Course: FSC- 11: Food Chemistry	
CO	**Statement**
CO1	Have sufficient knowledge of food chemistry to control reactions in foods.
CO2	Know the major chemical reactions that limit shelf life of foods.
CO3	Use the laboratory techniques common to basic and applied food chemistry.
CO4	Know the principles behind analytical techniques associated with food.

Course: FSC- 12: Food Microbiology	
CO	**Statement**
CO1	Describe the characteristics of foodborne, waterborne and spoilage microorganisms.
CO2	Methods for their isolation, detection and identification.
CO3	Explain why microbiological quality control programmes are necessary in food production

Course: FSC- 13: Cereal, Legumes and oilseed processing	
CO	**Statement**
CO1	An ability to apply the knowledge of underlying chemistry, properties and effects of processing on food components
CO2	An ability to use the techniques, skills, and modern tools necessary Oilseed processing operations
CO3	Demonstrate knowledge and understanding of technology and management principles, manage projects like dal mill, Oilseed processing plants

CLASS: FY B.Voc. **SEMESTER: II**

Course:FG- 21: Business Communication Skill	
CO	**Statement**
CO1	Effective business communications.
CO2	Research approaches and information collection.
CO3	Developing and delivering effective presentations.
CO4	Skills that maximize team effectiveness.

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Course: FG- 22: Fundamentals of Food Process. Engg.	
CO	**Statement**
CO1	Skills acquired with the principles of handling and processing food and agricultural products.
CO2	To Emphasis on to the principles of operation of equipment used in the processing industry and the response of biological materials to these operations
CO3	To Emphasis the various properties of the raw material used in food processing, different processing technologies required in transforming them into quality food products and material handling equipment involved in food processing operations.

Course: FG- 23: Food Additives and Preservatives	
CO	**Statement**
CO1	Explain the mechanisms of spoilage and deterioration of foods and raw materials: microbial, chemical, physical, biochemical, etc.
CO2	Explain the basic principles of food preservation processes: heating, chilling, freezing, control of water activity, acidification, chemical preservatives, packaging, etc
CO3	Distinguish between preservation methods appropriate for “natural” foods.

Course: FSC- 21: Fruit and Veg. Processing	
CO	**Statement**
CO1	Identify the spoilage in fruits and vegetables and state the reason for the spoilage following safety precautions.
CO2	Identify and select fresh fruits and vegetables with the help of checklist.
CO3	Identify spices and food additives by visual inspection.
CO4	Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions.
CO5	Prepare fruit juices with juice extracting machines with safety precautions and preserve fruit juices with addition of preservatives and determine the acidity and TSS content.

Course: FSC- 22: Food Packaging	
CO	**Statement**
CO1	The role, function and selection of packaging materials.
CO2	The physical and chemical properties of the packaging materials used for foods in relation to polymer processing, food properties and processing.
CO3	Principles and practices for the testing of packaging materials and package designs.
CO4	The principles of design and technology used to produce laminated packaging materials, active and smart packaging, and edible films.
CO5	Preservation, packaging and shelf life testing for a selection of foods.

Course: FSC- 23: Industrial Training	
CO	**Statement**
CO1	Explore career alternatives prior to graduation.
CO2	Integrate theory and practice.
CO3	Assess interests and abilities in their field of study.
CO4	Learn to appreciate work and its function in the economy.
CO5	Develop work habits and attitudes necessary for job success

CLASS: SY B.Voc. **SEMESTER: III**

Course: FG- 31: Fundamentals of Financial accounting I	
CO	**Statement**
CO1	State the uses and users of accounting information;
CO2	Explain and apply accounting concepts, principles and conventions;
CO3	Record basic accounting transactions and prepare annual financial statements
CO4	Analyses, interpret and communicate the information contained in basic financial statements and explain the limitations of such statements

Course: FG- 32: Food Biochemistry	
CO	**Statement**
CO1	Identification of cell compartments and macromolecules in foods as well as their roles in biochemical process,
CO2	Biochemical process in ATP generating and role of foods,
CO3	Basic genetics in relation with food biotechnology.

Course: FG- 33: Snack Food Technology	
CO	**Statement**
CO1	An ability to apply knowledge for production of safe food and shelf-life extension of snack food products
CO2	An ability to identify, formulates, and solves food science and technology problems related to snack food.
CO3	An ability to extract information pertinent to unfamiliar problems through literature survey and experiments, apply appropriate research methodologies, techniques and tools, design, conduct experiments, analyze and interpret data

Course: FG- 34: Environmental Science	
CO	**Statement**
CO1	In Environmental Studies major will be able to recognize the physical, chemical, and biological components of the earth's systems and show how they function.
CO2	An Environmental Studies major will be able to apply lessons from various courses through field experiences. These experiences will allow students to develop a better sense of not only individual organisms live.
CO3	Students will also see how natural systems and human-designed systems work together as well as in conflict with each other.

Course: FSC- 31: Spices and Plantation Crops	
CO	**Statement**
CO1	To impart knowledge on the principles of horticulture propagation and production techniques of tropical, sub tropical, temperate vegetable and spice crops.
CO2	Students will get to know about different processing techniques of fruits and vegetable crops and they make value added products like Masalas, Curry powder, Oils and Oleoresins etc.

Course: FSC- 32: Bakery and Confectionary	
CO	**Statement**
CO1	Define and use the basic terminology and techniques of the professional baker and pastry chef;
CO2	Demonstrate proficiency in advanced techniques for specific baking & pastry applications;
CO3	Demonstrate the importance of local and seasonal products in professional baking;
CO4	Demonstrate station organization, purchasing, storage, menu writing, and sanitation principles as they apply to food handling;
CO5	Demonstrate responsibility and team skills for the food service industry;
CO6	Determine and appraise career opportunities within the baking industry.

Course: FSC- 33: Industrial Training	
CO	**Statement**
CO1	1. Explore career alternatives prior to graduation.
CO2	2. Integrate theory and practice.
CO3	3. Assess interests and abilities in their field of study.
CO4	4. Learn to appreciate work and its function in the economy.
CO5	Develop work habits and attitudes necessary for job success.

CLASS: SY B.Voc. **SEMESTER: IV**

Course: FG- 41: FG- 41: Fundamentals of Financial accounting II	
CO	**Statement**
CO1	State the uses and users of accounting information
CO2	Explain and apply accounting concepts, principles and conventions
CO3	Record basic accounting transactions and prepare annual financial statements; and
CO4	Analyses, interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.

Course: FG- 42: Plant Hygiene and Sanitation	
CO	**Statement**
CO1	Define and use correctly all of the key words printed in bold.
CO2	Describe the public health importance and objectives of food hygiene.
CO3	Describe the essential functions of food.
CO4	Outline the principle aspects of a food control system and explain why food control is important.

Course: FG- 43: Food Laws and Regulations	
CO	**Statement**
CO1	Become familiar with government statutes and regulations that contribute to a safe, nutritious, and wholesome food supply.
CO2	Understand how technological, social and political forces interact in the development of food law and regulation
CO3	Understand the differences and similarities between international and domestic food law and regulation.
CO3	Participate in an international network of legal, regulatory and scientific professionals regarding on food law issues.

Course: FSC- 41: Meat, Fish and Poultry Processing	
CO	**Statement**
CO1	Understand the importance of dairy and fishery industry, the techniques that can be used for preservation of fish and manufacturing of various value added fish products.
CO2	Understand the need and importance of livestock, egg and poultry industry Understand the structure, composition and nutritional quality of animal products.
CO3	Understand the of concept and methods of processing and preservation of animal foods.
CO4	Understand the technology behind preparation of various animal food products and byproduct utilization.

Course: FSC- 42: Dairy Technology	
CO	Statement
CO1	Understand the various properties and composition of milk and the technology of manufacturing of various products like butter, ghee, flavored milk, yoghurt, dahi, shrikhand, ice cream, cheese, channa, paneer, condensed milk and milk powder.
CO2	Understand market milk industry stages of milk processing and working of a few dairy equipments.

Course: FSC- 43: Industrial Training	
CO	**Statement**
CO1	Explore career alternatives prior to graduation.
CO2	Integrate theory and practice.
CO3	Assess interests and abilities in their field of study.
CO4	Learn to appreciate work and its function in the economy.

CLASS: TY B.Voc. **SEMESTER: V**

Course: FG- 51: Entrepreneurship Development	
CO	**Statement**
CO1	To impart basic accounting knowledge as applicable to business.
CO2	To develop right understanding regarding role and importance of monetary and financial transaction in business.

Course: FG- 52: Food Plant Design and Layout	
CO	**Statement**
CO1	To acquaint the students with the plant layout operation which is required by all industries
CO2	To check their comparative factors as equipment position raw material handling and end product delivery.

Course: FG- 53: Snack Food Technology	
CO	Statement
CO1	Introduce students to methods of frying, baking, drying, heat processing,

	flaking, blending, coating & chipping.
CO2	Inform students on technical mechanism of extrusion.
CO3	Introduce students to various types of traditional and industrial snacks food.

Course: FSC- 51: Industrial Microbiology	
CO	Statement
CO1	To learn about industrial microbiology and its Fermentation process
CO2	To give the students broad theoretical and practical skills in industrial microbiology.
CO3	This **course** covers the principles of various processes associated with the production and recovery of different bio-products derived from microorganisms.

Course: FSC- 52: Beverage Technology	
CO	Statement
CO1	In this Course the students will be exposed to the knowledge of beverage types and manufacturing process involved in different beverage manufacturing industries.

Course: FSC- 53: Industrial Training	
CO	Statement
CO1	1. Explore career alternatives prior to graduation.
CO2	2. Integrate theory and practice.
CO3	3. Assess interests and abilities in their field of study. Learn to appreciate work and its function in the economy

CLASS: TY B.Voc. **SEMESTER: VI**

Course: FG- 61: Business Management	
CO	Statement
CO1	To impart basic Business knowledge as applicable to business.
CO2	To develop right understanding regarding role and importance of management features in business
CO3	Introduce students to various types of traditional and industrial snacks food.

Course: FG- 62: Waste management and Utilization	
CO	Statement
CO1	To acquaint the students with the major source of living i.e. water, its treatment, analysis and how to make it potable. Waste management and new product development.

Course: FG- 63: Design and Development of New Product	
CO	Statement
CO1	To know the role of government rules and regulation in food business.
CO2	To familiar with global marketing with respect to food laws and regulations.
CO3	To implement various government policies for the growth of food business.

Course: FSC- 61: Food Quality control and Assurance	
CO	Statement
CO1	To learn about physical and chemical contaminants in foods.
CO2	To develop an understanding and methodologies of instrumental techniques in food analysis used for objective methods of food quality parameters.

Course: FSC- 62: Mini Project and Marketing	
CO	Statement
CO1	1. To design and develop new product.
CO2	2. To develop marketing ability.

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CO3	3. To develop the ability to undertake problem identification, formulation and solution.
CO4	4. To apply their knowledge of basic science and engineering fundamentals in their project work.
CO5	5. Develop understanding of various field activities in which students are going to play a role as food technologists after completing diploma.
CO6	6. Develop understanding of subject based knowledge given in the class room in the context of its application at work places.

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