THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS),
SIVAKASI – 626 123.

(Affiliated to Madurai Kamaraj University, Re-accredited with A Grade by NAAC,
College with Potential for Excellence by UGC and Mentor Institution under UGC PARAMARSH)

DEPARTMENT OF NUTRITION AND DIETETICS

UG DEGREE PROGRAMME IN B.Sc., NUTRITION AND DIETETICS

PROGRAMME EDUCATIONAL OBJECTIVES The Graduates will	
PEO1.	expertise in diet therapy and counseling, appraise the quality of food products as quality controller in food industries and imply their knowledge to opt higher studies.
PEO2.	utilize food products based on the needs by proper food management and design value added innovative food products to combat deficiency disorder.
PEO3.	improve entrepreneurial skills in the field of food and nutrition and to establish a food service outlet.

PROGRAMME SPECIFIC OUTCOMES By the Completion of **B.Sc., NUTRITION AND DIETETICS**, the learners will be able to	
PSO1.	infer and summarize the basic skills of various cooking technologies.
PSO2.	analyze nutrients, food quality and manage diseases using diet therapy.
PSO3.	compare and contrast nutritive value for various food ingredients and enrich the quality of food by incorporation and fortification.
PSO4.	create awareness on the importance of nutrition to the community and set up a computerized food service establishment.
PSO5.	inculcate the spirit to work under hierarchy.
PSO6.	adapt preservation techniques to use food resources appropriately to ensure food safety and security.
PSO7.	extended learning and update on health to assert ideal body weight there-by avow self-health improvement.

COURSE OUTCOME

Core Course	
Course Code: BDND11	**Course Title: FOOD SCIENCE**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the food groups and various cooking methods.
CO2 [K2]	comprehend the cooking and processing methods for various food groups.
CO3 [K3]	identify the structure, functions, medicinal value, nutritive value, cookery stages, methods, processing of various foods and food groups.
CO4 [K4]	categorize various food groups and analyze the selection method for different food groups.
CO5 [K5]	explain the effect of temperature and air on various food groups.

Core Course	
Course Code: BDND12	**Course Title: HUMAN NUTRITION**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the concept of nutrition, nutritional status, role of nutrients in human body.
CO2 [K2]	explain the factors affecting nutrition, sources and deficiency of various nutrients.
CO3 [K3]	identify the methods of determining energy value of foods and the role of various nutrients in human health.
CO4 [K4]	analyze the classifications, functions, digestion, and absorption of various nutrients.
CO5 [K5]	interpret the role of micro and macro nutrients in human health.

Core Course	
Course Code: BDND1L	**Course Title: PRACTICAL- I**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain about grouping of foods based on basic five food groups.
CO2 [K3]	apply the measuring techniques of foods in preparing various food items using the basic five food groups.
CO3 [K4]	experiment the various cooking methods of basic food groups.
CO4 [K4]	compare different food groups and their composition.
CO5 [K5]	appraise various cooking methods of foods.
Allied Course	
Course Code: BDND1A	**Course Title: HUMAN DEVELOPMENT**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the growth and development at different stages of life.
CO2 [K3]	identify the appropriate child study techniques in different stages of life.
CO3 [K3]	apply the idea of growth and development task of different stages.
CO4 [K4]	analyze the physical, social, emotional, motor, cognitive and language development of various stages of life.
CO5 [K5]	explain pre-natal and post-natal care, complications in pregnancy, labour, immunization of the baby, types of play, behavior problem, delinquency and social problems at old age.
Core Course	
Course Code: BDND21	**Course Title: FOOD CHEMISTRY**
On successful completion of the course, the learners should be able to	

CO1 [K2]	discuss the structure, properties and classifications of various nutrients and importance of drugs in human health.
CO2 [K2]	explain the signs and symptoms of metabolic changes, inborn errors and food drug interactions.
CO3 [K3]	identify the biochemical role of various nutrients.
CO4 [K4]	analyze the functions and properties of various biochemical components present in human body.
CO5 [K5]	interpret the importance of bio chemical elements which is regulating the human body.
Core Course	
Course Code: BDND2L	**Course Title: PRACTICAL-II**
On successful completion of the course, the learners should be able to	
CO1 [K2]	demonstrate the reaction of fat and oil, separation of amino acids by paper chromatography.
CO2 [K3]	apply the techniques to estimate protein and reducing sugar present in foods.
CO3 [K3]	identify suitable techniques for the qualitative analysis of various nutrients.
CO4 [K4]	analyze the quality of various components of foods.
CO5 [K5]	evaluate the amount of glucose in human serum and urine.
Allied Course	
Course Code: BDND2A	**Course Title: HUMAN PHYSIOLOGY**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the structure, digestion, absorption and functions of various organ systems of the body.
CO2 [K2]	summarize the mechanism of various organs.
CO3 [K3]	identify the various components involved in digestive, respiratory, reproductive, endocrine and nervous systems.

CO4 [K4]	analyze the importance of various organs, glands and systems of human body.
CO5 [K5]	interpret the secretion and role of hormones in various glands of human body.
Allied Course	
Course Code: BDND2AL	**Course Title: ALLIED PRACTICAL -I**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline various techniques involved in assessing the child development.
CO2 [K3]	identify the structure and functions of various human organs.
CO3 [K4]	examine the microscopic structure and functions of various glands.
CO4 [K4]	analyze various blood groups and blood coagulation.
CO5 [K5]	asses a child's development by case study.
Core Course	
Course Code: BDND31	**Course Title: NUTRITION THROUGH LIFE CYCLE**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the food groups, food pyramid and principles of meal planning diets for the various stages of life.
CO2 [K2]	explain the principles of planning diets, RDA and nutritional needs for various stages of life breast feeding and artificial feeding.
CO3 [K3]	identify the dietary modification and nutritional requirements for various stages of life span.
CO4 [K4]	analyze the dietary problem, complications and physiological changes of pregnancy, lactation and old age and nutritional requirement for various stages of life span.
CO5 [K6]	formulate appropriate diet for any individual based on one's age, sex, occupation and family income.

Core Course	
Course Code: BDND32	**Course Title: FOOD PRODUCT DEVELOPMENT AND QUALITY CONTROL**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain the concept of new product development, packaging, labeling, advertisement, marketing strategies, copyright and patent rights.
CO2 [K2]	discuss the test involved in food adulteration, food additive, food laws, food standards and quality control.
CO3 [K3]	apply the food evaluation techniques to assess the quality of various food.
CO4 [K4]	analyze the packaging and labeling methods of different food products.
CO5 [K5]	interpret the concept of product development, packaging, labeling, advertising and marketing strategies and financial management for entrepreneur development.
Core Course	
Course Code: BDND3L	**Course Title: PRACTICAL - III**
On successful completion of the course, the learners should be able to	
CO1 [K3]	apply the basic principles in planning a meal for an individual requirement.
CO2 [K3]	plan and prepare a day's meal for women in special conditions such as pregnancy and lactation.
CO3 [K4]	discover innovative ideas in the preparation of indigenous weaning mix.
CO4 [K5]	choose an appropriate meal for various income groups and age groups.
CO5 [K6]	Formulate menu plan for individuals of various age groups based on their nutritional needs.
Allied Course	
Course Code: BDND3A	**Course Title: FOOD PRESERVATION TECHNOLOGY**
On successful completion of the course, the learners should be able to	

CO1 [K2]	outline the principles and various methods of food preservation techniques.
CO2 [K2]	trace out the importance and role of food preservation techniques.
CO3 [K3]	identify the influence of food preservatives and various preservative techniques in the food processing industry.
CO4 [K4]	analyze the techniques, procedure and types for preserving various food products.
CO5 [K5]	interpret the preservation methods and techniques in preserving various food products.
Core Course	
Course Code: BDND41	**Course Title: THERAPEUTIC DIET**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the role of dietitian, types of hospital diet, special feeding methods and Total Parenteral Nutrition.
CO2 [K2]	comprehend dietary principles, dietary modifications in planning therapeutic diet for disease conditions and explain about dialysis.
CO3 [K3]	identify the etiology, dietary modifications and nutritional requirement for various diseases.
CO4 [K5]	interpret the etiology, symptoms and nutritional requirement for various diseases.
CO5 [K6]	create sample diet plan for various diseases according to their BMI.
Core Course	
Course Code: BDND4L	**Course Title: PRACTICAL - IV**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the diet for the patients with cardiovascular diseases and kidney diseases.
CO2 [K3]	determine diets for the patients with metabolic disorders.
CO3 [K3]	plan therapeutic hospital diets.
CO4 [K5]	recommend diet for the patients with special conditions such as cancer, burns and AIDS.

CO5 [K6]	formulate sample diet plan for various condition, disease and disorders.
Allied Course	
Course Code: BDND4A	**Course Title: FAMILY RESOURCE MANAGEMENT**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain the concept of resource management and management process.
CO2 [K2]	discuss about the furniture, lighting, accessories, work simplification techniques.
CO3 [K3]	identify the role of decision making, color scheme.
CO4 [K4]	analyze the classification of decision-making technique and flower arrangement based on their uses.
CO5 [K5]	interpret the importance of various management process and budgeting for different income group.
Core Course	
Course Code: BDND4AL	**Course Title: ALLIED PRACTICAL - II**
On successful completion of the course, the learners should be able to	
CO1 [K2]	demonstrate various preservation techniques to preserve foods.
CO2 [K3]	apply color harmony in flower arrangement.
CO3 [K3]	plan a budget for different income groups.
CO4 [K5]	evaluate sensory characteristics of foods.
CO5 [K6]	prepare food items by drying and rehydration methods.
DISCIPLINE SPECIFIC COURSE	
Course Code: BDND4DSL	**Course Title: ANALYTICAL TECHNIQUES OF NUTRIENTS**
On successful completion of the course, the learners should be able to	

CO1 [K2]	demonstrate the application of various analytical and instruments and equipment.
CO2 [K3]	apply the suitable techniques to perform qualitative and quantitative analysis of various nutrients.
CO3 [K3]	identify the appropriate equipment and analytical method for various nutrients.
CO4 [K4]	examine the quality of the given food by nutrient analysis.
CO5 [K5]	evaluate the nutrient contents in food by different analytical techniques.
Core Course	
Course Code: BDND51	**Course Title: THERAPEUTIC DIET AND COUNSELING**
On successful completion of the course, the learners should be able to	
CO1 [K2]	summarize the concept of diet counseling, assessing the patients need and prescribe appropriate diet, symptoms and causes of various diseases.
CO2 [K3]	identify the etiology, symptoms of various disease, disorders and suitable dietary modifications for various diseases and genetic disorders.
CO3 [K3]	plan diet for various disease condition.
CO4 [K5]	interpret the principle of diet and nutritional requirement for various diseases.
CO5 [K6]	create sample diet chart for various disease condition.
Core Course	
Course Code: BDND5L	**Course Title: PRACTICAL – V**
On successful completion of the course, the learners should be able to	
CO1 [K2]	demonstrate the sample diet plan for various disease and disorders.
CO2 [K3]	estimate the nutritive value for the prepared diet plan.
CO3 [K3]	plan and prepare therapeutic diets for various diseases.
CO4 [K4]	analyze diet management for various diseases and genetic disorders.

CO5 [K6]	modify diets according to one's disease condition.
Core Course	
Course Code: BDND5V	**Course Title: INTERNSHIP/ON-THE-JOB TRAINING**
On successful completion of the course, the learners should be able to	
CO1 [K2]	relate the class room theory with work place practice.
CO2 [K3]	apply the practices / procedures observed in real time working environment.
CO3 [K4]	analyze the workflow and communication flow prevailing in the institution/industry.
CO4 [K5]	assess interests and abilities in their field of study.
CO5 [K6]	propose strategies, policies and guidelines for enhancing efficiency of industrial/institutional operations.
Core Elective Course	
Course Code: BDND5E1	**Course Title: COMMUNITY NUTRITION**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the concept of community nutrition and ecology of mal nutrition.
CO2 [K2]	discuss the nutritional status of the individual / community by various assessment methods.
CO3 [K3]	apply the knowledge acquired on nutritional assessment, nutritional education and nutritional programme for the welfare of the community by creating awareness on the same.
CO4 [K4]	analyze the role of national and international organization in welfare of the community.
CO5 [K5]	interpret the importance of various nutrition education programmes.
Core Elective Course	
Course Code: BDND5E2	**Course Title: FOOD PACKAGING**

On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the functions and applications of food packages
CO2 [K3]	apply the suitable packages for radiation stabilized foods.
CO3 [K4]	categorize the packaging materials according to the purpose and requirement.
CO4 [K5]	assess the suitable packages for any food products.
CO5 [K6]	make up the finished goods using different procedures in labeling.
Core Elective Course	
Course Code: BDND5E3	**Course Title: EXTENSION EDUCATION**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain the steps in extension education and qualities of extension educator.
CO2 [K2]	discuss the objectives and principles of community development.
CO3 [K3]	organize developmental programme to benefit the people and ensures women empowerment in a community.
CO4 [K4]	analyze the techniques of communication for development of communication in a community
CO5 [K6]	formulate extension programme for the welfare of people.
Core Elective Course	
Course Code: BDND5E4	**Course Title: FUNCTIONAL FOODS AND NUTRACEUTICALS**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the role and importance of nutraceuticals.
CO2 [K2]	summarize the structure, properties and uses of functional foods and antioxidants.
CO3 [K3]	identify the various sources and health benefits of functional foods.

CO4 [K4]	examine the functions of nutraceuticals and anti-nutritional factors in various food products.
CO5 [K5]	interpret the importance of nutraceutical rich supplements, probiotics and prebiotics as nutraceuticals.
Core Course	
Course Code: BDND61	**Course Title: BDND61 – FOOD MICROBIOLOGY**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the general characteristics, importance of microorganisms, food spoilage and health hazards.
CO2 [K2]	explain the microorganisms causing food spoilage, health hazards, prevention and control methods.
CO3 [K3]	identify the methods to control the food spoilage, to prevent infections and intoxications.
CO4 [K4]	analyze the methods of controlling, preventing and removal of spoilage in various foods.
CO5 [K5]	interpret the role of microbes in food industry and human health.
Core Course	
Course Code: BDND62	**Course Title: FOOD SERVICES MANAGEMENT**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain the concept of food service institution, food plant layout, food management.
CO2 [K2]	outline the types of food service institution, selection and types of equipment, menu and functions of management.
CO3 [K3]	apply the tools of management, personnel management in food sector.
CO4 [K4]	infer the function of catering industry, layout of food plant, factors affecting menu planning.
CO5 [K5]	interpret the concept of food purchasing, table setting, personal management, left over foods, standardization of foods and computer utilization in food service management.
Core Course	
Course Code: BDND6L1	**Course Title: PRACTICAL - VI**

On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the equipment in microbiology lab.
CO2 [K4]	examine the microscopic structure of microorganisms by staining and unstaining techniques.
CO3 [K4]	analyze the load of microorganism present in food and food processing equipment.
CO4 [K5]	evaluate the quality of milk.
CO5 [K6]	prepare media for bacteria.
Core Course	
Course Code: BDND6L2	**Course Title: PRACTICAL – VII**
On successful completion of the course, the learners should be able to	
CO1 [K3]	plan and prepare menu for various occasion.
CO2 [K3]	apply the various procedures and types involved in table setting.
CO3 [K5]	determine cost for every standardize food items and cost control.
CO4 [K5]	create various recipes using various food groups.
CO5 [K6]	adapt entrepreneurial skills through quality cooking, preparation, organization.
Core Elective Course	
Course Code: BDND6E1	**Course Title: TEXTILES AND CLOTHING**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline natural and man- made fibre.
CO2 [K3]	select the twist, counts and types of yarns with its applicability.
CO3 [K4]	analyze the construction in fabrics, types of weaving and its benefits.

CO4 [K4]	categorize dying and printing, methods of dying, compare hand and machine printing.
CO5 [K5]	interpret importance of textile finishing and technical skill in textiles.
Core Elective Course	
Course Code: BDND6E2	**Course Title: FOOD BIOTECHNOLOGY**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the concept of genetically modified foods, fermentation and biotechnology.
CO2 [K2]	summarize the concept of microbial fermentation, fermented products, enzymes and microbes in food industries.
CO3 [K3]	identify the types, processes and importance of fermentation, immobilization techniques and safety aspects of food produced by genetic engineering their importance.
CO4 [K4]	classify the preparation of various valuable fermented food products, production of enzymes, primary and secondary metabolites.
CO5 [K5]	interpret the concept and preparation of fermented and fortified foods using food technology.
Core Course	
Course Code: BDND6P	**Course Title: PROJECT**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the research methods and need for the research.
CO2 [K4]	examine research techniques and ideas to make desirable outcome.
CO3 [K5]	interpret the results after assessing the quality of foods.
CO4 [K5]	design new and innovative food products.
CO5 [K6]	compose the results and findings for the selected topics and prepare project report.
NON-MAJOR ELECTIVE I	
Course Code: BDND4N	**Course Title: INTRODUCTION TO FOOD AND NUTRITION**

On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the basic concept of food, cooking, nutrition and nutrients.
CO2 [K3]	identify the different methods of cooking, classification, functions and sources of various nutrients.
CO3 [K3]	apply the knowledge about nutrients and methods of cooking in day to day life.
CO4 [K4]	analyze the nutrients present in various food materials.
CO5 [K5]	interpret the functions of macronutrients and their sources.
NON-MAJOR ELECTIVE II	
Course Code: BDND5N	**Course Title: HEALTH AND FITNESS**
On successful completion of the course, the learners should be able to	
CO1 [K2]	explain the basic concept of health, determines, ecology, factors responsible, indicators of health.
CO2 [K3]	identify the suitable method assessing physical fitness.
CO3 [K4]	analyze the functions of various food groups, determines and factors responsible for health and its indicators.
CO4 [K5]	interpret the role of healthy food and exercise in life.
CO5 [K5]	choose appropriate food groups based on their functions and its property.
SELF EMPLOYMENT COURSE	
Course Code: BDSE70	**Course Title: FOOD PROCESSING AND PREPARATION**
On successful completion of the course, the learners should be able to	
CO1 [K2]	outline the concept of food processing, classify preservatives, its role and importance.
CO2 [K2]	explain various methods to use prepare dehydrated products and candies.

CO3 [K3]	apply the procedure involved in preparation of pickles,vathal, vadam, jam, jelly, sauce, squashes.
CO4 [K4]	categorize the packaging and labeling methods of different food products.
CO5 [K5]	asses the suitable package for any food products.
SELF EMPLOYMENT COURSE	
Course Code: BDSE70L	**Course Title: FOOD PROCESSING AND PREPARATION PRACTICAL**
On successful completion of the course, the learners should be able to	
CO1 [K2]	demonstrate the preparation of dehydrated products like vadam.
CO2 [K3]	apply the procedure and preparation of pickle, candies, sauce, ketchup, mango fruit cheese and syrup.
CO3 [K3]	identify appropriate preservation methods for various food products.
CO4 [K4]	analyze their own preparation on adopting preservation techniques.
CO5 [K4]	interpret the utilization of food materials for long term use.