# Semester courses of M.Sc. Home Science based on CBCS

The course of M.Sc. Home Science is two-year duration i.e. previous and final year. Each year have two semester examinations and therefore the whole course has four semester examinations.

There are two specialization in M.Sc. Home science i.e. M.Sc. Home Science in Foods& Nutrition and M.Sc. Home Science Resource Management.

# Programme specific outcomes of M.Sc. Home Science in Foods & Nutrition

- 1. Able to understand the concepts of Nutrition, deficiency diseases and sources of different nutrients.
- 2. Able to asses nutritional status, physical fitness of community
- 3. Plan Balance diets and therapeutic diet.
- 4. Analyse the nutrients contents of the developed recipes.
- 5. Excel in the areas of public health nutrition
- 6. Apply skill-based knowledge in food industry.
- 7. Acquire entrepreneurial skills in the field of food science and nutrition.
- 8. Work for welfare of the community in context to role of nutrition.

# M.Sc. Home Science Previous (Food & Nutrition) (Effective from Session 2019-2020)

The M.Sc. previous Home Science (Foods& Nutrition) will consist of two semester I<sup>st</sup> and II<sup>nd</sup> semester. Their examination will be held in December & May in respectively. In each of these semester examinations, there will be four compulsory papers. Each paper will be of fifteen hours duration and of four credit (maximum marks 70), except where stated otherwise. There will be 30% internal evaluation in each paper based on:

Attendance
 Class test/ Assignment
 Seminar
 Marks
 Marks

#### Format of the Question Paper:-

There will be one compulsory question consisting of 4 parts of short answer type question based on the whole course, out of which all parts will have to be answered. Besides this there will be each questions from four units (two from each unit), out of which 4 questions will have to be answered (One from each unit). Thus in all 5 question will have to be attempted and 9 questions will have to be set. All questions will carry equal marks, except stated otherwise.

#### **First Semester**

S. No.	Paper	Course Code	Paper Title
1.	Paper I	HS FN (101)	Research Methodology
2.	Paper II	HS FN (102)	Applied Physiology
3.	Paper III	HS FN (103)	Nutritional Biochemistry
4.	Paper IV	HS FN(104)	Community Nutrition

#### **Second Semester**

S. No.	Paper	Course Code	Paper Title
1.	Paper I	HS FN (201)	Statistics and Computer Application
2.	Paper II	HS FN (202)	Food Microbiology
3.	Paper III	HS FN (203)	Food Science
4.	Paper IV	HS FN (204)	Maternal and child Nutrition

# M.Sc. Home Science Final (Food & Nutrition) (Effective from Session 2020-2021)

The M.Sc. final year Home Science (Foods & Nutrition) will be consist of two semester i.e III<sup>rd</sup> and IV<sup>th</sup> semester. Their examination will be held in December & May in respectively. In each of these semester examinations, there will be Four compulsory papers. Each paper will be of fifteen contact hours and of four credit (maximum marks 70), except where stated otherwise. There will be 30% internal evaluation in each paper based on:

1.	Attendance	10 marks
2.	Class test/ Assignment	10 Marks
3.	Seminar	10 Marks

#### Format of the Question Paper:-

There will be one compulsory question consisting of 4 parts of short answer type question based on the whole course, out of which all parts will have to be answered. Besides this there will be each questions from four units (two from each unit), out of which 4 questions will have

to be answered (One from each unit). Thus in all 5 question will have to be attempted and 9 questions will have to be set. All questions will carry equal marks, except stated otherwise.

# **Third Semester**

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS FN (301)	Clinical and therapeutic nutrition
		Jeggion (	Tallon
2.	Paper II	HS FN (302)	Nutrition for Health and fitness
3.	Paper III	HS FN (303)	Advance Nutrition
4.	Paper IV	HS FN(304)	Food Quality Analysis
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# **Fourth Semester**

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS FN (401)	Implant Training / Internship
2.	Paper II	HS FN (402)	Dissertation
3.	Paper III	HS FN (403)	Seminar and viva voce on Implant Training / Internship and Dissertation
4.	Paper IV	HS FN (404)	General Seminar

# M.Sc. First Semester Based on CBCS (Home Science) Food & Nutrition

# Paper I: Research Methodology

#### UNIT-1

Research Methodology – Meaning, objectives and types of research. Research approaches, Significance of research, Research and scientific methods, Research process and Criteria of good research.

Definition and Identification of a Research Problem – Selection of Research problem, Justification, Theory, Hypothesis, Basic assumptions, Limitations and delimitations of the problem.

# UNIT-2

Research Design – Meaning and needs, Features of a good design; important concepts relating to research design, Variables, Experimental and Control groups, Different research designs—exploratory, descriptive and diagnostic, Hypothesis testing research. Sampling Design—Population and Sample, Steps in sampling design, Criteria for selecting a sampling procedure, Different types of sampling techniques—Probability sampling and Non-probability sampling.

Methods of Data collection—Schedules and Questionnaires, Interview, Case study, Home visits, Scaling methods, Reliability and Validity of measuring instruments.

# **UNIT-3**

Concept and characteristics of a normal probability curve. Analysis of Data – Graphical and Diagrammatic presentation.

#### UNIT -4

Interpretation – Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation – Interpretation of tables and figures. Report Writing - Significance of report writing, Different steps in writing report; Types of reports, Mechanics of writing a Research Report and precautions for writing research reports. Use of Computers in Statistical Analysis – The computer system and technology, important characteristics of computer applications in researches..

#### **Course outcomes**

- 1) Understand research, research problems and hypothesis formulation.
- 2) Be able to design research, data interpretation and analysis.
- 3) Learn data analysis using computer and research report writing.

#### UNIT -1

#### Cell structure and function

General cell structure. Structure and functions of the organelles, cell membrane. review of structure and function of tissue, organs and systems.

#### (A) Nervous System

Review of structure and function of neuron, nerve, conduction of nerve impulse, synapse, and neurotransmitters.

- General organization of the nervous system, protection structure and function of brain and spinal cord. Cerebrospinal fluid.
- Structure, function and role of sensory organs (skin, eyes, ears, nose and tongue) in perception of stimuli.

# (B) Endocrine System

Review of structure and function of endocrine glands. Mechanism of hormonal action. Control of hormonal secretion. Function and different syndromes resulting from hypo and hyper secretion of Endocrine gland mainly Pituitary, Adrenal, Thyroid, Ovary, Testes, Pancreas, Parathyroid.

#### UNIT-2

#### (A) Digestive system

Review of structure of gastrointestinal tract and accessory organs. Secretory, Digestive and absorptive function of GIT. Role of Liver, Pancreas and gall bladder and their dysfunction. Hormones of GIT. Mechanism of absorption of carbohydrates, Proteins and fats.

### (B) Respiratory System

Review of structure and function, Physiology of respiration, Exchange of gases and transport through blood, role of haemoglobin and buffer system. Pulmonary volume. Pulmonary Capacities.

### (C) Circulatory System

Structure and function of Heart, Blood vessels

Blood – Characteristics, Composition, Structure, function and life span of components. Blood clotting. Blood groups. Homeostatics. Erythropoisis, Blood Pressure.

#### UNIT-3

#### (A) Excretory System

Structure and function of nephron. Anatomy and function of kidney. Urine formation. Electrolyte and acid base balance.

# (B) Immune System

Cell mediated and humoral immunity. Antibody formation.

# (C) Musculo Skeletal System

Structure and function of bone, cartilage and connective tissue. Types of muscles, structure and function.

#### UNIT-4

#### 1. Reproduction

Male and female organs of reproduction. Spermatogenesis, Mentrual Cycle. Pregnancy, Parturition, Menaupause, Mammary glands and location.

#### References:-

- 1. Kale, C.A. and Nail, E Samson Wright's Applied Physiology, Oxford University press, 1994.
- 2. Griffins, M. Introduction to Human Physiology, Mac Millan and Co. 1974.
- 3. Green, J.H. An introduction to human physiology, Oxfords University Press 1972.
- 4. Best C.H. and Taylor N.B., The living body, Asia publishing House, 1975.

#### **Course outcomes**

- 1) Perceive the general structure of different body systems.
- 2) Understanding the function of body system and organs.
- 3) Assimilation of whole human body.

# **Paper III: Nutrition Biochemistry**

**CREDIT-4** 

# UNIT-1

Introduction to Nutritional biochemistry – Meaning and importance, Development of nutrition biochemistry and contemporary interests in nutritional biochemistry. Carbohydrates – Classification, Properties, digestion, absorption and metabolism, Blood glucose level.

#### UNIT-2

Proteins – Structure, classification and properties. Digestion, absorption and amino acid and nucleotide metabolism. Lipid – Structure, Classification and properties: Digestion and absorption. Lipid metabolism, Hyper-lipoprotein amiasketosis.

# <u>UNIT- 3</u>

Vitamins and Minerals – Classification structure, properties and functions. Enzymes – Classification, enzymes, mechanisms of enzyme action, factors affecting enzyme activity and their role.

### **UNIT-4**

Hormones – Endocrine Glands, mechanism of hormone action and biochemical role of hormones. Antioxidants – Definition, free radicals, oxygen free radicals, natural and diet derived antioxidants. Inborn Errors of metabolism – Concept disorders of protein metabolism, carbohydrates, metabolism, lipid metabolism and haemoglobinopathies.

#### References:

- 1. Command Stumph, Outlines of Biochemistry.
- 2. Devlin T.M., Biochemistry by Stryer Text book of Biochemistry with clinical correlations.
- 3. Lehninger, Principles of Biochemistry, by 4<sup>th</sup> Ed. By Nelson D.L. and Cox. M.M.
- 4. Murray R.K., Grammer, D.K., Mayer P.A., Rodwell V.W., Harpers Biochemistry, a lange medical book 26<sup>th</sup> Ed. Mc. Graw Hill, Health Professions Division.
- 5. West. E.S., Todal, W.R., Mason H.S. and Van Brygen J.T., Text Book of Biochemistry.

#### **Course outcomes**

- 1) Understanding nutrition biochemistry and elementary chemistry of nutrients.
- 2) Comprehend the digestion, absorption, metabolism of nutrient and different metabolic disorders.
- 3) Be able to analyse the different nutrients in food.

# **Paper IV : Community Nutrition**

#### **CREDIT-4**

#### UNIT-1

Introduction to concept of community, rural and urban communities, community health, healthcare, community nutritional and its future projections. Protein Energy malnutrition – etiology, prevalence, causes, prevention and control.

#### UNIT-2

Other Major nutritional problems – Macro nutrient deficiencies and micronutrient deficiencies, etiology, symptoms, prevention and control. Assessment of nutritional status – meaning need, objectives, and techniques. Primary Methods: Anthropometric measurement, Weight, Height skin fold, Head circumference MUAC. Chest circumference, use of growth chart, Biochemical assessment, clinical assessment, Diet surveys.

# UNIT-3

Secondary Methods: Vital statistics, Mortality rates, survival rate, morbidity rate, fertility rate. Nutrition Monitoring and Nutrition surveillance objectives and components of nutrition monitoring and current programmes. Nutrition Surveillance – Objectives, Uses, infrastructure and computerization

### **UNIT-4**

Nutrition Education – Need and scope, importance, theories, Nutrition education programmes – formulations, Implementation and Evaluation. Nutrition Programmes in developing and developed countries – Role of various agencies – National, International and voluntary.

#### Reference:-

- 1. Mayer, J., Human Nutrition, Charles, C. Thomas, spring field.
- 2. Michael, J. Gibney, Barrie, M. Margetis, John, M. Kearney. Lenore Arab. Public Health Nutrition. Blackwell science, Blackwell Publishing Company (2004).
- 3. Willet Walter. Nutritional Epidemiology. Oxford University Press, Oxford, New York (1990).
- 4. Park, J.E. and Park, K. Text Book of Preventive and social medicine. Banarsi Das Bhanot Publishes.

#### **Course outcome**

- 1) Understand community, malnutrition and major nutritional problems.
- 2) Be able to assess nutritional status and to impart nutrition education.
- 3) Get awareness regarding nutrition monitoring, surveillance, nutrition programmes and various agencies.

# M.Sc. Second Semester Based on CBCS (Home Science) Food & Nutrition

# Paper I: Statistics and Computer Applications CREDIT-4

#### UNIT-1

Conceptual understanding of statistical measures. Classification and tabulation of data. Measurement of central tendency, measures of variation. Frequency distribution, histogram, frequency, polygons, ogive. Binomial distribution.

# UNIT-2

Normal distribution – Use of normal Probability tables. Parametric, non-parametric tests. Testing of hypothesis, Type I and II errors. Level of significance. Chi-Square test. Goodness of fit independence of attributes 2 X 2 and r X c contingency tables.

#### UNIT-3

Application of student 't' test for small samples. Difference in proportion for means and difference in means. Correlation, Coefficient of correlation, ranks correlation.

#### **UNIT-4**

Fundamental of computer, History of computer, Generation of computer, Language, Components, Applications of Computers. Operating System & Internet: MS-DOS, MS-Windows, and Internet. MS-Office: MS-Word, MS Excel and Power Point. Introduction to Data-base Management system, Fox-Pro.

#### References:

- 1. Basandra, S.K.: Computer for Managers, Designing An Effective Management Information System, Abhinav Publishing Industries, N. Delhi, 1965.
- 2. Diwan, Parag, Information System Management, Deep & Deep Publications, New Delhi, 1997.
- 3. Laudon, Kenneth C. and London, Jane Price, Management Information System: A Contemporary Perspective, Macmillan Publishing Company, New Delhi.
- 4. Mehta, Versham Management Information System, Anmol Publication, New Delhi, 1998.
- 5. Banerjee, Utpal K. and sachdeva, R.K., Management Information System: A New Framework, Vikas Publishing House, Pvt. Ltd., New Delhi.

#### **Course outcome**

1) Understanding statistical measures.

- 2) Learn applications of different statistical tests.
- 3) Fundamental knowledge of computer and its language and different programmes.

# Paper II: Food Microbiology

<u>UNIT-1</u> <u>CREDIT-4</u>

Food spoilage – Causes, Microbial growth in foods, factors affecting the growth of microorganisms in food. Contamination and microorganism in spoilage of different kinds of foods – Cereals and cereal products, vegetables and fruits, fish and sea foods, milk and milk products, eggs, meat and meat products, canned and bottled food.

#### UNIT-2

Contamination of water – Microorganisms in contaminated water, test for contamination, standards for drinking water. Food Borne Diseases – Sources, symptoms and methods of prevention and control.

## UNIT-3

Food Hygiene – Sources of contamination of food, cleaning and sanitation in food processing in home and industry. Food plant sanitation, hygienic handling, processing, packaging and service of food.

#### **UNIT-4**

Food safety and quality control. Beneficial microorganisms – Sources, characteristics biochemical activities and their use in food products.

#### References: -

1. Frazier, We, Food Microbiology, Tata Mc Graw Hill 1978.

#### Course outcome

- 1) Get the knowledge of types of microorganisms and food spoilage and identify it.
- 2) Understand and contamination of water and food as well as food borne and water borne disease.
- 3) Comprehend food hygiene, sanitation in home and food industry and safety and quality control.

**CREDIT-4** 

# Paper III: Food Science

#### UNIT-1

Introduction to food science and modern development. Methods of cooking and effect of cooking on nutrients. Cereals, Pulses and legumes – structure, composite types and selection, methods of cooking, cooking losses.

### UNIT-2

Vegetable and fruits – Composition, recognition of quality, care in storage, methods of cooking, cooking losses. Milk and Milk products – Types and composition, preparation, effect of cooking and use in cookery.

# UNIT-3

Egg, Meat, Fish and poultry – structure, composition quality care in storage, methods of cooking, effects of cooking. Sugar, fats and oils – composition, types, characteristics and use in cooking.

#### **UNIT-4**

Sols, Gels and Emulsions – Colloids, Properties of sols, Gels and its properties, suspensions, foams, emulsions. Enzymes and Pigments- classification and structure, use in Food Industry.

#### **References:**

- 1. Gaman, P.M. and Sherrington, K.B. (1996), The science of food, oxford, Butterworth Heinemann.
- 2. Potter, Norman N. and Hotchkiss (1996) Food Science, 5th ed. C.B.S. Publication.
- 3. Manay, N. Shakuntala and Shadaksharaswami, N. (1987), Foods: Facts and Principles, Wiley Eastern Ltd.
- 4. Meyer, Lilian H. Ed. (1987), Food chemistry. Indian Ed. CBS Publishers and Distributors.

#### **Course outcome**

- 1) Understand food science and its application.
- 2) Understanding the chemistry of cooking food and its effect on food materials.
- 3) Perceive the use of food science in food industry.

# Paper IV: Maternal and Child Nutrition

#### **CREDIT-4**

## UNIT-1

Importance of maternal nutrition: Physiology and endocrinology of pregnancy and embryonic and fetal growth and development. Nutritional requirements during pregnancy. Importance of nutrition prior to and during pregnancy. Prerequisites for successful outcome.

#### UNIT-2

Effect of under nutrition of mother and child including pregnancy outcome and maternal and child health, pregnancy and AIDS, T.B., Intra-uterine growth retardation, complications of pregnancy and management and importance of antenatal care.

# **UNIT-3**

- 1. Lactation- Development of mammary tissue and role of hormones, physiology and endocrinology of lactation synthesis of milk components, let down reflex, role of hormones, lactation amenorrhea, effects of breast feeding on maternal health.
  - a. Human milk composition and factors affecting breastfeeding and fertility.
  - b. Management of lactation Prenatal breast feeding skill education, rooming in, problems sore nipples, engorged breast, inverted nipples etc. Exclusive breastfeeding.

# **UNIT-4**

- 2. Growth, development and nutritional problems during infancy and childhood.
- 3. References:
- 4. International Child Health: A Digest of current information.
- 5. Barker, D.J. P (1998), Mothers, Babies and Health in later life. Edinburgh, Churchill livingstone.
- 6. Ward, R.H.T; Smith, S.K. Donnai, D. (Eds.) (1994) Early fetal Growth and Development. London, & COG Press.
- 7. Wallace, H.M. and Giri, K. (1990), Health care of women and children in developing countries, third party publishing co.Oakland

#### **Course outcome**

- 1) Get the concept of role of nutrition during pregnancy, lactation and child.
- 2) Understand the physiology of pregnancy and lactation.
- 3) Assimilation of human milk composition, child and infant growth and development.

# M.Sc. Third Semester Based on CBCS (Home Science) Food & Nutrition

# Paper I: Clinical and Therapeutic Nutrition

**CREDIT-4** 

# UNIT-1

Introduction to dietetics, Role of dietitian in Healthcare, Nutritional assessment, Nutrition diagnosis, intervention, monitoring and evaluation, Patient care and counseling.

# UNIT -2

Adaptation of therapeutic diets – Therapeutic diets, Types of therapeutic diets, Routine hospital diets, Mode of feeding.

# UNIT -3

Prevalence, etiology, clinical manifestations, dietary management and recent advance in the management of the following.

- a) Weight imbalance
- b) Eating disorders.
- c) Coronary Heart Disease.
- d) Metabolic Disorders
- e) Gastrointestinal diseases
- f) Liver, Gall Bladder and Pancreatic disorders.
- g) Renal Diseases
- h) Cancer, Burns
- i) Infections, Fever and Allergies
- j) Stress and Food Intolerance.
- k) Preoperative and post operative condition
- 1) Neurological disorders
- m) Pediatric and Geriatric Diseases.

#### **UNIT-4**

Drug and Nutrient Interaction – Basic Concept, Effect of nutrition on drugs, Drug effects on Nutritional status, Drug and Drug interaction, Clinical significance and risk factors for drug – nutrient interaction.

#### **References:**

- 1. Antia, F.P. and Philip A. Clinical Dietetics and Nutrition, 4<sup>th</sup> Ed.
- 2. Bamji, M.S. Rao, P.N. and Reddy. Text book of Human Nutrition. 1996. Oxford and IBH publishing housing.
- 3. Garrow, J.S. and James WPT. Human Nutrition and Dietetics, 9th Ed.
- 4. Williams, S.R. Nutrition and Diet Therapy, 6<sup>th</sup> Ed. Jones Mirror College Publishing.

#### Course outcome

- 1) Understand dietics, therapeutics diets modes of feeding.
- 2) Able to convert and plan diets for different disease conditions.
- 3) Ready or trained to work as a dietitian.

# **Paper II: Nutrition for Health and Fitness**

**CREDIT-4** 

### **UNIT-1**

Carbohydrates – Classification, functions, sources, Digestion and absorption, Regulation of blood glucose concentration, dietary fibre, resistant starch, Glycaemic Index. Proteins – Classification, food sources, functions, Digestion, absorption and transport, nutritional requirements.

# **UNIT-2**

Fats – Types, Functions, sources and its metabolism, nutritional requirements, diseases, excessive fat intake. Water and Electrolyte Balance. Vitamins and Minerals – Types, sources, functions, requirements, deficiency, toxicity and preventive measures. Food components other than essential nutrients – Functional foods, Bioactive substances from protein foods, Non glycerides in edible oils, Probiotics and Prebiotics, Polyphenols, Phytoestrogens, other dietary factors with antinutritional effects like: Protease inhibitors, Saponins, Amylase inhibitors, Lectins or Haemagglutinins, Phytates and their health benefits.

#### UNIT-3

Nutrition during different stages of life cycle. Sports Nutrition – Concept Techniques of measuring body composition, work capacity, physical fitness, Nutritional demands of sports and dietary recommendations, ergogenic aids.

## **UNIT-4**

Holistic approach to the management of fitness and health – Energy input and output Diet and exercise. Effect of specific nutrients on work performance and physical fitness. Nutrition, exercise, physical fitness and health inter – relationship. Review of different energy systems for endurance and power activity – fuels and nutrients to support physical activity, shifts in carbohydrate and fat metabolism, Mobilization of fat stores during exercise.

#### **References:**

- 1. Williams, S.R. B.S. Worthington Roberts (1988). Nutrition throughout the life cycle. Times mirror, mostly college publishing St. Louis.
- 2. Whitney. E.R. and S.R Kolfes (2002) Understanding Nutrition 9<sup>th</sup> ed. Wadsworth Thomson Learning, Australia.
- 3. Thompson, L.U. (1993) Potential Health Benefits and problems associated with antinutrients in foods. Food Research International. 26; 134 149
- 4. Gibson, G.R. and M.B. Roberfroil (1999) Coloric Mirobio, Nutrition and health, Kluwer Academic Publishers, Dordecht.

#### Course outcome

- 1) Comprehend functional food for biotic, prebiotics, phytochemicals etc.
- 2) Able to grasp the sports nutrition, ergogenic aids and physical fitness.
- 3) Understand the role and effect of different nutrient on physical activity.

# **Paper III: Advance Nutrition**

CREDIT-4

#### UNIT-1

1. History of Nutrition, Nutritional requirements. National and International Recommendations on nutrient requirements. Energy Requirement – Energy definition and components of energy requirement, factors affecting energy expenditure and requirement. Methods of estimation of energy expenditure and requirement and energy balance. Energy estimation of foods.

#### **UNIT-2**

Concept of body composition, calculation of body density, calculation of body water and body fat from body density. Concept of body cell mass, lean body weight and fat free body. Evaluation of Protein Quality – Methods of assessing quality of Protein and estimation of protein requirements at different stages. Nutrition, immunity and infection – Primary and secondary lymphoid organs, cell mediated and humeral immunity, mechanism of interaction, agent, host and environmental pattern in disease occurrence. Primary and secondary infection.

# **UNIT-3**

Regulation of food intake, hunger and appetite, gastrointestinal factors in regulation, role of hypothalamus, glucose utilization in body and fat stored in body as regulators of food intake. Metabolic interrelationship between nutrients, concept of nutritional interrelationship. Protein Energy, carbohydrates, fat, and vitamins interrelationships. Effects of Protein quality and quantity on protein utilization.

#### **UNIT-4**

Nutritional requirement for special conditions – Calamity and Emergency management.

Nutritional requirements for extreme environments. Nutritional regulation of Gene Expression – Gene Expression, Role of specific nutrients in controlling Gene Expression.

#### Reference:

- 1. Gibson, G.R. and M.B. Roberfoid (1999), Calonic microbiota, Nutrition and Health.Kulwer Academic Publishers, Dordecht.
- 2. Whitney, E.R. and S.R. Rolfes (2009) understanding Nutrition 9<sup>th</sup> ed. Wadsworth Thomson, Learning, Australia.
- 3. Wardlaw GM and Insel PM. Perspectives in Nutrition. Third Ed. Mostly1895
- 4. Chandra, R.K. and Newberne, P.M., Nutrition immunity and infection. Plenum Pres 1982.

# **Course outcome**

- 1) Be able to assess energy requirement according to need and to estimate energy from food.
- 2) Understand body composition, protein quality evaluation and concept of nutrition and immunity.
- 3) Comprehend the regulation of food intake, nutrient interrelationship, nutritional requirement in special condition and role of nutrients in gene expression.

# **Paper IV: Food Quality Analysis**

#### **CREDIT-4**

# UNIT-1

Importance of Food Standards: Quality control and assurance. Food standard, laws and regulations to ensure safety of food. Product Evaluation: Sampling for product evaluation, sample preparation. Tests for raw food ingredients: Proximate principles, nutrient analysis.

# UNIT-2

Hazards to food products: Microbiological, environmental, natural, toxicants, pesticide residues and food additives. Food Adulteration – common adulterants Methods and tests for detecting adulterants.

# **UNIT-3**

Sensory Analysis: Definition, use in product evaluation.

# Types of Tests:

- 1. Discrimination/ Difference test Paired test, triangle test and duo-trio test for multiple samples, difference from control/reference.
- 2. Quantitative Difference Tests: Ranking.
- 3. Numerical Scoring Test: Magnitude Estimation.
- 4. Descriptive Tests
- 5. Threshold Tests
- 6. Acceptance tests

Determining consumer acceptability using sensory evaluation.

#### **UNIT-4**

Product development and Evaluation – Need for product development, how to develop a new Product, new products and ingredients, functional foods, shelf life of Product.

#### **References:**

- 1. Amerine M.A., Pengtorn, R.M. Reoceasier E.B. (1965) Principles of sensory evaluation and academic Press, New York.
- 2. Bealon, G.H. and Begos J.M. (eds.) (1996) Nutrition in Preventitive Medicine. WHO.
- 3. Belity. H.D. an Grosch W. (1999) Food chemistry springer Verleg Berlin, Heidelberg.
- 4. Bamji, M.S., Rai, P.N. and Reddy V. (eds) Food chemistry (2<sup>nd</sup> ed.) springer, New York.

# **Course outcome**

- 1) Understand food standards and quality control laws and regulations.
- 2) Able to sensory evaluate the food material and detect adulterants.
- 3) Development of new product and its nutrient analysis.



# M.Sc. Fourth Semester Based on CBCS (Home Science) Food & Nutrition

# Paper I: Implant Training/ Internship

**CREDIT-7** 

In this paper students will be go for implant training in any Industrial area.

# **Course Outcome**

- 1. This Training/Internship enable the students to learn in practical situation.
- 2. They learn to use their knowledge in real situations
- 3. This prepares students for their future career goals.

# Paper II: Dissertation

CREDIT- 10

In this paper student will be do research work and prepare the report.

# **Course Outcome**

1. Understand identification of research problem.

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- 2.Learn analysis of data
- 3. Understand the process of research.

Paper III: Seminar and Viva Voce on implant Training / Internship and Dissertation CREDIT- 4

Paper IV: General Seminar CREDIT- 4

# <u>Semester Courses of M.Sc. Home Science in Resource Management Based on</u> CBCS

The course of M.Sc. Home Science in Resource Management is two-year duration i.e. previous and final year. Each year have two semester examinations and therefore the whole course has four semester examinations.

#### Programme specific outcomes of M.Sc. Home Science in Resource Management-

- 1. Exhibit efficient resources use potentials at home and work.
- 2. Able to learn about the consumers forum, consumers education and redressal and different standard of products.
- 3. Learn about the house planning and interior decoration and different household equipment.
- 4. Learn about the concept of ergonomic and different instruments used in ergonomic.
- 5. Able Learn about financial Management, Human resource management and development.
- 6. Able to learn about environmental resources and its utilization for different purpose and sustainable environment.

# M.Sc. Home Science Previous (Resource Management) (Effective from Session 2019-2020)

The M.Sc. previous Home Science (Resource Management) will be consist of two semester call as I<sup>st</sup> and II<sup>nd</sup> semester. Their examination will be held in December & May in respectively. In each of these semester examinations, there will be four compulsory papers. Each paper will be of fifteen contact hours and four credit (maximum marks 70), except where stated otherwise. There will be 30% internal evaluation in each paper based on:

Attendance 10 marks
 Class test/ Assignment 10 Marks
 Seminar 10 Marks

# Format of the Question Paper:-

There will be one compulsory question consisting of 4 parts of short answer type question based on the whole course, out of which all parts will have to be answered. Besides this there will be each questions from four units (two from each unit), out of which 4 questions will have to be answered (One from each unit). Thus in all 5 question will have to be attempted and 9 questions will have to be set. All questions will carry equal marks, except stated otherwise.

# **First Semester**

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS RM (101)	Research Methodology
2.	Paper II	HS RM (102)	Theories and Concepts in Resource Management
3.	Paper III	HS RM (103)	Management of Energy and Household Equipment
4.	Paper IV	HS RM (104)	Family Decision Making

# Second Semester

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS RM (201)	Statistics and Computer Application
2.	Paper II	HS RM (202)	Interior Design and Decoration
3.	Paper III	HS RM (203)	Activity Analysis and Ergonomics
4.	Paper IV	HS RM (204)	Housing Design and Programme

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# M.Sc. Home Science final (Resource Management) (Effective from Session 2020-2021)

The M.Sc. final year Home Science (Resource Management) will be consist of two semester call as III<sup>rd</sup> and IV<sup>th</sup> semester. Their examination will be held in December & May in respectively. In each of these semester examinations, there will be four compulsory papers. Each paper will be of fifteen contact hour and four credit (maximum marks 70), except where stated otherwise. There will be 30% internal evaluation in each paper based on:

Attendance 10 marks
 Class test/ Assignment 10 Marks
 Seminar 10 Marks

# Format of the Question Paper:-

There will be one compulsory question consisting of 4 parts of short answer type question based on the whole course, out of which all parts will have to be answered. Besides this there will be each questions from four units (two from each unit), out of which 4 questions will have to be answered (One from each unit). Thus in all 5 question will have to be attempted and 9 questions will have to be set. All questions will carry equal marks, except stated otherwise.

#### Third semester

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS RM (301)	Entrepreneurship Development and Management
2.	Paper II	HS RM (302)	Household and Environment
3.	Paper III	HS RM (303)	Gender and Development
4.	Paper IV	HS RM(304)	Financial Management

#### **Fourth Semester**

S.No.	Paper	Course Code	Paper Title
1.	Paper I	HS RM (401)	Implant Training / Internship
2.	Paper II	HS RM (402)	Dissertation
3.	Paper III	HS RM (403)	Seminar and viva voce on Implant Training / Internship and Dissertation

4.	Paper IV	HS RM (404)	General Seminar

# M.Sc. First Semester Based on CBCS (Home Science) Resource Management

# Paper I: Research Methodology

<u>UNIT-1</u> CREDIT-4

Research Methodology – Meaning, objectives and types of research. Research approaches, Significance of research, Research and scientific methods, Research process and Criteria of good research.

Definition and Identification of a Research Problem – Selection of Research problem, Justification, Theory, Hypothesis, Basic assumptions, Limitations and delimitations of the problem.

#### UNIT-2

Research Design – Meaning and needs, Features of a good design; important concepts relating to research design, Variables, Experimental and Control groups, Different research designs—exploratory, descriptive and diagnostic, Hypothesis testing research. Sampling Design—Population and Sample, Steps in sampling design, Criteria for selecting a sampling procedure, Different types of sampling techniques—Probability sampling and Non-probability sampling.

Methods of Data collection—Schedules and Questionnaires, Interview, Case study, Home visits, Scaling methods, Reliability and Validity of measuring instruments.

#### UNIT-3

Concept and characteristics of a normal probability curve. Analysis of Data – Graphical and Diagrammatic presentation.

#### UNIT -4

Interpretation – Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation – Interpretation of tables and figures. Report Writing - Significance of report writing, Different steps in writing report; Types of reports, Mechanics of writing a

Research Report and precautions for writing research reports. Use of Computers in Statistical Analysis – The computer system and technology, important characteristics of computer applications in researches.

#### **Course outcomes**

- 1)Understand research, research problems and hypothesis formulation.
- 2)Be able to design research, data interpretation and analysis.
- 3) Learn data analysis using computer and research report writing.

# Paper II: Theories and Concepts in Resource Management

UNIT:1 CREDIT-4

- (A) Family Resource Management as a field of study
  - Historical Perspective
  - Introduction
  - Modern Concept
  - Stages of development as a discipline
- (B) Interdisciplinary nature of Family resource Management.
  - Contribution of business management
  - Contribution of behavioral science
  - o Contribution of farm management

#### UNIT:2

- (A) Philosophy and role of Family resource Management in Home Science Education
- (B) Motivation for Management
  - Factors influencing management process
  - o Family needs and functions
  - o Values- Sources and patterns of values
  - o Attitudes and beliefs
  - o Family goals
  - O Standards relevance to goal attainment
  - o Interrelationship of concepts of management

# UNIT:3

#### (A) Resources

- Classification and characteristics
- o Resource assessment
- o Resource interactive issues of family and farm system
- o Resource generation and allocation in transitional society

# (B) Management Process

- Nature and role of management
- Conceptual framework
- o Challenges in management process

# UNIT:4

# (A) Decision Making

- Classification and models for decision making
- o Role of decision making in management
- o Decision making and gender perspective

# (B) Status of research In family Resource Management

- Scope for research
- Research gaps

#### References:

- Sushma Gupta, Neeru Garg and Amila Agarwal The text book of Home Management, Hygiene and Physiology., Latest Ed., Kalyani Publication.
- The educational Planning Group. Home Management, Latest Edition, Arya Publication House.

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#### Course outcomes

- 1. Learn about the advantage that arises from managing peoples and resource well.
- 2. Understand the pros and cons of planning.
- 3. Able to learn common techniques used to manage group decision making.

# Paper III: Management of Energy and Household Equipment

### **CREDIT-4**

# UNIT:1

# (A) Growth and development in household equipment technology

- o Trends in Equipment
  - Kinds of equipment
  - Base material and finishes
  - Design and Construction

# (B) Evaluation of design, performance and safety standards

- Organisation developing equipment standards
- Types of standards already developed
- Evaluation of equipment as per the developed Standards
- Equipment standards needed for
  - Normal Home makers
  - Handicapped Home makers.

# UNIT:2

# (A) Ergonomic Principles in relation to household equipment

- The workers while using equipment
  - Concept of human cost of work.
    - The cognitive component
    - The temporal component
    - The physical component
- The work and the equipment
- o The work place and the usage of equipment

#### (B) Basics of electricity

- conductors and non-conductors,
- o generation of electric current
- o wiring, wiring in home, master control of building
- o wiring system, circuits, current, and kinds of electric
- o current, voltage, over current protective device
- o Motor safety devices, electrical accessories.

# <u>UNIT:3</u>

#### **Equipment Classification**

Electrical, Non electrical, tools, utensils etc.

#### UNIT:4

# **Drudgery reducing equipments**

- o Use and maintenance of house hold equipments
- o Energy crisis, conventional and non-conventional
- o Energy sources
- o Energy Conservation methods.

#### **References**:

- Louise Jension Peet, Lenore Sater Thye. House hold equipment (1949), 5<sup>th</sup> edition.
- Louise Jension Peet, Lenore Sater Thye. House hold equipment (1955), 4<sup>th</sup> edition.
- Forence Ehrenkranz, Lydia Inman, Equipment in the Home (1958)

#### **Course outcomes**

- 1. Understand the equipment standards needed for handicapped home makers.
- 2. Learn the equipments related to recreation and their work.
- 3. To understand the methods of energy conservation.

# **Paper IV: Family Decision Making**

**CREDIT-4** 

#### UNIT:1

# (A) Decision Making

- Importance of Decision Making
- Classification Of Decisions
- o Steps involved in Decision Making

# (B) Problem Solving

- Modes of Problem solving
- o Importance of Problem solving in Decision Making

# UNIT:2

#### (A) Communication

- Interpersonal communication
- o Communication and Decision Making

### (B) Conflicts

- Levels of conflicts
- Methods of resolving conflicts
- o Certainity and Levels of risk

# **UNIT:3**

#### **Decision**

- Decision rules
- Decision tree
- o Factors influencing decisions related to Family resources

# UNIT:4

Researches in Decision Making in Indian Families

#### **References:**

- Sushma Gupta, Neeru Garg and Amila Agarwal. The text book of Home Management, Hygiene and Physiology., Latest Ed., Kalyani Publication
- The educational Planning Group. Home Management. Latest Edition, Arya Publication House.
- Paulene Nickell, Jean Muir Dorsey, Management in Family Living, Fourth edition.
   CBS Publishers and distributors, New Delhi

### **Course outcomes**

- 1. Understand the methods of resolving conflicts.
- 2. Learn the applications of different statistical tests.
- 3. To study about the decision pattern in the family for different socio-economic group.

# M.Sc. Second Semester Based on CBCS (Home Science) Resource Management

# Paper I: Statistics and Computer Applications

**CREDIT-4** 

#### UNIT:1

Conceptual understanding of statistical measures. Classification and tabulation of data. Measurement of central tendency, measures of variation. Frequency distribution, histogram, frequency, polygons, ogive, Binomial distribution.

#### UNIT:2

Normal distribution – Use of normal Probability tables. Parametric, non-parametric tests. Testing of hypothesis, Type I and II errors. Level of significance.

#### **UNIT:3**

Chi-Square test. Goodness of fit independence of attributes 2 X 2 and r X c contingency tables. Application of student 't' test for small samples. Difference in proportion for means and difference in means. Correlation, Coefficient of correlation, ranks correlation.

### UNIT:4

Fundamental of computer, History of computer, Generation of computer, Language, Components, Applications of Computers. Operating System & Internet: MS-DOS, MS-Windows, and Internet.MS-Office: MS-Word, MS Excel and Power Point. Introduction to Data-base Management system, Fox-Pro.

#### References:

- Basandra, S.K.: Computer for Managers, Designing An Effective Management Information System, Abhinav Publishing Industries, N. Delhi, 1965.
- 2. Diwan, Parag, Information System Management, Deep & Deep Publications, New Delhi, 1997.
- 3. Laudon, Kenneth C. and London, Jane Price, Management Information System: A Contemporary Perspective, Macmillan Publishing Company, New Delhi.
- 4. Mehta, Versham Management Information System, Anmol Publication, New Delhi, 1998.
- 5. Banerjee, Utpal K. and sachdeva, R.K., Management Information System: A New Framework, Vikas Publishing House, Pvt. Ltd., New Delhi.

#### **Course outcomes**

- 1. Understanding statistical measures.
- 2. Understand the importance of computer application in statistical analysis.
- 3. Fundamental knowledge of computer and its language and different programmes.

# **Paper II: Interior Design and Decoration**

#### **CREDIT-4**

# UNIT:1

# (A) Impact of housing and interior designing on

- Physical wellbeing of the family
- Psychological wellbeing of the family
- o Social wellbeing of the family

# (B)Functional and aesthetic aspects in interior designing

- Use of space
- Use of colour
- Use of texture
- Use of pattern
- Use of lighting

# UNIT:2

# (A)Furniture and Furnishings

- o Evolution of various styles in furniture design
- o Furniture design principles
- o Factors affecting the choice of furniture and furnishings
- o Draperies and curtains
- Floor coverings
- Upholstery
- Accessories and arrangements

# (B)Care of furniture and furnishings

# UNIT:3

# (A)New trends in furniture design and style

- o Changing trends in design and style of furniture
- Use of various materials in furniture design
- o Functional utility of various materials and designs

# (B)Table setting

- o Residential
- o Commercial

#### UNIT:4

# (A)Flower needs for interior designing

- o Residential settings
- Professional settings

# (B)Current trends in interior designing with emphasis on -

- New items of furnishing
- Materials and cost of furnishings
- o Application and experiments by the interior designer

# (C)Project formulation and estimation of costs of the projects

#### References

- Devan, Dorothy. Introduction to Home furnishings. New Me Millan. London
- Art in everyday life, IV Ed., The Macmillan Company, Newyork
- Whilton, S. Interior Design and Decoration. JB Lippincott company, Newyork.
- XFaulkmer.R. and Faulkner, S. Inside today's home, Rinchart and Winston Inc., Newyork

#### **Course outcomes**

- 1. Learn the functional and aesthetics aspects in interior designing.
- 2. Understand the functional utility of various materials and designs in furniture.
- 3. Learn applications and experiments by the interior designer.

### Paper III: Activity Analysis and Ergonomics

CREDIT-4

#### UNIT:1

- (A) Definition and classification of household work
- (B) Factors influencing performance of household work

#### UNIT:2

#### (A)Ergonomics

- Scope and importance
- History of ergonomics
- o Ergonomic analysis of work

- o Work, worker and workplace
- o Relationship between man-machine-environment

# (C) Concept of human cost of work in relation to affective, cognitive, Temporal and physical components

- Cost of work
- Physiological cost of work
- Cardiac cost of work
- o Perceived rate of exertion
- Frequency of performance of activity
- Incidence of pain by body map

# UNIT:3

# (A) Functional designs and arrangement of kitchen and other work centers

- Rural kitchen
- Urban kitchen
- (B)Ergonomic analysis of various work centers in home

# UNIT:4

Procedure for designing work through time and motion study techniques

- Motion economy
- Design of work method.

#### References

Grandjean, E., Ergonomics of the Home. Taylor and Francis Publications.
 McCormick, E.J., Hanuman Factors in Engineering and Design, Mc Graw
 Hill Book Company Inc., New York.

# **Course outcomes**

- 1. Understand the relationship between man, machine and environment.
- 2. Ergonomics analysis of various work centers in home.
- 3. Learn the concept of human cost of work in relation to different components.

# UNIT:1

# (A)Housing

- Introduction
- Factors affecting housing
- Private and public housing
- Housing standards
- Housing needs
- Housing demands and future projections
- o Functional design in house

# (B)Types of housing

- Own house
- Rented house
- Cooperative housing
- Slum and squatters

# UNIT:2

# (A)Principles of town and country planning

# (B)Family housing

- Financing
- o Role of governmental and non governmental agencies
- Housing schemes
- Housing byelaws

#### UNIT:3

Researches related to social, psychological and physical aspect Of housing

Housing research institutions

# **UNIT:4**

**Essential services in housing** 

#### **References:**

- Sushma Gupta, Neeru Garg and Amila Agarwal. The text book of Home Management, Hygiene and Physiology., Kalyani Publication.
- **Home Management**, The educational Planning Group, Arya Publication House Latest edition.
- Paulene Nickell, Jean Muir Dorsey. **Management in Family Living**, Fourth edition CBS Publishers and Distributors, New Delhi.
- Goodyear, M. R. and Klohr, M.C. **Managing for effective living**, Kalyani publication.
- Pugh, Cedric, 1990. **Housing and urbanization**. Sage publications, New Delhi
- Cherunilam , Prances and Heggade, Odeyon, D. 1987. Housing in India. Himalaya publishing house, New Delhi
- National Buildings Organization monograph of housing statistics
- NBO, Low Cost Housing Design , N. B. O. New delhi.
- Mathur, G. C. 1983. Low Cost Housing In Developing Countries. Oxford & IBH publishing Co. Pvt., Ltd. New Delhi.

Khurana, M. L. 1997. Reading in Cooperative Housing, N.B.O.; New Delhi.

### **Course outcomes**

- 1. Learn about the house plans for different socio-economic groups.
- 2. Understand the types of housing.
- 3. Learn role of governmental and non-governmental agencies.

# M.Sc. Third Semester Based on CBCS (Home Science) Resource Management

# Paper I: Entrepreneurship Development and Management CREDIT-4

#### **UNIT:4**

#### (A) Entrepreneurship

- o Concept and meaning need for entrepreneurship development.
- O Competencies / qualities of an entrepreneur

# (B) Entrepreneurial Support System

- District Industry Centers (DICs)
- Commercial Banks
- State Financial Corporations.
- Small Industries Service Institutes (SISIs), Small industries Development bank of India (SIDBI), National Bank for Agriculture and Rural Development (NABARD), National small Industries Corporation. (NSIC)

#### UNIT:2

# (A) Market Survey and Opportunity Identification (Business Planning)

- o How to start a small scale Industry
- o Procedures for registration of small scale industry.
- o List of items reserved for exclusive manufacture in small scale industry.
- O Assessment of demand and supply in potential areas of growth.
- Understanding business opportunity.
- o Consideration in production selection.
- Data collection for setting up small venture.

# (B) Project Report Preparation

- o Preliminary Project Report
- o Techno Economic feasibility report
- Project viability

#### **UNIT:3**

# (A) Managerial Aspect of small Business

- Principles of Management
- Operational Aspects of Production
- Inventory management
- Basic principles of financial management
- Marketing Techniques.
- o Personnel Management.
- Importance of communication in business.

#### (B) Legal Aspects of small Business

- Elementary knowledge about income tax, sales tax, Patent rules & Excise rules.
- Factory Act and Payment of wage Act.

# <u>UNIT:4</u>

# (A) Environmental Considerations

- Concepts of ecology and environment.
- Factors contributing to Air, Water, Noise pollution and their standards and control
- o Personal Protection Equipment (PPEs) for safety at work places.

#### (B) Miscellaneous

- Human relations and performance in organization
- o Relation with subordinates, peers and superiors.
- o Motivation Incentives, Rewards, Job satisfaction.
- Leadership
- Labour Welfare
- Worker's participation in management.

#### References

- 1. Environmental Engineering and Management by Suresh K. Dhamija, S.K. Kataria and sons, New Delhi
- 2. Entrepreneurship Development by CB Gupta and P. Srinivasan, Sultan chand and sons, New Delhi.
- 3. A Hand book of Entrepreneurship, Edited by BS Rathore and Dr. JS Saini; Aapga Publications, Panchkula (Haryana)

#### **Course outcomes**

- 1. Understand the entrepreneurial support system.
- 2. Elementary knowledge about legal aspects related to industries.
- 3. Learn about the project formulation for venture establishment.

# **Paper II: Household and Environment**

# **CREDIT-4**

# UNIT:1

# (A)Ecology and environment

- Introduction
- Principles
- Human environment in ecological perspective
- Functioning of ecosystem
- o Relationship of ecosystem with family environment
- (D) Rural-urban household in their ecological setting
- (C)Impact of household systems behavior on Natural Resource Environment and vice versa

#### UNIT:2

- (A) Interaction between ecology and family
- (B) Resource system and its implications for quality life

# UNIT:3

- (A) Environmental resource degradation and its impact on Family resource system
- (B) Utilization techniques of household and farm waste for Sustainable development in rural families
- (C) Environmental Education in India
  - o Role of women in Natural Resource Management
  - o Contribution of families in maintaining ecological balance

# UNIT:4

#### (A)Pollution and environment

- o Air pollution
- o Water pollution
- Land pollution
- Noise pollution
- o Environmental sanitation and hygiene

#### (B)Role of Government and private sectors Natural Resource Management

#### (C) National and International environmental laws

#### **References:**

- NCEPC National Committee on environmental Planning and co-ordination, publications.
- Arlhon, S. Boughey Readings in man the environment and human ecology
   Macmillan Publication co-Inc. New York
- William, R. Readings in Ecology, Energy and Human society-contemporary perspective, Harper and Row Publication.

#### **Course outcomes**

- 1. Understand the contribution of families in maintaining ecological balance.
- 2. Learn the national and international environmental laws.
- 3. Learn the Importance of natural resource management.

# **Paper III: Gender and Development**

**CREDIT-4** 

#### UNIT:1

#### (A) Gender in context with development

Concept of gender, gender roles; changing trends, gender analysis matrix. Changing form of welfare from development and empowerment, gender w.r.t. development, National and international efforts for gender empowerment.

# (B) Status of men and women in society

Demographic, education, employment, political, health (General, occupational and reproductive) in changing scenario

#### UNIT:2

#### Violence Against men and Women:-

Dowry, divorce, female feticide and infanticide, domestic violence, sexual harassment and exploitation portrayal of women/men in mass media. Efforts taken for elimination of all forms of discrimination.

#### **UNIT:3**

# Gender and Development: Policies & programmes, National policies

- Empowerment Perspective policy perspectives, mainstreaming, a gender perspective.
- Economic empowerment Poverty eradication, micro-credit, self-help groups, women and agriculture, women industry and support services.
- Social empowerment Education, health, nutrition, drinking water and sanitation, housing and shelter, environment.
- Legal empowerment Legal literacy on personal and family laws, role
  of family court and legal aid centres.
- O Political empowerment Role of panchayati Raj in the political empowerment of women/men.

#### UNIT:4

#### Support system

Role and functions of the Department of Women and Child Development, Central Social Welfare Board, State Social Welfare Board, National Commission for Women, Women's Development Corporation.

#### References

- 1. Black M, (1993): Girls and Women, A UNICEF Development Priority, Unicef, New York.
- 2. Yadav, C.P. (2000). Empowerment of women. Vol. I & II, Laxmi Shikshan, Sansthan and Anmol Publications Pvt. Ltd; New Delhi.
- 3. Laxmi Devi (1998). Women and Development. Institute for sustainable Development and Anmol Publications Pvt. Ltd:, New Delhi.
- 4. National Perspective plan for women (1988): Department of women and Child Development; New Delhi.
- 5. Sahay. S. (1998) Women and Empowerment: Approaches and Strategies. Discovery Publishing; New Delhi.

#### **Course outcomes**

- 1. Learn the policies and programmes for gender development.
- 2. Study about role of female in political empowerment.
- 3. Understand the status of men and women in our society.

# **Paper IV: Financial Management**

# **CREDIT-4**

# UNIT:1

Financial Management: Concept and Significance

Working of Finance and Planning Commission

National Income

Wage determination and wage differential

Inflation and deflation

#### UNIT:2

# **Budget:**

Concept, Principles, Formulation, Enactment and Execution, Performance; Budget, PPBS, ZBB

# UNIT:3

# **Accounting:**

Concept, Functions, Accounting Systems, Records, Procedures

Auditing and C and AG

# UNIT:4

# **Saving and Investment:**

Role of Credit in finance; Impact of LPG and Foreign Direct Investment on Trade in India

#### Reference

- 1. Lal, Jawahar, Managerial Accounting, Himalaya Publishing House, New Delhi.
- 2. Vij, Madhu, Financial and Management Accounting, Anmol Publications Pvt. Ltd., New Delhi, 1998.
- 3. Sharma, Nand K. Accountancy, Theory and Practice, Surabhi Publications, Jaipur

- 4. Pandey, I.M., Financial Management, Vikas Publishing House, New Delhi.
- 5. Bigham, Eugene F., and Houston, Joel F., Fundamentals of Financial Management, Harcourt Brace College Publishers, New York.

#### **Course outcomes**

- 1. Understand the concept and significance of financial management.
- 2. Learn about the role of financial system of India.
- 3. Learn about the budget, saving and investment.

# M.Sc. Fourth Semester Based on CBCS (Home Science) Resource Management

# Paper I: Implant Training/Internship

**CREDIT-7** 

In this paper students will be go for implant training in any Industrial area.

#### **Course Outcome**

- 1. This Training/Internship enable the students to learn in practical situation.
- 2. They learn to use their knowledge in real situations
- 3. This prepares students for their future career goals.

# **Paper II: Dissertation**

**CREDIT-10** 

In this paper student will be do research work and prepare the report.

#### **Course Outcome**

- 1. Understand identification of research problem.
- 2.Learn analysis of data

3. Understand the process of research.

**Paper III:** Seminar and Viva Voce on implant Training / Internship and Dissertation CREDIT- 4

