietetics
7. Nutrition and Diet Therapy - Stanfield
8. Modern Nutrition in Health and Disease - Robert S. Goodhart
9. Nutrition Principles and Clinical Practices - Sara W. hunt and James.
10. Nutrition in Critical Care - Zaroga
11. Fundamentals of Clinical Nutrition 93 - Weinster
12. Dietetics - Shrilaxmi
13. Nutrition and Dietetics - Shubhangini Joshi
14. Human Nutrition and Dietetics - Davidson Passmore
15. Clinical Dietetics and Nutritional - F.P. Antia
16. Textbook of Nutrition and Dietetics - Kumud Khanna Etal
17. Mohan, L.K. and Excott Stump (2000) Krause's Food Nutrition Diet Therapy 10th Edition W.B. Saundes Ltd.
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M.Sc (Home Science)
Food and Nutrition
Semester – IV
Paper-III
Food Science & Current Trends

Objectives: MM.100

This course is designed to:

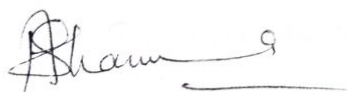
- Provide an understanding of composition of various food stuffs.
- Familiarize students with change occurring in various foodstuffs as a result of processing and cooking.
- Enable students to use the theoretical knowledge in various application and food preparations.
- Create awareness regarding current trends, issues and researches in various aspects of food and nutrition.

UNIT-I

- a. **Enzymes:** Nature of enzymes, stability and action. Proteolytic enzymes, oxidases, lipases decomposing carbohydrates and application Immobilized enzymes.
- b. **Meat and Poultry:** Muscle compositing, Characteristics and structure. Post mortem changes. Processing, Preservation and their effects. Heat induced changes in meat. Variables in meat preparation. Tenderizers. Meat Products

UNIT-II

- c. **Eggs:** Structure and composition. Changes during storage. Functional properties of eggs use in cookery. Egg Processing. Low Cholesterol egg substitutes.
- d. **Fish and Sea Food:** Types and composition, Storage and changes during storage changes during processing. By products and newer products.



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Semester wise syllabus for Postgraduates
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UNIT - III

- A. **Fats, Oils and Related Products:** Nuts and Oils seeds, Sources Composition, Effects of Composition on fate properties. Functional properties of fat and uses in food preparations. Fat substitutes Fat deterioration and antioxidants.
- B. **Fruits and Vegetables:** Plant anatomy, structure and composition, enzymes in fruits and vegetables, flavor constituents. Plant phenolics, pigments Post harvest changes. Texture for fruits and vegetables. Effects of storage processing and preservation.

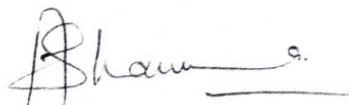
UNIT - IV

- e. **Leavened Products:** Leavening agents, Biologically leavened and chemically leavened products. Batters and dough.
- f. **Salt and substitutes.**
- g. **Spices and Condiments:** Composition, Flavoring extracts natural anti synthetic, Importance of ORAC (Oxygen Radical Absorbance capacity) value in spices.

UNIT - V

(A) Biotechnology in Food:

- Algae as food spirulina
- Organic food
- Nutraceuticals
- Low cost nutrients
- Supplement
- Space foods
- Food irradiation
- Packaging of foods
- Food safety and Standards, Quality Standards Entrepreneurship
- Entrepreneurship Management



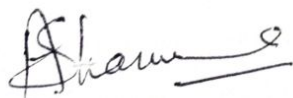
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Practical:

M.M. 50

Food Science

1. **Milks and Milk Products:** Scalding denaturation. Effect of acid salt, alkali, sugar, heat, enzymes, Rasgullas, Khoa, curd, paneer, Cheese (Ripened and unripened). Effect of fermentation on milk proteins.
2. **Egg:** Emulsion, thickening. Binding, gelling, Method of egg cookery and effects of heat. Egg white foams and factors and factors affecting foams. Determination of the egg coagulation at different temperature. Effect of cooking time on color, texture and acceptability of whole egg. Effect of cooking method on coagulation property of eggs. Effect of different factors on the gelation temperature and consistency of egg custard. Effect of temperature on the stability of natural emulsion. Effect of adding sugar and acid on the stability of milk emulsion. Preparation of mayonnaise using different variations and determining the best method of preparing a stable emulsion. Effect of salt, acid, sugar and fat on the consistency of egg white foam. Demonstrate the effect of foaming on the volume and texture of omelettes. Effect of foaming on the quality of hot and cold souffles. Effect of yolk contamination on the volume and texture of angel cake. Effect of foaming on the quality of hot and cold souffles. Effect of yolk contamination on the volume and texture of angel cake.
3. **Pulses:** Effects of various cooking and processing methods on various characteristics. Functional properties of pulses and their products. Time, temperature and water required for whole pulses and legumes. Time temperature and water required for sprouting whole pulses and legumes. Effect of cooking on whole and split pulses and legumes.
4. **Meat and Poultry:** Methods affecting tenderness of meat, effect of various methods of cooking and ingredients on color, volume texture flavor, aroma and water holding capacity.
5. **Gelation:** Gelation, get strength and factors effecting gelation. Ability to foam.
6. **Leavening agents:** Use of Leavening agents cookery.



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M.Sc. (Home Science)
Food and Nutrition
SEMESTER - IV
PAPER - IV (Optional)
Nutrition and Health of Women
UNIT - I

Women in family and community:

- (A) Demographic, Changes, Menarche, Marriage Fertility Morbidity, Morality, Life Expectancy, Sex Ratio, aging and Widow hood female headed families.

(B) **Women and Work:**

Environments Stress, Production Activates, Nutrition, Health and Gender, Living Condition, Occupational Health, Health Facilities

UNIT - II

- (A) Current Nutrition and Health Status of Women and Children in India
(B) Policies and Programmes for Promoting maternal and child nutrition
(C) Changing concepts and controversies in Maternal and Child Nutrition


UNIT - III

- (A) Women's role their resource and contribution to family and community and effect on nutritional status.
(B) Effect of urbanization on women.
Impact of economic policies. industrialization, and globalization women.
(C) Concept of small family, methods of family planning, merits and demerits

UNIT - IV

Women and Health

- Health Facilities



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- Gender and Health
- Health seeking behavior
- Women and AIDS

Women and Nutrition

Situation of women in global and local context

Improving the Nutritional and Health Status

Interventions through the life cycles.

UNIT – V

A) Policies and Legislations.

CEDAW (Conventions on Eliminations of all forms of Discriminations Against Women)

WRLH (Women's Right to Life and Health)

B) Empowerment of women

Role of Education and various National Schemes.

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M.Sc. (Home Science)
H.D./F.N./T.C./R.M./Ext. Edu.
SEMESTER - IV
PAPER - IV (OPTIONAL)
Mass Communication

MM50

Objectives

- To understand the importance of communication
- To develop skill and communication ability
- Importance of audio - visual aids in communication

UNIT - I

- Concept of communication
- Elements and process of communication
- Functions of communication
- Non verbal Communication sign, Gestures, Body movement
- Verbal communication Language and written communication

UNIT - II

- Types of communication Intra personal, Inter personal, Group communication and mass communication
- Feedback in communication
- Characteristics and method of feedback
- Elements of effective communication
- Barriers to communication

UNIT - III

- Print Media-Origin, development characteristics of news paper
- News agencies- United News of India (UNI)
- Press Trust of India (PTI) Reuter, tass and etc.
- Magazine - Format. Types and organization
- Concept of news, values, sources of news.
- Structure of News Report
- Features article, Editorial

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UNIT - IV

- Radio - Origin, development and characteristics of Radio.
- Radio as a mass medium
- Radio news, radio features.
- Various types of Interview.
- Folk Media.

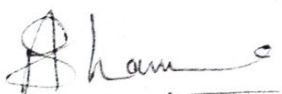
UNIT - V

- Television - origin, development and characteristics of television
- T.V. News
- Contribution of T.V. in Social Development
- Film Origin Development of India film
- Socio - cultural effects of film as mass medium. Censorship
- using film for extension.

M.M. 50

Practical:

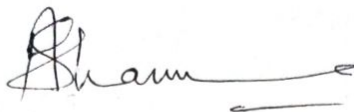
1. Operation of various projectors
 - (b) OHP
 - (c) Slide
 - (d) Tape recorder
 - (e) VCR
 - (f) CD Player
 - (g) Computer
2. Preparation of
 - (a) Visual non projected materials
 - (b) Booklets
 - (c) Pamphlets
 - (d) Invitations
 - (e) Posters
 - (f) Manuals
 - (g) Cover pages and Posters
 - (h) Preparation of print advertisement
3. News script for TV Ratio and Newspaper
4. Visit mass media centers and slum area.
5. Seminar
6. Term paper



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References

1. Denis Macwell - Mass Communication Theory & Introduction
2. C.S. Rayud - Communication
3. KM Shirvastava - Radio and T.V. Journalism
4. M.V. Kamath - Professional Journalism

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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
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M.Sc. Home Sc.
Extension and Communication
Semester-I 20/3-15
~~20/3-15~~
Paper-I
Extension Education System

SCAL 50

Objectives:-

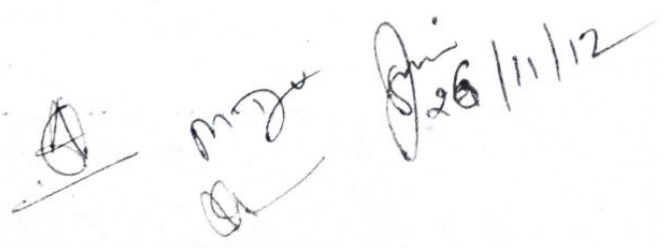
- To enable students -
- To understand the meaning concept of extension education
- To get acquainted with the trends in extension approaches.
- To understand the support system development for extension education.

Content and Extension education-

1. Aims, philosophy, objectives, functions and components of Extension Education.
2. Process and principles of learning in extension education.

Unit 1:-

- 1.1. History of Extension Education
- 1.2. Role of Extension Education.
- 1.3. Role of Extension Education in development.


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M.Sc. Home Sc.
Extension and Communication
Semester-I
Paper-II
Development Communication

M.M. 50

Objectives:

Students may able to understand:

Concept of communication and its relevance to fastening development.

Skills and knowledge about the relevance, potential and use of various

media in development communication.

Emphasis: On design of communication strategy involved in development communication.

Unit -I

Communication

Definition and process of communication

Communication and Media.

Use and use of communication process in media.

Various types of media for communication.

Intra and interpersonal communication.

Communication and society personal vis social communication.

Communication Models of mass.

Development

Definition, basic concept, nature, elevation, significance, function and disfunction of development.

Dimensions of development.

Indicator of development: HDI (Human development Indicator)

Gender empowerment, measurement of HPI (Human Poverty Index), GDI (Growth Development Index)

Models of development-

a) -Economic growth model.

b) -Social equity model

c) -Participatory model

Media and development.

Directions in development.

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M.Sc. Home Sc.
Extension and Communication
Semester-I
Paper-III
Community Health Management

M.M.50

Objectives:-

- To Understand the concept of health & health indices popularly used.
- To realize the health problems of the community and the scientific intervention.
- To know the supportive services and programme for community & health management.
- To get sensitized to management information system in health.

Unit-I

(A) Concept of Health and Health care

Concept of health and positive health, definitions of health. Health, disease continuum, factor affecting health, health as a human right. Concept of community health and global health, health for all. Primary health care, definitions, principles, components, comprehensive health care, levels of prevention, , concept of reproductive health-ICPD declaration.

(B) Health and Development Indices

Health indices and related indices in community health, fertility indicators, vital statistics mortality, morbidity indicators, demographic indicators-sex ratio, indicators for social and mental health, Human Development Index, Disability Adjusted Life years (DALY) Reproductive Health index.

Unit-II

(A) Assessment of Nutritional Status

1. Nutritional assessment as a tool for in improving the quality of life of various segments of the population including hospitalized patients.

2. Current methodologies of assessment of nutritional status. Their interpretation and comparative application of the following:

- -food consumption
- -Anthropometry
- -Rapid assessment & PRA

3. Nutritional surveillance -basic concepts used and setting up of surveillance systems.

4. Monitoring & Evaluation

(B) Health needs of special groups-

Women, Infants, Children, Health of adolescents, geriatric health needs and problems, tribal population urban and rural poor, Migrant & refuge populations, Major Health problems in

M.D. 26/11 2011

Communicable and non-communicable disease. Population problems and its impact, issues of malnutrition, reproductive health problems.

III

Health Care Services- Health administrative set-up, peripheral, state, national- urban & Role of NGOs, National Health Programmes.
Survival and safe motherhood reproductive and child health programme.

Regional and International health agencies.

sectoral co-ordination in health and development.
Information, education, communication.

IV

Management Information System in Health

Basic epidemiology, health screening, health regulations and act, health legislations international health regulations.
Census, sample registration system, national family health surveys.
Evaluation of health services, health system research.

Planning an Adaption, Principles of adaptability Audience Response & Cost of Malnutrition, Cost of Malnutrition, cost effectiveness, affordability and measuring benefits.

Community

Definition concept and characteristics of a community.
Structure and organization of different types of communities tribal, and urban: nature and interrelationship of socio-economic and influences in different communities.
Norms, Mores and customs of different communities.

Groups and organizations

Concept, types, characteristics of different social group, interests, attitudes and motivations for affiliation.
Dynamics of social group interactions in different types of communities-family and friendship groups, class and class based groups, interest groups and associations.

R.P. (1993), Primary Health care Vol-I-3 Gandhigram Institute of Rural Health and family welfare trust Ambathurai.

(2000) Textbook of Preventive & Social Medicine Mis Bansrsidas Bhanot: J

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Semester wise syllabus for Postgraduates
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M.Sc. Home Sc.
Extension and Communication
Semester-I
Paper-IV
Research Methods and Statistics

M.M.50

OBJECTIVES:

To understand the significance of statistics and research methods in home Science

To understand the types, tools and the methods of research and develop the ability to

select the data gathering instruments appropriate to the Research design,

To understand and apply the appropriate statistical teaching for the measurement and

— 1

Meaning of research: meaning objectives and significance of research.

Scientific methods, scientific approach.

Statistics and research in home Science discipline.

Types of Research: Historical, descriptive, experimental, case study, Social research
Evaluation research.

— 2

Formulation and identification of a research problem.

Justification, justification and limitation of research problem

Hypotheses - meaning nature, characteristic, types and function of hypothesis

Variables: meaning, nature, type and selection of variables.

— 3

Sampling methods -

Population and sample

Probability and semi probability sampling - simple random, systematic random sampling,

Multi stage and multi stage sampling, cluster sampling.

Non probability sampling: purposive, quota and volunteer sampling

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M.Sc. Home Sc.
Extension and Communication
Semester-II 2013-15
Paper-I
Extension Management

M.M. 50

Objectives:-

1. To enable students -
2. To understand the concept and process of management realize the importance of management for achieving organizational goals.
3. Apply the principle of management to the management of extension organization / services.

Unit -I

Concept of extension management-

- Definition, nature & need of extension management.
- Steps of extension management process.
- planning-Meaning, types of plan, elements of planning, process of planning.
- Decision making and forecasting.

Unit -II

Organization

- Meaning, importance and principles of organization.
- Meaning and forms of organizational structure.
- Delegation of authority-Meaning and principles.
- Authority and responsibility-Centralization and decentralization,
- Co-ordination- Meaning and objectives.
- Staffing-Meaning and selection.
- Training-Meaning and types.
- Performance appraisal-Meaning and methods.

Unit -III

Directing & controlling-

- Directing- Meaning and importance.
- Motivation -Meaning, importance and techniques.
- Communication-Importance, types and barriers.

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M.Sc. Home Sc.
Extension and Communication
Semester-II

Paper II-COMMUNICATION TECHNIQUES IN EXTENTION
(COMPUTER GRAPHIC DESIGNING)

M.M. 50

Objectives:

1. To impart knowledge and understanding of various communication systems through computer.
2. To impart skill in preparation of various Computer Aided Media messages.
3. To understand the concept of communication and its relevance to multimedia.
4. To impart knowledge about the processes involved in communication with special emphasis on computer graphic designing.
5. To develop computerized material for different media-newspapers, T.V. websites etc.

UNIT -I

1. Introduction to Basics of Computers.

- (a) Components of computer.
- (b) Memory and storage devices.
- (c) Creation of new document, saving and formatting & editing.
- (d) Creation of pictures, adding picture to document, clipart, word art.

2. Introduction to MS Power point.

- (a) Creating presentation, adding slide to presentation.
- (b) Using clipart, word art and graphic in slide.
- (c) Adding transitions and animation effects, setting time for slide show and preparing hand outs.

UNIT -II

1. Introduction to Multimedia

- (a) Concept, application & Advantages of Multimedia in Business, school, home, Public places, Virtual Reality.
- (b) Multimedia Building Blocks: Text, Sound Images, Animation, Video
- (c) Multimedia and internet, E-mail, Home Page, Websites.

2. Introduction to CD ROM

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11. Visits to computer institutions.

References:

1. Multimedia Course A to Z by Hemant Kumar & Anurag Goyal.
2. Multimedia (Illustrated) by Singh and Singh.
3. Computer Graphics by Pokony
4. Introduction of Computer by Krishasnmurthy
5. Fundamentals of computer P .K. Sinha
6. Computer Application by P. Mohan
7. Computer System Today by Basandra.

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Unit-III

(A) Environment and Public Health

- Environment/Pollution and community health.
- Air borne diseases..
- Chemical insecticides and its impact on health.
- Toxic action of metals and biological substances.

(B) Land and Water Resources of the Earth

- Land resources of the earth
- Water resources of the earth
- Factors affecting changes in ecosystem and environment (Socio-Economic, Cultural & Geographic) .
- Water borne diseases.

Unit - IV

(A) Waste Management.

- Types of waste
- Methods of waste management
- Water pollution and treatment of waste.
- Solid Waste Management.

(B). Environment Control .

- Environmental legislations
- Environment policies.
- Human rights issues relating to environment.
- Environmental ethics
- Women & environment.
- Role of local municipal authority, government and non-governmental agencies in promoting better health environment.

Unit-V

(A) Dynamics of change in community

- Social Organisations-family, schools, co-operatives and other organizations and their role in community
- Religion, socio-political ideologies, imperialism, mass media and communication.
- Globalization and their impact on community.
- People's participation, concept, types and barriers to participation in bringing about social change, based on analysis of participation for development.

References :-

1. Amit Khanna De (1998): Sustainable Development and Environment: Vol. 1 Casmo Publishers, New Delhi.
2. Basu, R.N. (2000): Environment, University of Calcutta. ~
3. Bhatia, H.S. (1998): A textbook on Environment Pollution & Control, New Delhi.

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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
As recommended by Central board of Studies and
Approved by HE the Governor of M.P.

M.Sc. Home Sc.
Extension and Communication
Semester-II
PAPER- IV
STATISTICS & COMPUTER APPLICATION

Marks : 50

OBJECTIVES

- To understand the role of statistics and computer applications in research.
- To apply statistical techniques to research data for analysing and interpreting data meaningfully.

Note : Special instructions should be send to paper setter to set one theoretical question and its option should numerical question.

UNIT - I

- Classification and tabulation of data.
- Graphic presentation, Frequency distribution, Histogram, frequency, polygons, Ogive
- Average of position in individual, discrete and continuous series.

UNIT-II

- Normal distribution - Characteristics, deviation from normality -
- Measures of variability - range quartile deviation, Mean Deviation, Standard Deviation or SD.

UNIT-III

- Testing of hypothesis, Type I and Type II errors.
- Non parametric Methods Chi-square test, Application of student T test for Small samples. Difference in proportion for means and difference in means - Critical ratio.





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Reference:

- Garrett, Henry E. (1971) Statistics in Psychology and education, David Heley and Co.
- Edwards : Experimental Design in Psychological research
- Kerlinger: Foundation of Educational Research.
- SPSS/PC for the IBM PC/Xt. SPSS Inc.
- Goyal Mathematics statistics.
- Levin Statistics for Management.
- Yule An Introductory to the theory of statistics.
- Moud Introduction to the theory of statistics,
- Freund Mathematical statistics.
- Nag Mathematical statistics.
- Patri Statistical Methods.
- Choundan Statistics for Business and Economics
- Singh Principal of Statistics.
- Thamligom research methodology,
- Kothari research methodology.
- Agrawal Basic Statistics.
- Sankhyaki ke mule sidhant (Hind) Or. H.K. Kapil.
Sankhakiya vidhiya wayvhar park vigyano mai by Dr. S.P Gupta.
Fundamental of research Keriliger
- Anusandhan Vidhiya By Parasnath.

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Unit-V

Industrial and Agriculture Sector

- Industrial development and diversification.
- Industrial policies, their importance, and new Industrial policies.
- Indian agriculture- characteristics, reasons for low agriculture, improvement in price and credit policies.
- National agriculture policies.

Reference: .

1. AhkJwalia

, MS (2000): India's economic reforms and development. oxford university press.

2. Bhattacharya B: urban development in India. Shree Publishing House, Delhi.

3. Bose Ashish: India's urbanization. Institute of Economic GrafJih. Delhi University,

4. Bur.ara JF. Patterns of Social Life in Metropolitan Areas.

5. Das Ram: Socio-economic Transformation of Ivllilions Through Rural Development. 2191 Century pubtishers, Meerut.

6. Desai Vasant (1988): Rural Development, Himalayan Pubushing House, Bombay.

7. Dreze J and Sen.AJ((1995). In~i~,economic Developing and Soci;tf Opportunity. Oxford Unive~ityPress.

8. Gulati A: Indian agriculture and Open Economy.

9. Hussain N: TliballIndia Today, Harman Pub~shing House.

10. Krishna KL: Industrial Groollth and Diversification. M 8 Nanavati and Anjna, JJ: Indian Politics.

11. SenAK: GrolllJth Economics.

12. SinghAK: Tribal Development in India. Amar Prakashan Delli.

Journals:

1. Economic and Political Weekly.

2. Rural Development Journal.

3. Kurkshetra, PubUcation of Development, Govt of India, Nelt Delhi.

REFERENCES

1. WARD: JI~XPERIMENTAI DESIGN IN PY(HOLOGIG'AI, RESEAR(U

2. GARRETT HENRY E., 1971 : STATISTICS IN PSYCHOLOCY ,AND I'DITC'ATION, DA""JD HALEY & Co.

3. KERJ...INGER; }'OUNDATION Off' EDUCATIONAL RESEARCH t

4. IUUATHI.GAR, G L., 1990; RESEARCH METHODS AND MEASUREMENTS L~ nJI:U;VIOURAI, AND SOCIAL SC'IENCE. AGRI-COLE PUBLISHING ACADEMY, NEW DELHI I

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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
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M.Sc. Home Sc.
Extension and Communication
Semester- III
Paper-II
Program Design and Evaluation

Objectives: -

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To enable students-

- To understand the process of programmed planning.
- To develop ability in planning extension programmed.
- To be aware of the overall goals designing programmed.

Unit -I

Concept of programme planning-

- Meaning and importance of programmed planning in extension.
- Purpose of programmed planning.
- Principle of programmed planning.
- Programmed development cycle.

Unit-II

Essentials for programmed planning-

- Components of programmed planning. Characteristics of a good programmed.
- Agencies responsible for programmed planning in extension.
- Abilities needed by planner.
- Programmed projection, difference between programmer projection and programmer planning

Unit -III

Plan of work-

- Developing plan of work-Concept and importance.
- Format of plan of work.
- Elements of the plan of work.
- Pre-Requisites for developing plan.
- Guideline for developing plan of work.
- Criteria for judging the plan of work.

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M.Sc. Home Sc.
Extension and Communication
Semester- III
Paper-III
Social Advertising and marketing

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Objectives

- To make the student aware of different market organizations in our country.
- To understand market functioning and distribution system in our country.
- To understand the process of social marketing and social advertising.
- To cable the students to COM save with commercial and marketing a produces.
- To understand the theory of marketing and approaches of social marketing.
- To understand the role of advertising is sale promotion.

Unit I

Advertising:-

1. Definition & Meaning of advertising
2. Nature and role of advertising
3. objective of advertising
4. Characters of advertising
5. Social Advellising -need and scope and approaches.
6. Ethic of advertising
7. Advertising Agencies.
8. Legislation

Unit II

(1) Classification of Advertising

- a) Product Advertising
- b) Institutional Advertising
- c) Primary demand Advertising
- d) Selective
- e) Comparative

d. Consumer Protection.

REFERENCE:

1. Neural emu (1994) Development communication Harvarl publications.
2. Neelameghar, S (1988) marketing in India. Cases and readings, Vikas publishing house Pvt .Ltd. New Delhi.
3. Barger A.A. (1991) script writing for Radio and Television, Sage publication.
4. Mehta Subhash e (1980) Marketing envirc:ment concepts and cases, Tata Megraw hill publishing co. ltd. New Delhi.
5. Lapinsking Mania Kunjhat willie kim (1998) Health and communication campaigns, Greenwood press, Green wood publication group.
6. Kotlar Philip and Roberto eEduardo (1989) social marketing Strategy for ..changing public behaviour the free press Macmil'an Inc. New yourk.
7. Bhasin K. and Aggrwal B. (1984) women Development and Media New Delhi.
8. Golbberg, M (1997) social marketing theoretical and practical perspective, Lawrence Erratum Associates London.
9. Yadav, I.S. and Mohnot Abhilasha (1993) Advertising and social Responsibility: Vol. I content analysis Dept. of communication search, II mc New Delhi.

- Ontakki C.N. (1992) Marketing management, Kalyani Publisheres, Rajender Nagar Ludhiana.
- Gupta C.b & Wair N. Rajan (1996) Marketing Management, sultan chand & sons 23 Daryaganj New Delhi.
12. Saxena S. C. Principles & Practice of Management Sahitya Bhawan : Agra.
 13. Sharma R.K. & Gupta K. Shashi. (2000) Business organization, Kalyani Publishers 8-1/1292, Rajinder Nagar Ludhiana.
 14. Verma K: C. (2001) S. K. Dutta, Associated publishing co. 8798/7, Rani Jhansi Road post Box No. 2679 Karol Bagh New Delhi.

Practicals III Semester

M.M. 50

- 1) Collect samples of social and commercial advertisement across different media and study the differences and similarities in terms of strategy appeal, content, presentation treatment and media.
- 2) Study the trends in social advertising on different mass media- Print, T.V., Radio, Video in terms of issues covered repeat value, content presentation target group adversity etc.
- 3) Preparation of visual Non projected materials.

- a) Booklets
- b) Pamphlet/leaflets
- c) Invitations
- d) Posters
- e) Manuals

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Department of Higher Education Govt. of M.P.
Semester Wise Syllabus for Undergraduates
As Recommended by Central Board of Studies and
Approved by HE the Governor of M.P.

✓ Extension communication
RESOURCE MANAGEMENT

M.Sc. - IIIRD SEMESTER ✓
COURSE - ~~XII~~ IV Paper

✓ SCIENTIFIC WRITING & COMMUNICATION TECHNOLOGY

2014-15

100
Marks 150

OBJECTIVES

- To be able to appreciate and understand importance of writing Scientifically
- To develop competence in writing and abstracting skills.
- To write either a draft research proposal or a chapter of dissertation

CONTENTS

UNIT - I

1. Scientific writing as a means of communication.
 - different forms of Scientific writing.
Articles in journals, Research notes Monographs, bibliographies.
2. How to formulate outlines
 - The reasons for preparing outlines.
As a guide for plan of writing.
As skeleton for the manuscript.
 - Kinds of outline
Topic outlines
Conceptual outline
Sentence outline, Combination of topic and sentence outlines.

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UNIT - II

3. Drafting titles, sub title, tables, illustrations.

- Tables as systematic means of presenting data in rows and lucid way of indicating relationships and results.
- Formatting tables, title, body stab, stab column, column head, spanner head Box, head.
- Appendices : Use and guidelines.

UNIT III

4. The writing process

Getting started

Use outline as a starting device

Drafting

Reflecting, Re-recording

Checking organization

Checking headings

Checking content

Checking clarity

Checking grammar

Brevity and precision in writing Drafting and re- drafting based on critical evaluation,

UNIT IV

5. Parts of dissertation /research report /article

- Introduction
- Review of Literature
- Method

- यथा-यथा

- यथा-यथा

- methodology

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behavioral sciences Neu York . John Whey & Sons. 7 Richardson L.
Writing strategies . Reaching Diverse Audience , Ca'lifornia: Sage.

PRACTICAL :

Total Marks : 50

OBJECTIVES

- To develop understanding regarding the vital aspects of communication and behaviors Audio and Visual Media and their use.
- The develop understanding regarding the new communication technologies and their use.
- To develop skills in developing using different communication technology for Various presentations.

CONTENTS :-

1. Concept for communication, scope for communication, communication process. Approaches of communication.
2. Different media their characteristics and use.
3. Use of Video projector slide/Filmstrip projector computers.
4. Introduction to new communication technology.
 - Satellite distribution Broadcast networking.
 - Developing close circuit television package on (ccTV) Topics
 - Incorporating the use of video films in presentations i.e. the selected clippings.
 - Slide : making use of slides with Audio Commentaries for presentations.
 - Development and use of transparencies.
 - Digital method of Communication technologies.
 - Computer graphic design.
5. Preparation of graphics for research reports/seminars/other Presentations.
6. Designing - Leaflets / pamphlets / Booklets / Vover pages / Posters.
7. Presentations using power point.

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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
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M.Sc. Home Sc.
Extension and Communication
Semester- IV
Paper-I
Women. And Gender development

Objectives

To enable studiers:

- To understand the concept, need, relevance and dimensions of gender empanelment.
- .To get sensitized to gender disparities! Imbalances and problems of women.
- .To understand the efforts a different levels for ferment of women.
- .To non the support system in the country for women development

Contents

Unit 1 Gender Development

- .Concept of gender, gender role and structure.
- .Gender development index.
- . Changing trends.

.unit-2 Status of women.

- .Status- situational analysis.
- .Education, employment, health , political changing scenario.
- .Portrayal of women in mass media.

Unit - 3

Violence against women.

Dowry, favored, female feticide and infanticide.

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- .Domestic violence, sexual harassment and exploitation.
- .Efforts for elimination of all forms of discrimination.

Unit - 4 Women Empowerment

- .Economic, Empowerment poverty eradication, micro-credit, self help groups.
- .Women in agriculture and industry.
- .Social empowerment- education, nutrition, drinking water, housing, sanitation and environment.
- .legal empowerment- legal literacy, family law and family control and legal centers.
- .Political empowerment role of panchayats.

Unit - 5 Policies And Programs For women And Gender Development

- .National policies for empowerment of women.
- .perspective, mainstream.
- .Support system- role and functions of women and child development department.
- .Central and State Social Welfare Boards.
- .National commission for women and women Development Corporation.

References:

1. Black M (1933): Girls and women, A UNICEF Development Priority, UNICEF New York.
- Country Report (1986): Department of woman and child development. Government of India; New Delhi.
- Desai N (1986). Indian Women-Challenge and Change to International Women's Decade.
- Laxmi Devi (1998), Women and Development. Institute for Sustainable and Anmol Publications Pvt Ltd; New Delhi.
- National Perspective Plan for women (1983): Department of Women and Child Development, New Delhi.
- Sahay S (1998): women and Empowerment: Approaches and Strategies. Discovery Publishing House, New Delhi.
- Sharma (ed) Women's Development Problems and Prospects. APH Publishing Corporation, New Delhi.
- Sharma OC (1994). Crime against Women. Sterling Publishers Pvt. Ltd. New Delhi.
- Sibama M (1995). women, Tradition, Culture. Shishu Publishing House, New Delhi.
- Yadav CP (2000). Empowerment of Women. Vol I & II Laxmi Shikshan Sansthan and Anmol Publications Pvt Ltd, New Delhi.

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Unit-III

Training Design.

- Pre-course, planning of training course.
- Job responsibilities of course director.
- Organizing the training programme.
- Factors affecting on successful implementation of training programme.

Unit-IV

Training methods and trainer.

- Importance, uses and limitations of different training methods, case study, role play, group discussion. Buzz, lecture, demonstration. work experience, field visit, etc.
- Selection of suitable training method.
- Training aid-types, uses and limitations.
- Role & competencies of a trainer.
- Responsibilities of a trainer.

Unit-V

Training Evaluation.

- Meaning and purpose of evaluation.
- Elements of evaluation.
- Types of evaluation -pre course & post course evaluation.
- Evaluation process, methods and techniques.
- Area of evaluation.
- Framework for evaluating training programme.

Practical work.

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1. Designing training programmes for developmental goals (any two).
2. Prepare two training aids
3. Prepare two lesson plans for a training programme (2 different training methods).
4. Evaluate training programme conducted by any training institution

Reference Books :-

Berger M.L. and Berger P. J. -Group Training Technologies, Lowe and bryalone Pvt.Ltd. Haver Hill Britain.

Bhatnagar O.P. -Evaluation Methodology for Training theory and practical, Oxford and IBH Pub. Comp., New Delhi.

Easter By Smith Mark -Evaluation Management, Training and Development, growers "Pub. Comp.England.

W. :-

Hackett P. -Introduction to Training, university Press, Hyderabad.

Lyton R. and Pareek U. -training for Development, Vi star Pub., New Delhi.

Myshra D.c. -New Direction in Extension Training, Directret of Extension, Ministry of agriculture, Govt. of India, New Delhi.

Prior J. -Hand Book of Training and Development, J aico Pub. House, Bombay.

Singh P .N. -Training for Management Development, F ourm of Asian Managers, Bombay.

..Virmani and Seth P. -Evaluation Management in Training and Development, Vision Pub., New Delhi.

York A. -The System approach to Training, Royal Institute of Public Administration, London.

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Unit IV

Messages and Media

1. Developing messages and Media
2. Method of data Collection to develop messages
 - a. Graphic design and its process.
 - b. Types of graphic products.
 - c. Converting message into media.
3. New Media Technologies for Research
4. Planning Media Activities.

Unit V

Audio Visual Aids.

1. Basic Principles and Guidelines
2. Types of aids and their uses.
3. Structure and functioning of various Audio Visual Aids.
 - a. Overhead Projector.
 - b. Movies film Projector.
 - c. Film strip and slide projector.
 - d. Video Type.
 - Recorder of Audio Tape Recorder.
 - f. Models.
 - g. LCD projector.
 - h. Epidiascope.

Practicals IV Semester

Max Marks 50

- 1) Study the media use pattern of some of the ongoing social ad campaigns for different target groups, choice of campaign can be economic, social, culture ecological etc.
- 2) Operation of various Audio-Visual Aids (any two)
 - a) OHP
 - b) Slide projector
 - c) Tape recorder
 - d) Video recorder
 - e) LCD projector
- 3) Video films
 - a) Essential preliminaries preplanning
 - b) Script Writing for radio and television.
- 4) Use of Computer for the above given; Audio Visual aids.
- 5) Visit to premier Institutions.

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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
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M.Sc. Home Sc.
Extension and Communication
Semester- IV
Paper-IV

Entrepreneurship & Project Planning

Unit I – Project Planning :

Function of Entrepreneurship. Types of Entrepreneurship.

- (a) Basic concepts : Need, Problem, Project feasibility, planning

Unit –II Project Identification :

- (a) Identification of project opportunities. Government Policy. Regulations. Incentives and restrictions.
(b) Methods and techniques of project identification.
(c) Pre feasibility study.

Unit – III - Project formulation :

- (a) Feasibility study and opportunity study.
(b) Techno-economic analysis.
(c) Project design and network analysis-input analysis, financial analysis, social costbenefit analysis.

Unit-IV- Project Appraisal :

- (a) Comprehensive appraisal of the key components of the project appraisal techniques.
(b) Decision matrix, system analysis, urgency and risk analysis.

Unit- V

- (a) Break even point analysis, pay back period analysis, rate of return.
(b) NPV profitability and I.R.R. analysis, risk analysis and social cost benefit analysis.
(c) Rules governing the preparation of project proposal.
(d) Writing up a project proposal.

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Unit IV

Messages and Media

1. Developing messages and Media
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Department of Higher Education, Govt. of M.P.
Semester wise syllabus for Postgraduates
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M.Sc. (Home Science)
H.D./F.N./T.C./R.M./Ext. Edu.

SEMESTER-IV
PAPER-IV
Dissertation (Optional)

Marks: 50

CHAPTER - I

Introduction

CHAPTER - II

Review of Literature

CHAPTER - III

Methodology


CHAPTER - IV

Analysis and Discussion

CHAPTER - V

Conclusion and Recommendations

Bibliography


PRINCIPAL
V.R. Govt. Girls P.G. College
Morat, Gwalior