DEPARTMENT OF FOOD TECHNOLOGY

S.KULA WOMEN'S COLLEGE

Course offered:

1. Bachelor of Food Technology (Bsc. Food Technology) 3 years - 6 Semesters

Program outcomes for Bachelor of Food Technology-

After completing the graduation in Bachelor of Food Technology students will be able-

PO1: To explain the various sources of raw foods and the nutrients present in it. They can also describe the biochemical roles of these nutrients in body metabolism.

PO2: Describe the spoilage and deterioration mechanisms happening in foods and food products and to apply methods to control microbial activities prolonging shelf life, assuring it fit for human consumption.

PO3: To identify the various micro-organisms pathogenic or non-pathogenic and trace the cause of food contamination. They will know how to identify microorganisms which are beneficial to food industries, can isolate and culture them.

PO4: To understand the different preservation techniques of foods by heat processing, by low temperature, by removal of water and by using salt and sugar or by other relevant methods.

PO4: To know the basics of computer applications used at the time of data entry relative to record keeping in food plant. They will be able to draft documents and prepare presentations wherever necessary.

PO5: To analyse and determine various compounds present in foods using analytical instruments. Estimation of nutrients and determination of unknown elements will also come in handy.

PO6: To understand Food laws and Food Safety regulations in India and worldwide, this will be accompanied by Safety and hygienic practices to be followed in a food plant layout.

PO7: Handle equipments which are used in the processing and preparation of foods and food processing operations.

PO8: Process and prepare food products which could be brought in the concurrent food market for sale. They will also be aware of the marketing strategies, management hierarchy involved in a food processing plant.

PO9: To plan and design a Food Plant Layout in accordance with the type of establishment (small, medium or large) in a specific area.

PO10: Understand certain environmental issues related to Food Industries and troubleshoot them. They will also gain the importance of biotechnology in food industries and associated measures to bring a boon in food production.

COURSES OUTCOMES FOR BACHELOR OF FOOD TECHNOLOGY

BFT- 101: FOOD CHEMISTRY

On completion of the course of study, of the various topics (units) under this paper, the students are able to-

CO1: Know the importance of food chemistry in today's fast life style, the chemical reactions of carbohydrates and the functional properties of sugar and polysaccharides such as starch, cellulose, glycogen, etc.

CO2: Know the details of amino acids, the building blocks of proteins, the type and structure of proteins, the functional properties of protein and its importance to our body.

CO3: Understand the various classes of lipids, various usage of lipids in food based on their properties and the details of processing effect on lipids.

CO4: Understand the various types of vitamins and minerals and the processing effects on vitamins and minerals.

CO5: Know the effect of enzymes on food, the various applications of enzymes in industry, the effect of water on food, activities of water on food and the shelf life of various foods.

BFT-102: MICROORGANISMS AND MICROBIOLOGY OF FOOD

On successful completion of the course, students will gain knowledge on:

CO1. Basic concept of microorganisms as well as different culturing techniques and preservation methods.

CO2. Microbial genetics and mutations occurring with the changing environment. They will be aware about theimmune system of our body.

CO3. Microbial contamination of food, spoilage of and preservation methods against the microbes.

CO4. Food borne infections and intoxication, sanitation and hygiene in food industries.

CO5. Beneficial microorganisms in different food industries and fermentations.

BFT-103: PRINCIPLES OF FOOD PROCESSING TECHNOLOGY

On successful completion of the course students will have the knowledge on:

CO1. Preservation and processing of food, perishability of food, intermediate moisture food and food wastage.

CO2. Various methods of food preservation by low temperature and related processes, controlled and modified atmosphere food storage.

CO3. Basic concepts of thermal destruction of microorganisms, methods of preservation by heat and spoilage of canned food.

CO4. Preservation by dehydration, and various techniques used during it and also on food concentration.

CO5. Application of salt and sugar during food preservation, preservatives and irradiation for food preservation.

BFT- 104: (Part-B) COMPUTER FUNDAMENTALS

After completion of computer fundamentals subject, the students will have knowledge on:

CO1.Basic knowledge about computer organization, operating system and DOS commands,

CO2.MS-office

CO3.MS-Excel

CO4.Basics of database management system

BFT-104 (Part-B) ANALYTICAL INSTRUMENTATION

On successful completion of this course the students are able to-

CO1: Understand about the working, construction and principles of analytical instruments like colorimeter, spectrophotometer, atomic absorption spectrophotometers, UV visible spectrophotometer and flame photometer which are used in the chemical laboratory analysis.

CO2: Apply Spectrophotometry in reference to Group I and GROUP II elements which are positively charged.

CO3: Know the principles, working and applications of Fluorimeter in determination of Thiamine and Riboflavin.

CO4: Understand the process of chromatography its principles and applications in accordance the various types of chromatography that is Paper, Liquid, Gas and HPLC (High Performance Liquid Chromatography). They will also know the phenomenon of Electrophoresis, its types Paper and moving Boundary electrophoresis related to agar and Beta-Carotene.

BFT-105: Laboratory Course-I

After successful completion of the course, students will be well trained with:

Food Chemistry

Techniques for estimation of many compounds or adulterants in different types of food

Food Microbiology

CO1. Different media used in microbial culturing and their preparations.

CO2. They will be well equipped with the knowledge of handling microorganisms with different techniques in laboratory as well as instrumentations related to microbiology.

BFT-106(Part-A: LAB) ANALYTICAL INSTRUMENTATION

On successful completion of this course the students will be able to handle-

CO1: Hot Air Oven (used for drying and dehydration methods)

CO2: Balances (used for measuring weights of chemicals)

CO3: Colorimeter (used to determine the concentration of coloured compounds)

CO4: Deionizer (used to remove ions, minerals and gases from water)

CO5: Flame Photometer (used in inorganic chemical analysis)

CO6: Water Bath (used for heating up solutions)

CO7: Distillation Plant (used for distillation of water)

FPT -105 Laboratory course1

Practical Lab (Computer Fundamentals)

The students will be able to perform:

Disk operating system commands, basic practical knowledge skills on MS word and Excel.

BFT-201: FOOD BIOCHEMISTRY

By the study of the various units completely under this paper the students are now able to-

CO1: Understand the various function of foods, the energy provided by food and the needs of dietary allowances require by various age groups.

CO2: Assess nutritional quality of food including vitamins and minerals that are involved in human metabolism and also the effect of processing on nutritive value of foods.

CO3: Understand the various types of enzymes, their functions, the mechanism of enzymes action and the factors affecting enzymes.

CO4: Know about the utilization of protein in the body, the metabolism of proteins including the disorder and also about the clinical proteins in association with excess and deficiency of protein.

CO5: Know about carbohydrates and its utilization in body metabolism and the various disorders caused by carbohydrates in body metabolism.

CO6: Have the idea of various usages of fats, the biosynthesis of fatty acids and fats and also the clinical disorders associated with fats.

BFT-202: INDUSTRIAL MICROBIOLOGY AND MODERN FOOD MICROBIOLOGY

Part A- Industrial Microbiology

After completion of the course, students will be well aware with:

CO1. Historical development of industrial microbiology and utilization of microorganisms in industries.

CO2. Fermenters and fermentation system, production of different products by fermentation.

CO3. Principles and production of different biochemical and mushroom cultivation.

CO4. Role of microorganisms in disposal and utilization of industrial waste and use of genetic modified organisms in food processing.

Part B- Modern Food Microbiology

After successful completion of the course, students will be well aware with:

CO1. Factors related to microbial interactions with food, different additives in food and about commercially available databases

CO2. Modern methods of food processing and its feasibility.

CO3. Modern methods of cell culturing, prebiotics and probiotics.

BFT-203 FOOD PLANT EQUIPMENT

On successful completion of this course the students will be able-

CO1: Know equipments used in milling of wheat, rice, pearling and flaking and the equipments used in dhal mills.

CO2: Understand working mechanism of Washing equipments like Screw, Bucket, Belt, Oscillating and Vibratory Conveyors, Filtration equipments used for liquid foods (dairy, fruit and vegetables), and centrifugation equipments(Solid bowl, Disc bowl, cyclone separator and self-cleaning)

CO3: Know equipments used in heat processing (heat exchangers: plate, shell and tube, autoclaves), different dryers (tray, tunnel, fluidised, spray, blast and IQF), freezers (short tube and pan evaporators)

CO4: Understand the importance of mixing, blending in the processing of liquid food products, powder pastes and also the equipment used in the process (Mixer: Ribbon blenders, augur, nauta, cones). They will also have a thorough knowledge of extrusion technology with equipments used in it (cold, hot, single screw, twin screw) and the process of filling with equipments used in it.

CO5: They will also be aware with the hygienic practices like GMP and CIP system. The students will have clear knowledge about the types of equipment used in the processing of various foods whether it may be solid or liquids respective of the food groups. They will know the norms to be followed in a food plant layout and the corresponding processing and packaging technology.

BFT-204: FOOD ADDITIVES AND LEGISLATION

On successful completion of this course the students are able to:

CO1: learn the uses, needs, classification and toxicological evaluation of food additives.

CO2: Understand the types of flavours, flavours generated during processing and extraction techniques of flavours.

CO3: Know the food standards and specification, the Consumer Protection Act (1986) & relevant food legislation (Act, orders, standards).

BFT-205: BIOCHEMISTRY (Laboratory course)

After completion of the various laboratory experiments under this practical course, the students are aware of the various appliances available in the laboratory and also able to-

CO1: Estimate the present of ascorbic acid in various citrus fruit such as lemon, orange, grape fruit etc.

CO2: Estimate qualitatively the presence of calcium (Ca) in a given food sample and also able to prepare samples for mineral estimation by aching method.

CO3: Estimate the cholesterol present in a sample and to estimate the protein content of a given sample.

CO4: Estimate the presence of protein and glucose in urine.

CO5: Estimate the preservatives, sweetness, fibers, colour, antioxidant, flavor enhancer present in various food samples.

CO6: Understand about isolation, modification and functional properties of native and modified proteins, starch and lipids.

CO7: Extract essential oil ad oleoresins

BFT-206: Laboratory Course-IV

After successful completion of this practical course, students will be well equipped with techniques for isolating industrially important microorganisms from natural source and its exploitation in industries for different products.

BFT-301: CEREALS AND LEGUMES PROCESSING TECHNOLOGY

On successful completion of this course the students are able to:

CO1: Know the importance of cereals & legumes, post-harvest quality and quantity losses and the recommended pre-processing practices for handling of cereals and pulses.

CO2: Understand the structure, types, composition, quality characteristic & physiochemical properties of wheat. They will also learn the milling process of wheat, quality characteristics and rheological properties of wheat milling products and by-product utilization of wheat.

CO3: Understand the structure, types, composition, quality characteristic & physiochemical properties of rice. They will also learn the milling and parboiling of paddy, nutritional and storage quality of raw & parboiled rice, processed rice products & by-product utilization.

CO4: Learn the structure, types of corn, barley, bajra, jowar & other cereals grains & millets. They will also learn the milling of corn, malting of barley, pearling of millet, parched and snack products.

CO5: Know the structure, composition, properties and milling process of legumes. They will also aware about sweet and savoury products from legumes in India.

BFT-302: OILS AND FATS PROCESSING TECHNOLOGY

After successful completion of this course, students will understand:

CO1. Different chemical compositions and dietary importance of oils and fats. Post harvesting storage and processing of oilseeds will also be understood.

CO2. Extraction and processing of different edible oils and fats.

CO3. Refining and blending process of edible oils.

CO4. Processing of refined oils.

CO5. Biotechnological applications for production of different oils, fats and lipids.

BFT- 303: MILK AND MILK PRODUCT TECHNOLOGY

On successful completion of the course students will have the knowledge on:

CO1. Status of diary industries in India, chemical composition, nutritional value and regulations related to milk.

CO2. Handling of milk products and adulteration of milk.

CO3. Processing, storage, distribution and equipment usedin diary industries.

CO4. Methods of preparation of various milk products, their storage and packaging.

CO5. Important milk products available in market.

BFT-304: TRADITIONAL FERMENTED FOODS

On successful completion of this course the students will be able-

CO1: learn the importance of fermentation in traditional as well as in Commercial Food Industries. They will learn to isolate strains of microorganisms to be used in the preparation of a pure culture, its use in fermentation techniques, and usage in the processing of food products.

CO2: Understand features of fermenters and its types, recovery of fermented products and its conversion into marketable storage.

CO3: Produce and process fermented food products like commercial yeast, wine, cider, vinegar, organic acids, distilled spirits etc.

CO4: Know the process and preparation of oriented fermented products like soysauce, pickles

CO4: Understand the importance of traditional Indian sweets and savoury snacks and work on the process of bringing them in commercial market.

BFT-305: LABORATORY COURSE-V

CEREALS & LEGUMES PROCESSING TECHNOLOGY (LAB)

On successful completion of this course the students are able to:

CO1: Determine the physical properties of different cereal grains.

CO2: Determine the sedimentation value of the Maida.

CO3: Determine the alcoholic acidity of the sample of the wheat flour / Maida.

CO4: Determine the water absorption capacity of the wheat flour/Maida.

CO5: Determine the adulterant ($NaHCO_3$) in wheat flour/ Maida.

CO6: Estimate the protein content of different cereals & legumes.

CO7: Assess the market samples of wheat, rice & pulses for conforming to some PFA specification.

C08: Learn the storage studies of cereal and legume grains having different moisture levels.

CO9: Determine the gluten content in flour sample.

CO10: Determine the Polenska value of wheat flour.

CO11: Visit the FCI go downs and working rice mill.

CO12: Know the preparation of expanded and puffed rice from raw and parboiled materials.

CO13: Learn the traditional and improved pre-treatment and its effect on dehusking of some legumes.

CO14: Know the Pearling of some millets.

BFT-306: LABORATORY COURE-VI

a) **Oils and fats processing technology.**

On completion of the laboratory course under this practical paper, the students are now able to-

CO1: Study practically the effect of flaking, heat treatment, de-husking andmoisture conditioning, on the rates of oil extraction from certain oilseeds.

CO2: Determine the efficiency of oil extraction and the quality parameters such as colour, FFA content, etc. by using various techniques.

CO3: Demonstrate and evaluate the techniques for clarification, de-gumming, de-waxing, alkali refining, beaching, de-odourization, etc.

CO4: Determine certain analytical constants of edible fats and oils for conformation to BIS and the detection of adulteration.

CO5: Determine the stability of fats and oils, the performance of deep-frying of some refined oils and to perform the identity test on various oils.

b) Milk and milk product technology

On successful completion of this practical course the students are now able to-

CO1: Determine the quality of raw milk viz. COB, MBRT, lactometer reading, pH and acidity, fat contain, SNF content, Sp. Gravity, etc.

CO2: Determine the adequacy of pasteurization, microbiological quantity (TPC/SPC) of pasteurized and sterilized flavoured milk samples and product like ice cream.

CO3: Prepare certain dairy products such as khoya, paneer, flavoured milk, yoghurt, cream, ice cream, followed by assessment of yield and quality of prepared product.

C04: Determine certain key parameters in dairy products such as overrun in ice cream, salt content in butter, moisture contain in ghee, etc.

Above all the practical works (experiments) in the laboratory, a field visit to a nearby Dairy plant is also very helpful to the students to create innovative thoughts and to choose their career options in future.

BFT-401: FRUITS AND VEGETABLE PROCESSING TECHNOLOGY

On successful completion of this course the student will be able to:
CO1: understand about the Processing and their Nutritional Aspects of fruits and vegetables, Post-harvest activities such as harvesting, handling, storage and various physiological changes during storage, factors that affect their storage, handling, losses as well as the conservation processes.

CO2: Learn the different Techniques of extending shelf life of fruits and vegetables, packaging, Processing and preservation through various scientific methods.

CO3: Prepare different postharvest produces such as juices & pulps, concentrates & powders, squashes & cordials, nectars, fruit drinks & beverages carbonated and Fermented products practically by maintaining the quality control.

CO4: Prepare various value added products like Jam, Jelly, Marmalades, candied fruits, dried fruits and fruit products, soup mixes, sauces and ketchups, puree and pastes as well as chutneys and pickles.

CO5: Acquire the knowledge of processing of various spices and condiments, extraction of oils and oleoresins, processing of cashew nuts, coffee & cocoa beans and tea leaves and learn about the different specialty fruit and vegetable products.

BFT-402: EGG, POULTRY, MEAT AND FISH PROCESSING TECHNOLOGY

On successful completion of the course students will have the knowledge on:

CO1.The production, consumption, export, nutritional value and health issues of egg, poultry, meat and fish products in India.

CO2. All the information associated with egg and egg products.

CO3. Quality, storage, marketing and safety consideration of poultry products.

CO4. Handling, processing of various products, marketing and preservation of meat and fish.

BFT- 403 BAKERY AND CONFECTIONARY TECHNOLOGY

On successful completion of this course the students will be able-

CO1: Understand the current status, growth rate and economic importance of bakery and confectionary industry in India. They will also be aware of the safety, pertinent standards and regulations associated with bakery and confectionary products.

CO2: Prepare and process the various baked items like bread, biscuits, cookies, cakes and pastries

CO3: Know the various equipments associated with bakery products. They will also learn to troubleshoot problems and stick to the fault and corrective measures associated with the equipments. They will also be able to assess and determine quality of ingredients used for the baked products.

CO4: Learn the processing and preparation of confectionary products like hard boiled candies, toffees, fruit drops etc. They will also be familiarised with the types of food equipments used, maintain quality standards with corrective measures to be followed.

CO5: Produce and prepare chewing and bubble gums, cocoa products, breakfast cereals, macroni products with guidance in quality assessment associated with the food products .The focus of the students with this technology is in commercialisation sector (commercial food industries- small, medium or large)

BFT-404: SNACKS FOODS AND BEVERAGES TECHNOLOGY

PART A: Snacks Food Technology

On successful completion of the course students will have the knowledge on:

CO1. The technologies of grained- based snacks and traditional Indian snacks.

CO2.The technologies related to fruit and vegetable related snacks like chips, wafers, salted, spiced and sweetened snacks.

CO3. The formulation of extruded snack foods, their colouring, flavouring and packaging.

CO4.The equipment related to snack technology.

PART B: Beverages Technology

On successful completion of the course students will have the knowledge on:

CO1. The technology of different beverages and their ingredients.

CO2. Special beverages based on tea, coffee, cocoa, spices, herbs, nuts and plant extracts.

CO3. Various alcoholic beverages and their technology.

C04. Packaged drinking water, treatment and standards of bottled water.

BFT-405: Laboratory Course-VII

Fruits and Vegetables Processing Technology

On completion of this various laboratory course the student will practically be able to:
Evaluate the grade of pectin, canning and preparation of value added products of different fruits and vegetables, and explore the potential of indigenous fruits of regional importance

BFT- 406: LAB COURSE VIII)

Part- A: BAKERY AND CONFECTIONARY TECHNOLOGY

On successful completion of this course the students will be able-

To determine the dough relaxation constants and their interpretations, importance of mixing in process and preparation of baked products and to assess their quality, the effect of mixing time in the rheological characteristics of dough. Students will be aware of both qualitative and quantitative measures to be followed in the processing of dough, the importance of mixing and effects of additives in baked Products. They will also learn the role of temperature and consistencies of dough or syrup to be used in baked or confectionary products.

Part- B: SNACKS FOODS AND BEVERAGE TECHNOLOGY

On successful completion of this course the students will be able-

Students will learn the processing and preparation of solid snacks (cereals, legumes, nuts, fruits, vegetables based) and beverages (whey based, flavoured, regional fruit juices, carbonated and non-carbonated soft drinks, soy milks, fruit milkshakes, herbal beverages). They can determine shelf life of the snacks and beverages prepared and packages required.

BFT-501: SENSORY EVALUATION

On successful completion of this course the students are able to:

CO1: Understand in depth with sensory analysis, general testing condition, requirements of sensory laboratory & organising sensory evaluation programme.

CO2: Learn about the selection of sensory panellist, factors influencing sensory measurement & sensory quality parameters.

CO3: Know the different test for sensory evaluation & the methods of sensory evaluation of different food products.

CO4: Understand in depth with computer-aided sensory evaluation of food & beverages and the statistical analysis of sensory data.

BFT-502: FOOD PLANT ORGANISATION AND MANAGEMENT

On successful completion of this course the student will be able to:

CO1: Learn about the application of scientific methods, techniques and tools involving different types of problems dealing with allocation of material among limited facilities; knowledge of food product manufacturing of consistent quality as well as knowledge of planning location, layout of food plant and laws governing in food industries.

CO2: Study about operating the food plant and decision making, Role of management, planning organising and controlling; Productivity and quality in food plant operation, details of the business situation, use of computer information systems to solve the problem

CO3: Know about how to build different model, problems of productions, marketing sales forecasting, inventory, and finance breakdown maintenance and finance replacement.

CO4: Learn about the Network models, Computer applications, database operating systems, networking project management, spread sheeting and Statistical Quality Control (SQC).

CO5: Learnabout Industrial cost accounting, purchase procedure, stores procedure, material accounting, overhead costing, budget and budgetary control, process costing, Cost factor in fixation of prices, job costing and product costing.

BFT-503: FOOD PACKAGING

On successful completion of the course students will have the knowledge on:

C01. Definition of packaging, different materials used during packaging of food items.

CO2. Packaging systems and methods, smart packaging, handling and distribution of packaged foods.

CO3. New technologies related to packaging, their classification and packaging of different food items.

CO4. Status of current packaging, special packaging like packaging with radiation, active packaging and recent developments on packaging.

CO5. Laws and regulations on packaging in addition environmental issues and design of packaging.

BFT-504 FOOD SAFETY AND QUALITY CONTROL

On successful completion of this course the students will:

CO1: Understand the concepts of hazards, microbiological, nutritional, environmental, natural toxicants, pesticides residues and food additives.

CO2: Have a thorough knowledge about the health and sanitary practices to be followed in a Food Plant which will ensure food safety and assure quality in food products. They will know about food quality standards like ISO (Indian) and Codex Alimentarius (International).

CO3: Understand the food safety measures, current concepts of quality controls.

CO4: Know about the quality assurance programme; maintain quality plan, documentation of records, product standards and specifications, process control, hygiene and housekeeping.

CO5: Understand certification and quality assurance marks like (FPO, MPO, PFA, AGMARK, BIS, etc.) which are mandatory for various food products to prevent hazards.

BFT-505: LABORATORY COURSE-IX

SENSORY EVALUATION

On successful completion of this course the students are able to:

CO1: Learn the Selection and training of sensory panel.

CO2: Understand the Detection and threshold tests.

CO3: Determine the Ranking tests for taste, aroma, colour and texture.

CO4: Sensory evaluation of various food products using different scales, score cards and tests.

CO5: Learn the estimation of colour and texture.

CO6: Learn the relationship between objective and subjective methods.

BFT-506: LABORATORY COURSE-X

Part-A: FOOD SAFETY AND QUALITY CONTROL

On successful completion of this course the students will be able-

Students will know how to assess quality of various foods (milk and milk products, water, cereals and millets, pulses, fats and oils, meat/fish products, canned/ bottled fruits and vegetables, baked foods etc.).They will know how to detect the presence of adulterants in foods.

Part-B: FOOD PACKAGING AND QUALITY CONTROL

On successful completion of this course-

Students can deal with various packaging techniques of food packaging and maintenance of quality of the food packages. Which include thermal shock resistance, testing of alkalinity of glass bottles, bursting strength of different packaging materials which serve as a criterion in getting certification.

BFT- 601: FOOD LAWS AND REGULATORY ISSUES

On successful completion of the course students will have the knowledge on:

CO1. The historical aspects of food laws, necessity of preserved food and prevention of adulteration.

CO2. The maintenance of quality, safety and testing of food items available in market. Practicing of HACCP, issues related to GM food, labelling issues, safeness of additives and processes.

CO3. The food laws, their implementing agencies for prevention of adulteration of various food items.

CO4.The international scenario on food regulations and various related organizations and patenting issues.

CO5. The international agencies in food regulation and consumer protection forums.

BFT-602: ENVIRONMENTAL ISSUES IN FOOD PROCESSING

After the completion of this course, the student will be able to:

CO1- Learn in details about the different components of the environment, different pollutions and their control and management as well as biodegradation of plastics

CO2: Learn about the control of Air Quality through different techniques; air pollution control methods; air quality in the processing plants and legal requirement.
CO3: Have a clear cut idea regarding the Waste Water Treatment through Physical, Chemical and Biological units and their operations
CO4: Gather the knowledge of storage and disposal of both non- degradable and biodegradable wastes through different methods, biological treatment of food industry wastes, storage and disposal of liquid and gaseous waste, legal aspects related to storage and disposal, environmental laws as well as pests and their control.
CO5: Learn about the Utilization of Waste to make value added products, food colorants, antioxidants from fruit peels, generation of biogas, SCP, microalgae, animal feeds, zero emission plants and also the recovery and recycling of materials.

BFT-603: FOOD BIOTECHNOLOGY

After successful completion of this course, students will understand:

CO1. Application of biotechnology in food industries.

CO2. Different steps involved in fermentation technology.

CO3. Lactic acid bacteria and its utilization in food industry, fermentation involving yeast and moulds, production of different fermented foods.

CO4. Starter cultures and their improvement technology by classical and molecular biology techniques, Single cell proteins, food additives derived from microbes, bacterial toxins and mycotoxins in food industry.

CO5. Genetically modified organisms and their development techniques, risks assessment and risk management of GMOs.

BFT-604: ENTERPRENEURSHIP, BUSSINESS MANAGEMENT AND INTERNATIONAL TRADE

On successful completion of this course the students will be able to-

CO1: Understand basic concepts of management and application of these ideas on Food product development.

CO2: Know functions of management and its role in consumerism, marketing research and marketing information system.

CO3: Perform market research, and keep policies and plans of the market in check corresponding to food products to be sold in market.

CO4: Learn advertisement and promotion of their food products in different media like newspaper, television, radio and other social medias.

CO5: Salient features of International marketing, licensing, joint ventures, direct investments and internationalization process relative to marketing programme.

BFT-605: Laboratory Course-XI

After successful completion of this course:

CO1: Students will be well equipped with techniques for estimation of biological oxygen demand.

CO2: They will be well aware of microbial load, lactic acid and lactose.

CO3: They will gain knowledge about immobilization of yeast in different food samples.

CO4: They will also learned about microorganisms involved in different traditional fermented foods.

BFT 606: PROJECT WORK

After completion of this course the students will be able to-

CO1: Develop ideas on projects associated with Food Product development and Food Processing Technology

CO2: Worked independently on different fields related to food processing.

CO3: They will gain knowledge about research, data interpretation and data presentation of research work in future.