

# GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

## DEPARTMENT OF APPLIED NUTRITION & PUBLIC HEALTH

### AN 101 -BASICS OF BIOCHEMISTRY

#### COURSE OUTCOMES

After the completion of the course, the students will be able to:

- CO 1:** Understanding of nutrition basics - food groups, body needs for nutrients and carbohydrates – sources, process of digestion, metabolism and utilization.
- CO 2:** Gain knowledge about carbohydrates, their role and utilization in body processes and understand biological cycles involved in carbohydrate metabolism. Gain the skill of characterizing carbohydrates present in an unknown solution on the basis of various chemical assays.
- CO 3:** Understand proteins and their role and utilization in body processes and learn about the metabolism of amino acids.
- CO 4:** Gain Knowledge on basic structure and functional significance of nucleic acids. Gain the skill of characterizing proteins Present in an unknown sample using various chemical assays.
- CO 5:** Understand lipid metabolism and their role in human nutrition. Learn about the consequences of high fat consumption in the diet.
- CO 6:** Gain Knowledge about essential fatty acids and their deficiency.
- CO 7:** Gain knowledge about types of energy and principles of calorimetry. Understand the concept of Recommended Dietary Allowance.
- CO 8:** Determines energy value of various and understand the concept of Basal Metabolic Rate.

### AN 201 - NUTRITIONAL BIOCHEMISTRY

#### COURSE OUTCOMES

After the completion of the course, the students will be able to:

- CO 1:** Understand the importance of Fat-soluble and water-soluble vitamins in human nutrition, including their classification, sources, and the effects of excess and deficiency.
- CO 2:** Understand the importance of water-soluble vitamins in human nutrition, including their classification, sources, and the effects of excess and deficiency. Develop the skill to quantitatively analyze carbohydrates using prescribed methodologies.
- CO 3:** Understand the role of minerals in human nutrition, including their classification, sources, and comprehend the functions of minerals with health
- CO 4:** Understand the role of Zinc and Selenium as antioxidants. Acquire the skill to estimate proteins, fats and minerals using prescribed methodologies.

- CO 5:** Gain knowledge on Water metabolism: Distribution of water in body fluids, Regulation of water metabolism.
- CO 6:** Knowledge about acid base balance & imbalance in the body. Japanese Water Therapy.
- CO 7:** Understand Role of Enzymes and Hormones in human physiology
- CO 8:** Understand Role of Hormones in human physiology

## **AN 301-FOOD SCIENCE & TECHNOLOGY**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Understand the role of food in human nutrition and. Learn various cooking techniques and how to minimize nutritional loss while cooking and apply them in day-to-day life.
- CO 2:** Learn the significance of functional foods like cereals and millets and their role in cookery. Develop the skill of cutting vegetables in different shapes and sizes.
- CO 3:** Understand and explain the importance of pulses and legumes and their role in cookery apply it in in day-to-day life.
- CO 4:** Understand the significance of milk and milk products in cookery and gain knowledge about different types of fermented & non-fermented milk product. Learn the skill of preparing different types of dishes using pulses, milk etc.
- CO 5:** Acquire knowledge about different fleshy foods, their role in cookery and differentiate between the fresh and spoilt products.
- CO 6:** Understand the medicinal value of Indian spices and condiments. Learn the skill of evaluating the quality of eggs, preparing different types of dishes using fleshy foods.
- CO 7:** Understand the composition and nutritive value of fruits and vegetables.
- CO 8:** Understand Role Sugar & jaggery and fats & oils in cookery and can prepare different sugar-based food items.

## **300/SEC/E FOOD SERVICE MANAGEMENT**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Understand the Principles of management, difference between Commercial & Non-commercial food service institutions
- CO 2:** Learn different Food management techniques such as Menu construction, Menu planning, types of menus and food service styles.
- CO 3:** learn the nuances of Setting up food service establishment

**CO 4:** Understand the financial management aspect of the food service industry and gain sufficient knowledge to launch his or her own food service company.

## **AN 401-FAMILY & COMMUNITY NUTRITION**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

**CO 1:** Understand the concept of a balanced diet and RDA concept. Utilize available technology to determine caloric intake, energy expenditure, and the adequacy of nutrient intake compared to established standards

**CO 2:** Understand menu planning principles, and the needs of different physiological age groups. Utilize basic nutrition knowledge and the dietary guidelines for making food choices that will promote optimal health.

**CO 3:** Understand the changes and complications during pregnancy and nutrient requirements of pregnant and lactating women.

**CO 4:** Identify the many stages of infant development and growth. Acquire knowledge on factors to be considered while preparing & introducing supplementary foods. Develop the skill of planning diets for Pregnant women, Lactating women and Infants.

**CO 5:** Identify feeding issues and factors affecting nutritional status in Preschoolers.

**CO 6:** Understand the nutritional concerns during pre-school, school going and adolescent ages and assess eating disorders in them. Develop the skill of planning diets for Pre-Schoolers, School going child & Adolescents.

**CO 7:** Understand the nutritional needs of the elderly, basics and importance of Nutritional Assessment in clinical practice. Develop the skill of planning diets for old age people.

**CO 8:** Understand the method of Assessment of Nutritional status.

## **400/SEC/E - QUANTITY FOOD PRODUCTION**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

**CO 1:** Understand the Principles of food production and learn difference standardized recipes.

**CO 2:** Become familiar with ingredients and culinary terminology, and learn to read and evaluate menus. Recipe conversion and costing skills are developed.

**CO 3:** learn different mode and methods purchasing different cooking and storage equipment. Gain the skill of maintain catering records.

**CO 4:** Understand different food delivery and food service methods.

## **AN 501 FOOD SAFETY AND QUALITY CONTROL**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Explain the application of food quality management and food safety system. Understand the physical, chemical and microbiological contaminants.
- CO 2:** Learn about GM Foods and BSE. Examine and analyze the suitability of different food packaging to ensure they comply with Indian laws.
- CO 3:** Understand different food contaminants of metals, mineral, plant, and Animal origin. Evaluate safety of food ingredients and analyze and identify potential risks in the food chain.
- CO 4:** Develop the skill of reading nutritional labels, certification of the packaged food products and be able to judge the status of claims and misleading descriptions (with respect to Indian standards).
- CO 5:** Understand various mycotoxins and phycotoxins and conceptualize the concept of adulteration in food products.
- CO 6:** Recognize the importance of food additives in the production of food products and gain knowledge about allowable additives and their limits in processed foods. Recognize radioactive pollutants from a variety of sources.
- CO 7:** Acquire knowledge on different properties and microbiology of foods. Learn how to use culture techniques to investigate microbial food contamination
- CO 8:** Interpret the chromatographic techniques. Understand how to execute HACCP. Understand various areas of Food Safety & Quality Assurance and comprehend food quality managements systems.

## **500/GE/E FUNDAMENTALS OF FOOD & NUTRITION**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Define food and understand the various types of foods that are available in the market.
- CO 2:** Understand the functions and sources of nutrients, and different physiological processes by which food is absorbed in the human body
- CO 3:** Acquire knowledge on Pre & probiotics foods and understand the benefits of gut microflora.
- CO 4:** Develop the skill of reading nutritional labels, certification of the packaged food products.
- CO 5:** Learn how to store raw and cooked foods.
- CO 6:** Understand the concept of adulteration in food products and identify common adulterants present in food.
- CO 7:** Identify the kinds of organisms found on the human body, that may cause food contamination and illustrate the link between personal hygiene and food safety.

**CO 8:** Demonstrate the principles of personal hygiene appropriate to safe food handling.

## **AN 601 - PUBLIC HEALTH, FOOD HYGIENE & SANITATION**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Explain the history and philosophy of public health as well as its core values, concepts, and functions across the globe and in society.
- CO 2:** Understand Epidemiological methods, vector management and different control strategies. Understand different food borne infections and toxic effects of specific food toxicants
- CO 3:** Define health education and state the objectives of health education. Apply the public health and community health education interventions to real life situations
- CO 4:** Understand the functioning of Primary health care system and the importance of using Audio-visual aids in health education. Demonstrate a wide range of skills in the use of mass media to spread health awareness and develops own audiovisual aids for this purpose.
- CO 5:** Learn about various national and international organizations that work in the field of public health and their missions.
- CO 6:** Conceive the concept of adulteration in food products and identify different adulterants in everyday foods. Apprehend National and International Food standards and food laws.
- CO 7:** Understand the importance and role of Consumer Education and Protection and explain the basic concepts related to Consumer Education and Protection.
- CO 8:** Explore transfer and career opportunities in health-related professions.

## **AN 602 – ADVANCED NUTRITION**

### **COURSE OUTCOMES**

After the completion of the course, the students will be able to:

- CO 1:** Understand the history and development of food technology industry. Appreciate the role of food technology in combating malnutrition in developing countries.
- CO 2:** Comprehend the role of physical, chemical and microbial agents in spoilage of foods and methods of their control
- CO 3:** Explain general principles of food preservation and Apply the principles and methods involved in the processing of different foods.
- CO 4:** Understand home scale methods of food preservation and apply them in real life situation and understand and compare various commercial methods of preservation.

- CO 5:** Learn about packaging systems and safety and legislative requirements and explain various types of packaging material, their properties used in packaging of food product and labelling.
- CO 6:** Understand the Packaging requirements of food categories and explain packaging of different food products like cereals, vegetables, fruits, meat, fish.
- CO 7:** Define & understand properties of functional foods, Antioxidants and nutraceuticals and appreciate their role in health and disease.
- CO 8:** Apply knowledge gained in food microbiology, processing, and preservation of safe, nutritious, and high-quality food products and Identify service providers for developing Entrepreneur/business establishment.