M.Sc. (Home Science)
Subject : FOOD AND NUTRITION
2016-17

S.No.	Semester	Paper	Title of the Paper	Max. Marks	Total
1.	I Semester	Theory	**First** - Applied Physiology	100	400
			Second - Advanced Nutritional Biochemistry	100	
			Third - Public Nutrition	100	
			Fourth - Research method and Statistics	100	
		Practical	**Practical I** - Human Physiology & Advanced Nutritional Biochemistry	100	200
			Practical II - Public Nutrition	100	
2.	II Semester	Theory	**First** - Advances in Food Microbiology	100	400
			Second - Applied Biochemistry and Technique	100	
			Third - Nutrition and health problems	100	
			Fourth - Statistics and computer application	100	
		Practical	**Practical I** - Food Microbiology and Applied Biochemistry/Techniques	100	200
			Practical II - Nutrition & Health Problems	50	
			Practical III - Statistics and computer application	50	

3.	III Semester	Theory	**First** - Advanced Nutrition	100	400
			Second - Clinical and Therapeutic Nutrition	100	
			Third - Food Science & Current Trends	100	
			Fourth - Scientific Writing and Communication Technology	100	
		Practical	**Practical I** - Clinical and Therapeutic Nutrition	100	200
			Practical II - Food Science & Current Trends	50	
			Practical III - Scientific writing	50	
4.	IV Semester	Theory	**First** - Health and fitness	100	400
			Second - Clinical and Therapeutic Nutrition	100	
			Third - Food Science & Current Trends	100	
			Fourth - Optional paper (Any one) a) Mass communication	100	
		Practical	**Practical I** - Clinical and Therapeutic Nutrition	100	200
			Practical II - Food Science & Current Trends	50	
			Practical III - Mass Communication	50	
			Project	100	100

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMISTER-I
PAPER-I
Applied Physiology
20 -18-19

M.M. 100

Objectives

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 th diseased conditions.
3. To understand the advance issues to the relevant topics of Human physiology.

UNIT-I

1. **Cell and Tissues:** Structure and function 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.
   Structurel 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, Hemotopoiesis erythopoiesis, leukopoiesis, Formation and functions of plasmaproteins, Factors influencing erthropoiesis, 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 rate, Heart failure, Hypertension, Mechanism of cardiovascular 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 O_2 and CO_2. 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.

Semester wise syllabus for Post Graduates
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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.

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.
2. Moran Campell E.J., Dickinson, C.J. Slater, J.D., Edwards, C.R.W. and Sikora, K. (1984): Clinical Physiciology, 5th Editi9on, ELBS, Blackwell Scientific Publications.
3. Guyton, A.C. (1985): Function of Human Body, 4th Edition, B. Sanders Company, Philadelphia.
4. Guyton, A.C. and Hall, J.B. (1996): Text Book of Medical Physiology, 9th Edition, W.B. Sanders Company, Prissrr Books ()Pvt.) Ltd. Bangalore.
5. Wilsion, K.J.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.I. and Katch, V.L. (1996): Exercise Physiology, Energy, Nutrition and Human Performance, 4th Edition, Williams and Wilkins Baltimore.

Jain, A.K. Textbook of Physiology, Vol I and II. Avichal Publishing Co. New Delhi 8.

Text book of physiology Vol. I & II.

Semester wise syllabus for Post Graduates
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Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc (Home Science)
Food and Nutrition
SEMISTER-I
PAPER-II
Advanced Nutritional Biochemistry
20 -18-19

M.M. 100

Objectives

1. Augment this biochemistry knowledge acquired at the undergraduate level.
2. Understand the mechanism adopted by the human body for regulation of metabolic pathways.
3. Get on insight into interrelationship between various metabolic pathways.
4. Become proficient for specialization in nutrition.
5. Understand integration of cellular level metabolic events to nutrition disorders and imbalances.

UNIT-I

Plasma protein - 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, glcogenesis, citric acid cycle, haxone monophonsphte pathways and gluconeogenesis.
2. **Lipids:** Beta-oxidation, de novo synthesis of fatty acids. Synthesis and breakdown of unsaturated fatty acids. Cholesterol, phospholipids and triacylglycerol significance.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

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.

Govt. K.R.G.P.G. (Autonomous) College, Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
Human Physiology & Advanced Nutritional Biochemistry
2016-17

M.M. 100

Practical-I

Practical Section-A

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

Section-B (Any one)

Proteins:	(a)	Estimation of proteins in foodstuff.
	(b)	Estimation of albumin, globulin and A:G ratio 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 determination of their pH values.
Survey		Survey of pathological laboratories to obtain information about different methods uses in blood serum analysis.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMISTER-I
PAPER-III- Public Nutrition
20 -18 - 19

M.M. 100

Objectives

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 concept of health, Determinations 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 strength respiratory fitness Harvard step test, squatting test.
   (ii) Non-nutritional indicators of nutritional status (Sociocultural, biological, environmental and economic)
   (c) Monitoring & Evaluation

3. **Health Economics and Economics of Malnutrition.** Its impact on productivity and national development.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

UNIT-III

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

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 progrmames i.e. political support. Available resource (human infrastructural, financial)

2. **Programme 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 centre level and primary health centre level, community health centres.
   (c) Health Care Systems

Govt. K.R.G.P.G. (Autonomous) College, Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
Semester -I
Public Nutrition PRACTICAL-II
2016-17

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 children 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.
   (b) Evaluate her dietary assessment after a month for feedback.

6. Case study of existing intervention programme in voluntary and government sector.

7. Development of a plan for nutrition intervention project in the community.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc (Home Science)
Food and Nutrition
SEMESTER - 1
PAPER-IV
RESEARCH METHODS AND STATISTICS
20 -18-19

M.M. 100

Objectives

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

UNIT-II

- Definition and identification of a research problem:
  - Selection, justification & limitation of research problem.
  - Hypothesis - meaning nature, characteristics, types & functions of hypothesis.
  - Variables: Meaning, nature, type & selection of variables.

Semester wise syllabus for Post Graduates
As recommended by board of studies
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UNIT-III

Sampling methods

- Population and sample
- Probability & semi probability sampling - simple random, systematic random sampling, two stages and multi stage sampling, cluster sampling.
- Non-Probability sampling: purposive, quota and volunteer sampling
- Merit & Demerits sampling.

UNIT-IV

Research Design

- Meaning, features and concept & purpose of research design.

Quantitative 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) Socio metric scale
  - (ii) Questionnaire
  - (iii) Schedule
- Writing a research report

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMESTER-II
PAPER-I
Advance in Food Microbiology
20 -18-19

M.M. 100

Objectives

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 areas.
3. To develop skills in handling food safety.
4. To know the food borne diseases and how to prevent it.

UNIT-I

Introductions 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 foods.
3. Factors affecting growth of micro organism in Foods Intrinsic and extrinsic parameter. Conditions that influence microbial growth in food.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

UNIT - II

Estimation and Isolation of Micro Organisms:

1. Historical development of Microbiology and Food Technology Regulation 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 Microscopic 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 micro organisms: by destruction and by retarding growth. Microbial Intoxication in food groups such as Milk & Milk products cereals, Meat, fish egg. fruits & vegetables cammed foods.
2. Foods, Borue disease: (Bacterial and virus) Signs/Symptoms and prevention
   - Staphylococcal Gastroenteritis
   - Clostridium perfinger
   - Botulinum and Vibro
   - E-coli, Salmonella, Shingellae
   - Poliomyelitis
   - Infectious Hepatitis

Semester wise syllabus for Post Graduates
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UNIT-IV

Microbiology safety of foods:

1. Indicators of food safety and quality, indicator organisms: methods for detection. Microbiology 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 Diary 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, For futaure by Genetically modified organisms.

References:

1. Topley and Wislsons (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.
4. Jay, James, M. (2000) Modern Food Microbiology, 6th Edition, Aspen Publishers, Inc. Maryland.
5. Banwant, G. (1989) Basic Food Microbiology, 2nd Edition CBS Publisher.

Semester wise syllabus for Post Graduates
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Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMESTER-II
PAPER-II
Applied Biochemistry and Technique
20 -18-19

M.M. 100

Objectives

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

Vitamin and traces elements in the function of enzymes.

Detoxification in body metabolism of foreign compounds.

UNIT-II

Membrane structure assembly and function.

Hemoglobin and its metabolism

Semester wise syllabus for Post Graduates
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UNIT-III

Basic of instrumentation physio-chemical principals and methdology colorimetry, photometry - fluorourimetry, flame photometry and atomic absorptionmetry.

UNIT-IV

Electrohoresis - principles and applications in paper and gel electrophoresis. Chromatography principals and applications in paper (circular, ascending and descending) iron exchange column thin layer gas liquid and high performance.

Chromatographic techniques

Isotopes and their use radio active stable isotopes.

Immunological method RIA and ELISA

UNIT-V

Bioengeretics 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

Food Microbiology and Applied Biochemistry & Techniques Practical - I

Total Marks: 100 Sessional: 20 Viva: 20 Pract. Exam. : 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 proceed and un processed vegetables and fruits, cereal, spices and cannel 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.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.
M.Sc. (Home Science)

Food and Nutrition

SEMESTER-II

PAPER-III
Nutrition and Health Problems

20 -18-19

M.M. 100

jectives

course will enable students to:

Understand the nature of important nutrition problems and their prevention and control.

Study and understand the Epidemiology of communicable diseases and nutrition related problems prevalent among the affluent and the less privileged groups.

Study the biochemical and clinical manifestations preventive and therapeutic measures of common nutrition and health problems.

UNIT-I

pidemiology

efinition aims and approaches

leasurement and its roles

lethod in Epidemiology in brief

ses of epidemiology

pidemiology of communicable diseases

engue 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 programme in India.

Semester wise syllabus for Post Graduates
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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 & 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
Other nutritional problems
Lathyrism, dropsy, aflatoxicosis, alcoholism

Govt. K.R.G.P.G. (Autonomous) College, Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMESTER-II
Nutrition and Health Problems
2016-17

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 disease: Prevalence and etiology on the basis of analysis of primary and secondary data.
5. Visit to any operational public nutrition programme for field experience and writing a report.
6. One day activity in your college. To develop a questionnaire based 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.

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6. 10

5.

Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.

M.Sc. (Home Science)
Food and Nutrition
SEMESTER - II
PAPER-IV
Statistics & Computer Application
20 -18 - 19

M.M. 100

Objectives

- 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 questions 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 Anova.