

Department of B. Voc. (Food Processing Technology)

Programme outcomes

PO1: To provide judicious mix of skills relating to a profession and appropriate content of General Education.

PO2: To ensure that the students have adequate knowledge and skills, so that they are ready to work at each exit point of the programme.

PO3: To provide flexibility to the students by means of pre-defined entry and multiple exit points.

PO4: To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce. \

PO5: To provide vertical mobility to students coming out of 10+2 with vocational subjects.

F.Y (Food Processing Technology) Sem I

Course outcome for BvFt 101 Food Science (Credits 3)

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.

CO4: They will get the knowledge of nutritive value of cereals, pulses, nuts, fruits and vegetables, ant nutritional factors, germination of pulses, factors affecting cooking,

CO5: They will understand the processing of oilseeds, protein isolates, Texturized vegetable protein

CO6: Students will acquire the knowledge of structure and nutritive value and chemical composition of eggs, fish and meat.

CO7: They will understand the importance and advantages of health food like probiotics, prebiotics, organic food, nutraceuticals, functional foods

Course outcome for BvFt 102 Fundamentals of Microbiology (Credits 3)

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.

CO5: Students will understand different methods that can be used to prevent and detect bacterial spoilage of food.

CO6: They will understand importance of preservatives different methods and its importance.

Course outcome for BvFt 103 Food Chemistry and Nutrition (Credits 3)

CO1: Students will get introduced to Food chemistry and nutrition concept

CO2: Students will learn about classification and properties of carbohydrates and examples

CO3: They will understand different classification of amino acids based on Nutrition.

CO4: They will have knowledge about different test used for estimation of protein in food industry.

CO5: They will learn about classification of lipids, Rancidity, Autoxidation of fats.

CO6: They will acquire knowledge about basics of nutrition, balanced diet, vitamins and minerals

CO7: They will learn different food enhancers used in food industry..

Course outcome for BvFt 104 Food Processing and Engineering

CO1: Students will understand the basic concepts in food processing and engineering and will get knowledge of the different instruments used in food processing and engineering.

CO2: They will understand different unit operations used in food processing.

CO3: They will understand the basic of heat transfer and energy requirement in food industry, physical properties of water, water activity.

CO4: They will understand different preservation methods used in food processing

CO5: They will learn different drying method and types of dryers.

CO6: They will acquire knowledge about freezing theory, different food freezers and quality of frozen food.

CO7: They will learn different designs and drawing of agitators, heat exchangers, evaporators and crystallizers.

Course outcome for BvFt 105 Value education (Credits 1)

CO1: Student will learn about main objective of value education.

CO2: They will learn about different personal values like humility, ambition, self-motivation.

CO3: They will learn about team spirit, balancing of mind, alertness.

CO4: They will acquire knowledge different Professional values.

Course outcome for BvFt 106 Practical in Food Science (Credits 3)

CO1: Students will understand the structure of starches, gelatinization of starches.

CO2: They will understand the processes like roasting, tenderization, caremalisation, inversion.

CO3: They will acquire the knowledge about different tests for carbohydrates, protein and water in food.

CO4: They will acquire the knowledge about handling different instruments used in food.

CO5: They will understand different changes occurred during frying of oil and smoke point of oil.

CO6: They will understand the importance of egg white foam and their different stages used in food industry.

Course outcome for BvFt 107 Practical of Microbiology (credits 3)

CO1: Students will understand the basic concepts in microbiology and they will understand the principle and working of different instruments used in microbiology lab along with its application. They will learn about different equipment's used in lab.

CO2: They will learn how to clean equipment's and sterilize them.

CO3: They will learn about handling of compound microscope.

CO4: They will understand different staining methods for bacteria and its importance.

CO5: They will understand difference between bacteria and fungi.

CO6: They will learn different methods used for isolation and enumeration of bacteria from food sample.

Course outcome for BvFt 108 Practical in Food Chemistry and Nutrition (Credits 3)

CO1: Students will get introduction different types of chemical reactions used for identification of carbohydrates

CO2: They will be able to estimate FFA content in given oil sample.

CO3: They will be able to perform estimation of ascorbic acid, protein and reducing sugar from food sample.

CO4: They will learn about protein Gluten and classification Wheat based on gluten content and will be able to estimate it from the given flour.

CO5: They will learn importance of moisture content and will learn to estimate it from food sample.

Course outcome for BvFt 109 Practical in Food Processing and Engineering (Credits 3)

CO1: Students will understand the physical, mechanical, textural and biochemical properties of foods.

CO2: They will understand the working of centrifugal separation and oil extraction method.

CO3: They will acquire the knowledge about microwave heating of food materials and effect of microwave on food material.

CO4: They will acquire the knowledge about drying of food materials.

CO5: They will understand freezing of food and effect of freezing on food.

CO6: They will understand the determination of firmness of foods.

Course outcome for BvFt 110: Industry Training (Credits 5)

CO1: Students get exposed to actual working environment and enhance their knowledge and skill from what they have learned in the college

CO2: Students will learn about different equipment's and instruments used in industry.

CO3: They will learn about different processing methods used in industry.

CO4: They will understand about various ingredients, information about them and their importance.

CO5: They will learn about different types of hazards, how they cause spoilage in food and their sources.

CO6: They will learn how to maintain daily record.

CO7: They will understand various processes carried out at a time in food industry.

CO8: They will understand importance of different test (physical, chemical & biological)

CO9: They will learn how to maintain personal hygiene in food industry.

CO10: They will learn to be punctual and develop self confidence in them.

S.Y (Food Processing Technology) Sem III

Course outcome for BvFt 301 Principles of Food Preservation (Credits 3)

CO1: Students will understand the basic of heat transfer and energy requirement in food industry, physical properties of water, water activity.

CO2: They will learn different drying methods, quality of dried foods.

CO3: They will acquire knowledge about freezing theory, different food freezers, quality of frozen food and their packaging.

CO4: They will understand about different heat preservation techniques like pasteurization, sterilization, aseptic processing, UHT, thermal resistance of microorganisms.

CO5: They will get the knowledge about irradiation with respect to sources, units, doses, effect on microorganisms and quality of irradiated foods, consumer safety.

CO6: They will understand about the basics, working principle, applications of high pressure processing method used in food industry

Course outcome for BvFt 302 Food Safety Standards (Credits 3)

CO1: Students will understand the basic of food safety, implementation of HACCP, importance of TQM in food industry, different ISO series and their uses, importance of auditing and accreditation in food industry.

CO2: They will learn which microorganisms cause spoilage, assessment of food based on microbial quality, microbial assessment of foods.

CO3: They will acquire knowledge about sampling and its types, its implementation in food industry.

CO4: They will understand about different steps used for detection of foodborne pathogens.

CO5: They will get the knowledge about qualitative and quantitative methods used for water analysis, detection of coliforms in water sample.

CO6: They will understand about assessment of surface sanitation by using different components, its types and importance of it in industry.

CO7: They will learn about different laws for food safety and FSSAI standards.

CO8: They will understand different types of foods: organic food, genetically modified foods.

CO9: They will learn about new pathogen that causes food spoilage, recent outbreaks due to food spoilage.

CO10: They will gain knowledge on importance of packing, nutrient labeling and product labeling.

Course outcome for BvFt 303 Post Harvest Management of Fruits and vegetables

(Credits 3)

CO1: Students will understand the importance, current status, nutritional composition and reasons of spoilage of fruit and vegetables.

CO2: They will learn different preservation methods such as pasteurization, sterilization, canning, freezing, refrigeration etc.

CO4: They will get the knowledge about processing of canning, spoilage of canned food, different packaging materials used for canned food.

CO5: They will learn about processing of different fruits and vegetables product like fruit beverages, squash, cordial, nectar, jam, jelly, marmalade and defects in preparation of products.

CO6: They will learn the processing and types of different pickles, chutney, sauces and tomato products.

CO7: They will get knowledge about drying and dehydration of fruit and vegetable.

CO8: They will learn processing of tea, coffee and cocoa beans like selection, cleaning, sorting, fermentation, pulverization, drying.

Course outcome for BvFt 304 Food Analysis (Credits 3)

CO1: Students will understand the techniques of food analysis viz. gravimetric colorimetric, chromatographic with their working principles and application.

CO2: They will learn different physical chemical and rheological properties of foods.

CO3: They will acquire knowledge about sensory attributes, facilities for sensory evaluation sensory evaluation methods of food.

CO4: They will gain knowledge about panel members, their selection, types and tasks.

CO5: They will learn about sampling procedure for sensory evaluation, application of consumer tests.

CO6: They will learn statistical testing, accuracy and precision of sensory data and correlation between instrumental and sensory measurements.

Course outcome for BvFt 305 Applied Statistics (Credits 1)

CO1: Students will get introduction to statistics and concepts used in statistics.

CO2: Student will be able to draw different types of diagrams, graphs and solve the sums related to mean, median, mode.

CO3: Students will get introduced to concept of Null Hypothesis and ANOVA

Course outcomes for BvFt 306 Practical in Principles of Food Preservation (Credits 3)

CO1: Students will understand the drying of fruit and vegetables.

CO2: They will acquire the knowledge of different parameters during rice processing.

CO3: They will understand the preservation of fruits and vegetable by pickling.

CO4: They will learn to preserve the fruit by sugar by preparing squash.

CO5: They will study to identify different types of packaging material used in the food industry.

CO6: They will acquire about fermentation, blanching and examination of canned pineapple.

Course outcomes BvFt 307 Practical in Food Safety Standards (Credits 3)

CO1: Students will understand to prepare different types of media with its importance.

CO2: They will learn different methods for microbial examination in food sample and detection methods.

CO3: They will acquire knowledge about water analysis, personal hygiene, surface analysis and methods used in it.

CO4: They will learn how to calculate aerial microbial count and its importance, various biochemical tests used for pathogens.

CO5: They will learn implementation of HACCP and ISO.

Course outcome for BvFt 308 Pr. In Post-Harvest Management of Fruit and Vegetable (Credits 3)

CO1: Students will understand the determination of moisture content present in fruit and vegetables, evaluation of quality parameters of fruit and vegetables like color, taste, texture, flavour.

CO2: They will learn to control the enzymatic browning in fruit and vegetables by using different method like blanching, salt solution, acid solution, normal water solution, refrigeration.

CO3: They will understand the drying of fruit and vegetables, pretreatments of fruit and vegetables.

CO4: They will understand processing of different fruit and vegetable products like jam, jelly, squash, mango bar, tomato ketchup.

CO5: They will learn osmotic dehydration of fruit and vegetables by using salt and sugar.

CO6: They will acquire knowledge about sensory evaluation, sensory evaluation of processed product.

Course outcome for BvFt 309 Practical on Food Analysis (Credits 3)

CO1: Students will understand the different quality analysis of milk, fat, water used in food.

CO2: They will learn to determine the gluten content from wheat sample.

CO3: They will acquire knowledge about estimation of protein, fat of food.

CO4: They will gain knowledge about separation and identification of amino acids by paper chromatography.

CO5: They will learn to determine iodine value, saponification value free fatty acids of fats and oils

CO6: They will learn to determine the titratable acidity, TSS and pH of fruit juice.

Course outcome BvFt 310 Industry Training (Credits 5)

CO1: Students will learn about different techniques, standard procedures that are followed in industry.

CO2: They will learn about different preservation methods used in industry.

CO3: They will understand about different food laws, different certifications required for food industry.

CO4: They will learn about how auditing and accreditation is carried out.

CO5: They will learn how to do physical, biochemical and microbial analysis of raw materials and final products.

CO6: They will understand study about shelf life determination.

CO7: They will learn about cost estimation, sales and marketing of food products.

CO8: They will acquire knowledge about packaging material testing and their use in for different food products.

CO9: They will learn about labeling of food products.

CO10: They will understand how to maintain data and carryout statistical analysis of food products.

T.Y (Food Processing Technology) Sem V

Course outcome BvFt 501: Bakery & Confectionary products (Credits 3)

CO1: Students will understand the basic terms and concepts related to bakery and confectionary products.

CO2: Students will gain the knowledge related to various machineries used in bakery.

CO3: Learn the role of different ingredients in bakery products.

CO4: To know the manufacturing details of bakery and confectionary products

CO5: Learn about the different parameters for setting up bakery unit.

CO6: Understand cost components like fixed cost and learn how to do the costing of the product

Course outcome for BvFt 502 Meat, Fish and Poultry Processing (Credits 3)

CO1: Students will understand the basic of meat, fish and poultry processing and importance of meat processing for entrepreneurship development.

CO2: They will learn different meat processing and preservation methods.

They will acquire knowledge about different quality parameters of meat and their use to check freshness of meat.

CO3: They will understand about principles of fish processing and different fish processing methods.

CO4: They will get the knowledge about different quality parameters of fish suitable for processing.

CO5: They will understand different methods of poultry processing and quality parameters of poultry.

CO6: They will learn importance of egg production and different egg preservation methods such as pickling and canning.

Course outcome for BvFt503 Product Development and Formulation (Credits 3)

CO1: Students will understand the concept of new product development, type of new product and need of new product development.

CO2: They will learn different objectives of creative product and innovative products, different stages involved in new product development like idea generation, idea screening, business analysis, product development and commercialization.

CO3: They will get knowledge about ingredients used for product development, quality and quantity of ingredients, cost of ingredients, nutritional composition of new product like (carbohydrates, protein, fat, minerals, fibers), standard specification as per laws and regulations for ingredients.

CO4: They will understand about sensory evaluation, need and importance of sensory evaluation, methods of sensory evaluations, type of sensory evaluation, selection of panelist, result of sensory evaluation.

CO5: They will get the knowledge about product design and process development for the new product development, steps involved in product design, factors affecting on the product design, selection of prototype for product development.

CO6: will understand about the market strategy, selection of market for product launching, consumer testing by market survey.

CO7: They will learn the shelf life study of new product by using different test like physical, chemical and microbiological test of product, successful market testing and commercialization of new product in India.

Course outcome for BvFt 504 Waste Management in Food Industry (Credits 2)

CO1: Students will get introduction to waste produced in food industry and its management methods.

CO2: They will acquire knowledge regarding treatment methods for liquid waste treatment.

CO3: They will acquire knowledge about bio filters and ion exchange treatment of drinking water.

CO4: They will learn the methods for recovery of biological materials from different food processing industry.

Course outcome for BvFt 505: Management Principles & Business Ethics (Credits 2)

CO1: Students will get introduction to management author's and their contribution.

CO2: They will acquire knowledge regarding functions of management in detail.

CO3: They will acquire knowledge about various leadership style and motivational techniques used in an organization.

They will be aware about sexual harassment and relevance of business ethics.

Course outcome for BvFt 506 Practical on Bakery & confectionary product (Credits3)

CO1: Students will learn to prepare different types of bread like whole wheat bread, white bread & understand the changes occur during baking.

CO2: Learn to prepare other baked products like pizza base, bread sticks.

CO3: Learn to prepare flour confectionary product like sponge cake, swiss roll.

CO4: Understand preparation technique for icing.

CO5: Learn to prepare skill based products like puff pastry.

CO6: Understand working of different equipment used in bakery.

CO7: Understand working of different types of ovens.

Course outcome for BvFt 507 Practical in Meat, Fish and Poultry Processing (Credits 3)

CO1: Students will understand the survey of different meat processing industries and different processed products from meat, fish and poultry.

CO2: They will understand the slaughtering process and cleaning and sanitation of meat and meat plant.

CO3: They will acquire the knowledge about different preservation methods such as canning and pickling.

CO4: They will acquire the knowledge about how to check quality of fish for processing.

CO5: They will understand how to produce fishmeal protein and fishmeal powder.

They will understand the processing of chicken and test quality.

CO6: They will learn the process of canned egg pickle.

Course outcome for BvFt 508 Pr. on Product development and formulation (Credits3)

CO1: Students will understand the how to generate new product ideas, product concept and product design. They will learn preparation of new product by using different processing methods.

CO2: They will learn ingredients technology, limits of ingredients, benefits of ingredients, preparation of new product having a good nutritional value such as preparation of oat muffins, beetroot jam.

CO3: They will understand the prototype development, specification of products, and standard procedure for new product development like preparation of bottle gourd basundi.

CO4: They will understand processing methods, nutritional composition, and health benefits of garden cress kheer.

CO5: They will learn processing of drinks such as coriander seed coffee. They will learn processing of tea drop having different flavor.

CO6: They will acquire knowledge about sensory evaluation, type of sensory evaluation, use of sensory evaluation, and sensory evaluation of processed product.

CO7: They will learn shelf life study of new product, test of quality parameters, and physical, chemical and microbiological test of product.

Course outcome for BvFt 509 Pr. on Waste Management in Food Industry (Credits 2)

CO1: Students will get introduction to waste produced in food industry and its management methods.

CO2: They will acquire knowledge regarding treatment methods for liquid waste treatment.

CO3: They will be able to perform analysis of wastewater and interpret the result.

CO4: They will prepare membrane filter and do the filtration process and analysis the filtered water

CO5: They will isolate pectin and do its analysis.

Course outcome for BvFt 510 Project and Industry Training (Credits 6)

CO1: Students will learn about how to search research articles and reviews related to particular food products.

CO2: They will learn how to implement their ideas in innovative product development.

CO3: They will understand the process of product standardization.

CO4: They will acquire knowledge about sensory evaluation methods used in industry.

CO5: They will learn the quality control of products.

CO6: They will learn about cost estimation, sales and marketing of food products.

CO7: They will learn about maintenance of different equipment's and their standardization.

CO8: They will understand the procurement of raw material.

CO9: They will learn SOPs for different equipment's and instruments.

CO10: They will understand about different food laws, different certifications required for food industry.

CO11: They will learn about how auditing and accreditation is carried out.

CO12: They will acquire knowledge about packaging material testing and their use in different food products.

CO13: will learn about nutritional labeling of food products.

CO14: They will understand how to maintain data and carryout statistical analysis of food products.