SHIVRAJ COLLEGE GADHINGLAJ

DEPARTMENT OF Food Science

Food Science Program Outcomes, Program Specific Outcomes and Course Outcome

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PROGRAM OUTCOMES

1. PO1- Apply the scientific method to food science problems.
2. PO2- Apply critical thinking and analytical evaluation to contemporary food science information and literature.
3. PO3- Apply principles from general chemistry, microbiology, analysis biotechnology and biochemistry to food science problems.
4. PO4- To provide knowledge and skills for better preservation techniques, processing and value addition to agricultural products.
5. PO5- To promote research and development for food product and process and guarantee sanitation and safety of processed food items.
6. PO6- Utilize advanced instruments and technologies to process and analyze food products and to solve food safety problems.
7. PO7- Critically access and analyze food science information available in the public domain in an innovative and ethical way.
8. PO8- Design food products that meet the various food regulations and laws.
9. PO9- Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food and nutrients in health and disease processes.
10. PO10- Taking roles as researchers, academics, practitioners, or professionals with reliable skills, mastering concepts and theories, and applying and developing food and related sciences.

PROGRAM SPECIFIC OUTCOMES

1. PSO1. To impart knowledge in various aspects of Food Technology through Theory and Practical knowledge.
2. POS2 .To impart the knowledge about various compounds such as protein, carbohydrates, lipids amino acids, minerals, vitamins etc associated with the chemical compositions of food, their structures and functions.
3. POS3. The students can gain knowledge about some very essential topic of nutrition and its metabolism balance inside the body.
4. POS4. To make the students familiar with the technologies of food processing and preservation of plant and animal foods, cereals, pulses, oilseeds, fruits vegetables, spices, meat, fish, poultry, sea food, milk and dairy products.
5. POS5.To development students' understanding and communication skills through various assignments which will enable them to develop skills in writing and effective's interpersonal skills. Presentations in different topics enhances their confidence, ability to express themselves & presentation skills

COURSE OUTCOMES

Fundamentals of Food Science

CO1 Students will understand the basic concepts in food science and will get knowledge of the different food preparation methods.

CO2 They will understand the requirement of food with respect to energy, food and consumer safety, nutrients and their impact on health.

CO3 They will get the knowledge of nutritive value of cereals, pulses, nuts, fruits and vegetables, ant nutritional factors, germination of pulses, factors affecting cooking,

CO4 Students will acquire the knowledge of structure and nutritive value and chemical composition of various foods

Food Chemistry

CO1 Students will get introduced to Food chemistry and nutrition concept

CO2 Explain properties and reactions of carbohydrates, lipids and proteins during storage and processing of food and how these influence the quality and properties of the food.

CO3 Explain the importance of water for stability and quality of foods

CO4 Give an overview of the main classes of compounds influencing colour and flavor of food and have knowledge on important sources of vitamins and minerals in food and how these affect other quality aspects of food.

Food Microbiology

CO1 Students will understand the basic concepts in microbiology, principle and working of different instruments used in lab along with its application.

CO2 They will get the knowledge about the how bacteria grows, different factors which affect their growth, different requirements for bacterial growth, different isolation and purification methods used for bacteria

CO3 They will understand the principle and importance of different staining methods used for bacteria.

CO4 They will gain knowledge on different sources, types of bacteria that cause spoilage in food, various changes that occur during spoilage in food depending on their nutrient content.

Principles of Food Preservation

C01 They will understand importance of preservatives different methods and its importance.

C02 Explain the basic principles of food preservation processes: heating, chilling, freezing, control of water activity, acidification, chemical preservatives, packaging, etc.

CO3 Explain the range of processing operations used for food preservation including thermal processing, chilling and freezing, dehydration, irradiation, nonthermal methods, etc.

CO4 Explain effects of processing and storage conditions on shelf life of foods

Fundamental of Food Analysis

CO1 Understand the principles of food analysis by conducting various analytical techniques, learn various physical, chemical and biochemical analyses of foods

CO2 To understand how to validate a method to monitor microbiological and/or chemical hazards in food

CO3 They will gain knowledge about panel members, their selection, types and tasks

to implement a sampling plan to monitor chemical and microbiological hazards in food.

CO4 They will acquire knowledge about sensory attributes, facilities for sensory evaluation sensory evaluation methods of food.

Human Nutrition

CO1 They will acquire knowledge about basics of nutrition, balanced diet, vitamins and minerals

CO2 Educate others about holistic Nutrition, life style ,wellness and healthy living Familiarize nutritional assessment, RDA and Recommendations & Guidelines.

CO3 Gain knowledge on changes during various stages of growth and development throughout life cycle

CO4 Understand the basic principles of diet and diet therapy, acquire the knowledge of modifications of normal diet for therapeutic purposes.

Food Biochemistry

CO1 Understand the concepts of metabolism

CO2 Describe the Metabolism of carbohydrates, lipids and its regulation

CO3 Describe the metabolism of amino acids, nucleic acids and its regulation

CO4 Describe the metabolism of secondary metabolites

Food Biotechnology

CO1 To understand the steps involved in recombinant DNA technology.

CO2 To understand principles of animal culture, media preparation .

CO3 The objectives of this course are to introduce students to the principles, practices and applications of plant biotechnology, plant tissue culture, plant genomics, genetic transformation and molecular breeding of plants.

CO4 To get insight in Primary and Secondary organs of Immune system, learn about structural features of components of immune system as well as their function, development of immune system and mechanisms by which our body elicits immune response.