

Session 2022-23
M. Sc. (Foods & Nutrition) (Previous)
Semester -I
Paper - 401
Human Nutrition –I

Course Outcomes:

- To equip the students about action of nutrients and their implications in the body
- To know about the recent advances in nutrition
- To know about energy content of food
- They will be able to understand how to determine energy metabolism
- Students will learn about body composition, physiology of hunger and various eating disorders
- They will be able to understand interrelationship between drugs and various nutrients

Paper - 402
Nutritional Biochemistry –I

Course Outcomes:

- To facilitate the learners about fundamentals of nutritional biochemistry and its other aspects arming them with knowledge for better understanding of foods and nutrition
- Course will help to expand the nutritional biochemistry knowledge acquired at the undergraduate level
- Students will be able to understand the fundamentals of energetics of biochemical reactions
- Course will make them comprehend the different aspects of carbohydrates, lipids, proteins, enzymes and nucleic acids as biomolecules

Paper - 403
Human Physiology

Course Outcomes:

After studying this subject, students will be able to:

- Advance their understanding of some of the relevant issues and topics of Human Physiology
- Understand the integrated function of all systems and the grounding of nutritional science in physiology

- Inculcate about alteration of structure and function in various organs and systems in disease conditions
- Apply the knowledge of general and altered physiology to the field of nutrition such as by designing appropriate diets etc.

Paper – 404

Computer Applications

Course Outcomes:

- They will be able to learn the basic terminology of a computer system and fundamentals of problem solving on a computer
- At the end of this course, the student will be able to learn the basic terminology of hardware and software components of a computer system
- To know about basics of memory system and working of storage devices
- To know about the working of input/output devices commonly used in a computer system
- Students will be able to understand the concept of operating system and use Windows OS
- They will be able to learn how to develop, format, setup and print Word documents
- They will be able to develop power point presentations using basic features of power point application software
- They will be able to create & format worksheets in Excel
- They will learn basics of Internet and its services specifically e-mail services
- They will learn about WWW and search engines

Paper – 405

Therapeutic Nutrition –I

Course Outcomes:

- Students will understand the role of diet in health and disease
- Students will be able to know about the nutritional problems related to various diseases
- Course will help to equip the students about the etiology, clinical aberrations, prevention and nutritional management of various diseases
- They will be able to inculcate about Therapeutic science
- They will be able to understand about Inter relationship between different diseases and their nutritional management

Paper – 406

Nutritional Biochemistry – I (Pr.)

Course Outcomes: This course will enable the students to:

- Acquire skills to prepare standard solution
- Prepare buffers using buffer tablets and verify pH
- Know how to extract and quantitatively estimate total sugars and reducing sugars from food stuffs.
- Learn about isolate and estimate casein from milk
- Learn about quantitative estimation of proteins by Kjeldahl's, Biuret and Lowary's method
- Study the effect of pH, concentration, time and temperature of incubation on enzyme activity
- Know about estimation of activity of alkaline phosphatase in Moong been seeds
- Know about estimation of calcium, phosphorous and iron in various food stuffs

Paper – 407

Computer Applications (Pr.)

Course Outcomes: This course will enable the students:

- To demonstrate a basic understanding of computer hardware and software
- To demonstrate problem-solving skills with MS- Office
- To know how to utilize web technologies
- To demonstrate basic understanding of network principles.
- To apply present conclusions effectively, orally, and in writing.
- To learn how to work effectively in teams.

Paper – 408

Therapeutic Nutrition – I

Course Outcomes: This course will enable the students to:

- Plan, calculate, prepare, serve and evaluate therapeutic diets for diseases covered in theory
- Conduct market survey of commercial nutritional supplements and nutritional support substrate
- Prepare diet counseling aids for common disorders

M. Sc. (Foods & Nutrition)
Semester –II
Paper - 411
Research Methods & Statistics

Course Outcomes: This course will enable the students to:

- Understand the significance of statistics and research methodology in Home science research
- Understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design
- Apply statistical techniques to research data for analyzing and interpreting data meaningfully
- Understand the different research methods and their implication to different kind of research
- Get a deeper knowledge about the statistical skills to interpret the data and get the research outcomes
- Apply computer software in research and statistical analysis of data

Paper – 412
Nutritional Biochemistry –II

Course Outcomes: This course will enable the students:

- To understand the inter-relationship between different nutrients and their metabolism
- To know about the basic knowledge about molecular processes and biophysical techniques
- To prepare their-selves for research and field jobs
- To acquire an insight into interrelationships among various metabolic pathways
- To understand the mechanisms adopted by the human body for regulation of metabolic pathways
- To comprehend the different aspects of molecular biology
- To become proficient for specialization in nutrition

Paper - 413
Human Nutrition –II

Course Outcomes: After successful completion of this course, students will be able:

- To know about physiological and metabolic role of various nutrients
- To learn the requirement & interaction of various nutrients

- To know about physiological and metabolic role of various nutrients and their interactions in human nutrition
- To understand the basis of human nutritional requirement and recommendations through the life cycle
- To learn the actions of nutrients and their implications
- To become familiarize with the recent advances in nutrition

Paper - 414

Therapeutic Nutrition - II

Course Outcomes: After successful completion of this course students will be able:

- To understand the etiology, physiology and metabolic anomalies of acute and chronic
- To diagnose diseases and patients need
- To fulfill the basic requirements of the patients during the catabolic stage
- To know the effect of the various diseases on nutritional status and nutritional and dietary requirements
- To recommend and provide appropriate nutritional care for prevention/ and treatment of the various diseases

Paper – 415

Nutritional Biochemistry –II (Pr.)

Course Outcomes: This course will enable the students:

- To understand the principles of various analytical techniques available for nutrition research
- To familiarize them with the applications of the analytical techniques
- To extract and quantitatively estimate ascorbic acid
- To isolate and quantitatively estimate B1 and B2 vitamins in various foodstuffs
- To estimate moisture, crude fat, crude fiber, and ash in the foodstuffs
- To determine energy value of foods using bomb calorie meter
- To determine iodine value of given fat sample
- To learn about determination of Sodium & Potassium of food /drinks through Flame Photo Meter
- To learn about the separation of amino acids by paper chromatography and TLC
- To learn about the separation of proteins by gel electrophoresis

Paper – 416

Human Nutrition – II (Pr.)

Course Outcomes: This course will enable the students:

- To measure Body fat
- To determine Hemoglobin level
- To measure BP and calculate BMI
- To determine Plasma Protein and Cholesterol
- To assess food intake
- To measure body fat percentage and what is the role of it to determine the nutritional status of the person

Paper – 417

Therapeutic Nutrition – II (Pr.)

Course Outcomes: This course will enable the students to:

- Plan, calculate, prepare, serve and evaluate therapeutic diets for diseases covered in theory
- Conduct market survey of commercial nutritional supplements and nutritional support substrate and benefits of survey
- Study management of food services in selected hospitals
- Visit dietetic clinics in hospitals and perform case study of patients needing specific therapeutic diets
- Learn the role of case studies for research purposes
- Impart diets and their roles practically

Paper – 418

Food Product Development (Pr.)

Course Outcomes: This course will enable the students to:

- Conduct market and consumer survey to identify new products
- Learn about new products available in the market, how they are different from their basic product
- Learn to develop products from different food groups and
- Learn to conduct the sensory evaluation of the developed products by different methods
- Visit to Food Industry for professional understanding of production and marketing

Session 2022-23
M. Sc. (Foods & Nutrition) (Final year)
Semester – III
Paper - 501

Community Nutrition –I

Course Outcomes:

- This course will enable the students to know about causes /determinants and consequences of nutrition problems in society
- Course will make them enable to understand prevalence, etiology, biochemical and clinical manifestation, and preventive measures for different community diseases
- Course will help to inculcate a holistic knowledge base and understanding of the nature of important nutritional problems and their prevention and control for the disadvantaged and upper socio-economic strata in society
- Students will learn about the nutritional deficiencies prevalent among community

Paper - 502

Institutional Management –I

Course Outcomes:

- Course will help to equip the students about basic abilities and necessary expertise in key areas of institutional food administration
- Course will help to impart necessary expertise to function as a food service manager
- They will know about field level experience in Institutional Food Administration
- Course will help to equip with basic grounding in research techniques
- Students will learn about the various menus and serving systems

Paper - 503

Food Science - I

Course Outcomes

- Students will learn about the basic concepts and composition of food
- Course will provide the knowledge about the principles of food science in various food preparations
- Course will familiarize them with changes occurring in various foodstuffs as a result of processing and cooking
- They will be able to use the theoretical knowledge of food science in day-to-day life

Paper - 504

Food Safety & Quality Control

Course Outcomes:

- Course will help to equip the students about, food safety
- Students will be able to understand the different types of food processing in food industries
- They will learn about various food laws and standards related to quality management of food
- Students will learn about different types of food processing
- They will learn the Implications of food laws to assure food safety

Paper - 505

Food Microbiology

Course Outcomes:

- They will gain deeper knowledge about role of microorganism in human environment
- Students will be able to understand the importance of microorganism in food spoilage
- Students will learn advanced techniques in food preservations
- Students will know about the food borne disease and their prevention
- They will acquire an insight into interrelationship among microorganism with human body
- Students will understand the mechanism adopted by the human to eradicate food borne spoilage, diseases, and their prevention

Paper - 506

Community Nutrition – I (Pr.)

Course Outcomes: In this course students will be able to:

- Develop low-cost nutritious recipes based on locally available foods and better quality
- Learn to develop low-cost nutritive recipes suitable for various vulnerable groups
- Have field experience in operational public nutrition programs, nutrition rehabilitation centers, fortification programs and cost analysis
- Extract maximum edible part of the food
- Make easily available nutritious meals

Paper - 507

Institutional Management – I (Pr.)

Course Outcomes: This course will enable the students:

- To equip the students about the work knowledge of different types of food service units such as commercial and noncommercial ones.
- To impart the knowledge about planning and cost analysis of different types of menus.
- To develop skills for quantity cooking
- To analyze the cost of menu in food service organization
- To standardize the recipes for more than 100 persons

Paper - 508

Food Science – I (Pr.)

Course Outcomes: This course will enable the students:

- To perform physical and nutritional analysis of commonly consumed raw and processed food
- To familiarize students with the techniques and methods used for food processing
- To learn the chemistry of food groups
- To understand the physical and chemical structure of foods and their components
- To understand the basic principles and applications of food preservation and food processing

Paper - 509

Food Microbiology (Pr.)

Course Outcomes: This course will enable the students to:

- Learn Instrumentation in Microbiology laboratory and their function (Microscope, Autoclave, Hot air oven)
- Learn to prepare culture media
- Learn pure culture techniques (spread plate, streak plate, and pour plate methods)
- Understand simple and differential staining techniques
- Conduct microbiological evaluation of milk and milk products
- Determine proteolytic, amylolytic and lipolytic activities of microorganisms
- Perform microbiological analysis of water and air
- Know about normal micro-flora of human skin and mouth

- Isolate spoilage organisms from different food commodities
- Produce fermented foods (Saur kraut wine)
- Learn techniques of growth measurement
- Understand about the factors affecting growth

M. Sc. (Foods & Nutrition)

Semester –IV

Paper – 511

Community Nutrition - II

Course Outcomes:

- Course will orient the students with all the important state of the art methodologies applied in nutritional assessment and surveillance of human groups.
- Course will help to develop specific skills to apply the most widely used nutritional assessment methods.
- They will be familiarized with various approaches to nutrition and health interventions, programs, and policies
- They will learn about the nutrition education

Paper – 512

Institutional Management – II

Course Outcomes:

After doing this course the students will be able:

- To impart knowledge about the concept of large-scale cooking techniques
- To equip students about strategies for pricing, sales, and marketing of food products
- To acquire basic abilities and necessary expertise to start their own food unit leading to entrepreneurship
- To learn about food inventory, money management

Paper – 513

Food Science - II

Course Outcomes:

- Students will know about the composition of various foods
- They will learn about the significance of Food Science in the Food industry
- They will be able to describe the composition, types, impact of various processing techniques on different food groups as well as their byproducts
- Students will able to learn about science behind leavening agents

Paper – 514

Physical Fitness and Sports Nutrition

Course Outcomes:

- They will be able to understand the component of health and fitness
- They will be able to make nutritional dietary and physical activity recommendations to achieve fitness and well being
- They will be able to develop ability to evaluate fitness well being
- They will know about Physical fitness and wellness
- They will understand the type of nutrient to support physical activity
- They will be able to learn about sports specific diets

Paper – 515

Community Nutrition – II (Pr.)

Course Outcomes:

- Students will be able to assess the nutritional status of the community by using dietary, anthropometric measurement
- They will able to prepare aids for nutrition education
- They will learn to conduct survey among community to find nutritional deficiencies among different age groups
- Students will be able to educate community by using teaching aids, they prepared at their own

Paper – 516

Institutional Management – II (Pr.)

Course Outcomes: This course will enable the students:

- To equip the students about planning a menu, standardization of recipe and running a cafeteria on large scale
- To develop understanding about concept of food service management
- To develop skills in planning different menus according to the different types of food service organizations
- To understand rules and regulations related to hygiene and sanitation for food service units

Paper – 517

Food Science – II (Pr.)

Course Outcomes: This course will enable the students:

- To develop an understanding of various food processing techniques and methods
- To gain knowledge and experience about food processing by working in various food industries during internship
- To learn about processing of different food products, their shelf life and processing techniques
- To understand the sensory evaluation of foods and its application
- To learn about processing, quality control and packaging of different food products through one month internship in food processing industries

Paper – 518

Physical Fitness & Sports Nutrition (Pr.)

Course Outcomes: This course will enable the students:

- To conduct survey of dietary intake of athletes, nutrition knowledge of athletes and coaches
- To evaluate cardiovascular fitness (heart rate, radial pulse, walking test, step test, 12-minute run and bicycle test)
- To evaluate flexibility (sit and reach, zipper test, hamstring, and hip-flexor flexibility)
- To evaluate muscle strength (IRM and grip strength)
- To evaluate muscle endurance (curls up, 90 degree push up and flexed arm support)
- To know how to take anthropometric measurements accurately