SYLLABUS FOR M.Sc. HOME SCIENCE (FOOD AND NUTRITION)

1. HUMAN PHYSIOLOGY- Blood and circulatory system, digestive system, Respiratory system, Excretory system, endocrine system, nervous system, Sense organs, Reproductive system, Immunology, Skeletal and muscular system

2. MEDICAL NUTRITION THERAPY
Diet during fevers, Diseases of GIT, Kidney and Liver diseases, Metabolic disorders, NCDs, Genetics conditions, Cancers, In allergies, HIV/AIDS

3. FOOD MICROBIOLOGY AND SANITATION
Fundamentals Of Microbiology - Bacteria, Yeasts, Moulds-morphology, reproduction physiology, significance in foods, microbial contamination of foods, uses in the food industry, prebiotics, probiotics, Quality control of foods, GMP

3. RESEARCH METHODOLOGY & STATISTICAL TOOLS

4. FOOD SCIENCE
Physiochemical Changes in foods- changes in carbohydrates, proteins, fats during cooking Processing methods in Milk and milk products- homogenization, pasteurization. cheese making –Pulses and legumes processing- germination, fermentation. Vegetable and fruits cookery, Food preservation, Sensory Evaluation of foods

5. NUTRITION THROUGH LIFE CYCLE
Indian RDA, compared to WHO/FAO/US/UK standards, nutritional needs during infancy, for preschool children, for school going child, during adolescence, adulthood, old age, pregnancy and lactation

6. FOOD TECHNOLOGY
Processing Technology related to Cereals, millets, Pulses, Meat, Fish and Poultry, Dairy products, oil seeds, beverages, Nutrigenomics, Nutraceuticals, Xenobiotics, Nano Technology
in Foods, Single cell protein, Novel proteins, Post-harvest technology  
Packaging Technology

7. FOOD SAFETY AND QUALITY ASSURANCE
Food Laws and Regulations, FSSAI, BIS,PFA, AGMARK, ISI, ISO, CODEX, HACCP, GAP,TQM, GHP, Toxins in food- Naturally present, environmental contaminants, processing contaminants

8. PUBLIC HEALTH NUTRITION
Public Health Problems -Grade of malnutrition, PEM, SAM, MAM, micronutrient deficiencies NCDs, Incidence and prevalence of Communicable diseases – Tuberculosis, Cholera, Diarrhoea and AIDS, Economics of Nutrition, Assessment of nutritional status in Community settings, Food and nutrition security – Green, White and Blue revolution, Nutrition education, food fortification, food enrichment, Public Distribution System, Nutrition Intervention programmes - organised by the governmental and non-governmental agencies for the vulnerable sections of the population, ,Role of national and International Organizations to combat malnutrition

9. SPORTS NUTRITION
Energy pathways during exercise of various duration and intensity- aerobic, anaerobic, very short duration, long duration, endurance, fatigue, onset of fatigue, nutrition and fatigue Endurance training and fatigue, Nutrient requirements during various sports, Ergogenic Aids Water requirements, loss of water and electrolytes during exercise, sports drinks, commonly seen nutritional problems in sports person, Sports anaemia, female athlete triad, RED S

10. NUTRITIONAL BIOCHEMISTRY
Carbohydrates- Structure, classification, properties and metabolism of CHO, Lipids- Structure classification, properties and metabolism, Proteins- Structure, classification, properties and metabolism of, Nucleic acids -Composition, functions and classification Isolation, structure and properties of DNA and RNA, Commonly used Techniques in biochemistry, role of macro and micronutrients in human health, energy measurement.