Sant Gadge Baba Amravati University Amravati
Diploma in Food Business Planning (One Year Two Semester Course) [Semester 1] [CBCS]
Scheme for Teaching, Learning, Examination and Evaluation

Sr. No	Subject	Subject Code	Teaching & Learning Scheme							Examination Scheme						
			Teaching Period Per week				CREDITS			Theory			Practical		Total	Minimum
			L	T	P	Total	Theory	Practical	Total	Exam Duration	External	Internal	External	Internal		
1.	Principles of Food Science	1DIFBP1	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
2.	Basics of Accounting	1DIFBP2	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
3.	Introduction to food technology	1DIFBP3	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
4.	Foundations of Food Business Management	1DIFBP4	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
5.	Food product processing, Food packaging	1DIFBP5	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
6.	Quality evaluation of food products LAB	1DIFBP6	-	-	04	04	-	02	02	-	-	-	25	25	50	20
	Total		**20**	-	**04**	**24**	**20**	**02**	**22**						**550**	**220**

Sant Gadge Baba Amravati University Amravati
Diploma in Food Business Planning (One Year Two Semester Course) [Semester 2] [CBCS]
Scheme for Teaching, Learning, Examination and Evaluation

Sr. No	Subject	Subject Code	Teaching & Learning Scheme							Examination Scheme						
			Teaching Period Per week				CREDITS			Theory			Practical		Total	Minimum
			L	T	P	Total	Theory	Practical	Total	Exam Duration	External	Internal	External	Internal		
1.	Food Business Management and Entrepreneurship	2DIFBP1	03	-	-	03	03	-	03	3 Hr.	80	20	-	-	100	40
2.	Basics in Food Analysis	2DIFBP2	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
3.	Supply Chain Management in Food Industry	2DIFBP3	04	-	-	04	04	-	04	3 Hr.	80	20	-	-	100	40
4	Material Management	2DIFBP4	03	-	-	03	03	-	03	3 Hr.	80	20	-	-	100	40
5	Quality Assurance and Control	2DIFBP5	03	-	-	03	03	-	03	3 Hr.	80	20			100	40
6	Food technology Lab	2DIFBP6	-	-	06	06		03	03	-	-	-	25	25	50	20
7	Internship*	2DIFBP7	-	-	04	04		02	02	-	-	-	-	50	50	20
	Total			-		**30**	**17**	**05**	**22**						**600**	**240**

*** Internship Should be conducted after Ist semester till IInd semester in vacations for minimum 60 hrs. It's 2 credits will be reflected in final semester credit grade report.**

Sant Gadge Baba Amravati University Amravati
Diploma in Supply Chain Management (One Year Two Semester Course) [CBCS]
SYLLABUS SEMESTER - I

1DIFBP1 – PRINCIPALS OF FOOD SCIENCE

COURSE OBJECTIVE:

1. Understand the fundamental concepts of food science and food industries.
2. Analyze the role of microbiology and food chemistry in food safety and preservation.
3. Evaluate nutritional aspects of food and their impact on human health.
4. Examine various food preservation techniques and their industrial applications.
5. Understand the structure, challenges, and benefits of the food business.
6. Explore recent advancements and global issues related to food and agriculture.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit 1	**Introduction to Food Science** - Different kinds of food industries - Components of food industries - Scope of food processing and technology - Food & agriculture: Politics of food (global perspective)**(12 Hrs.)**
Unit 2	**Microbiology & Food Chemistry** - Microbial control: sterilization & disinfection - Physical & chemical methods of sterilization - Chemical nature of food - Physical nature of food**(12 Hrs.)**
Unit 3	**Nutrition and Human Health** - Organic vs. Inorganic nutrients: difference & importance - Nutritional & sensory considerations - Role of lipids in nutrition - Role of water in nutrition**(12 Hrs.)**
Unit 4	**Food Business and Preservation Techniques** - Food business: methods, benefits, drawbacks - Food preservation techniques: pasteurization, sterilization, UHT, blanching - Low temp techniques: cooling, evaporation, refrigeration, freezing**(12 Hrs.)**
Unit 5	**Recent Trends and Innovations in Food Technology** - Functional foods and nutraceuticals - Genetically modified foods (GMOs) - Smart packaging and labeling - Food laws and quality control - Sustainability in food processing**(12 Hrs.)**

REFERENCE:

1. • **"Food Science"** by B. Srilakshmi
2. • **"Food Microbiology"** by Frazier and Westhoff
3. • **"Modern Food Microbiology"** by James M. Jay
4. • **"Principles of Food Science"** by Norman N. Potter
5. • **"Food Processing Technology"** by P.J. Fellows
6. • **"Introduction to Food Engineering"** by R. Paul Singh and Dennis R. Heldman

1DIFBP2 – Basics of Accounting

COURSE OBJECTIVE:

To provide students with a comprehensive understanding of fundamental accounting principles, processes, and financial reporting. This course aims to develop analytical and practical skills in recording, classifying, and interpreting financial information for decision-making in business and organizational contexts.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit Title	Topics Covered
Unit I Introduction to Accounting	Definition and Role of Accounting, Accounting Principles and Concepts, Accounting Equation, Types of Business Entities, Accounting Cycle, Double-Entry Accounting, Chart of Accounts, Ethical Issues in Accounting**(12 Hrs.)**
Unit II Recording Transactions	Debits and Credits, Journal Entries, General Ledger, Trial Balance, Adjusting Entries, Accrual Accounting, Prepaid and Unearned Revenue, Closing Entries**(12 Hrs.)**
Unit III Financial Statements	Income Statement, Statement of Retained Earnings, Balance Sheet, Statement of Cash Flows, Financial Statement Analysis, Accounting Ratios, Cash vs. Accrual Accounting, Interpreting Financial Statements**(12 Hrs.)**
Unit IV Accounting for Assets and Liabilities	Accounts Receivable and Bad Debt, Inventory Valuation, Property, Plant, and Equipment, Intangible Assets, Current and Non-current Liabilities, Bonds and Long-Term Debt, Leases and Contingent Liabilities, Accounting for Income Taxes**(12 Hrs.)**
Unit V Control and Evaluation	Cost Accounting, Budgeting and Forecasting, Accounting for Non-Profit Organizations, International Accounting Standards, Ethics in Accounting and Reporting, Audit and Assurance Services, Fraud Examination, Recent Developments in Accounting**(12 Hrs.)**

REFERENCE:

1. **Financial Accounting** – T.S. Grewal, S. Chand Publishing
2. **Accounting Principles** – Jerry J. Weygandt, Paul D. Kimmel, Donald E. Kieso, Wiley India
3. **Financial Accounting: A Managerial Perspective** – R. Narayanaswamy, PHI Learning
4. **Introduction to Financial Accounting** – Charles T. Horngren, Pearson Education
5. **Corporate Accounting** – S. N. Maheshwari & S. K. Maheshwari, Vikas Publishing

1DIFBP3 – INTRODUCTION TO FOOD TECHNOLOGY

COURSE OBJECTIVE:

1. To provide foundational knowledge of food science, technology, and processing methods.
2. To explore the structure and technical aspects of various food product technologies.
3. To understand food plant layout, safety, hygiene, and legal frameworks.
4. To examine business models and preservation techniques in food industries.
5. To analyze nutritional components of food and current global food politics and sustainability concerns.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit I: Food Technology	Introduction to food technology, historical development of technologies used in food industries, evaluation of food product processing. **(12 Hrs.)**
Unit II: Product Technology	Cereal and legume technology, dairy technology, bakery technology, fermented product technology, meat technology, fruits and vegetable technology. **(12 Hrs.)**
Unit III: Plant Layout and Design	Plant layout and design, quality control and quality assurance (GMP), food hygiene and sanitation, food laws (FSSAI) and license for food industries, food safety (HACCP). **(12 Hrs.)**
Unit IV: Food Preservation and Business	Methods, benefits, and drawbacks of food business. Food preservation techniques: Pasteurization, Sterilization, UHT, Blanching. Low temperature preservation techniques: Cooling, evaporation, refrigeration, freezing. **(12 Hrs.)**
Unit V: Food Science and Nutrition	Introduction to food science, kinds of food industries, components of food industries, scope of food processing and technology, politics of food (global view). Microbiology and microbial control. Chemical & physical nature of food. Organic & inorganic nutrients. Role of lipids and water in nutrition. **(12 Hrs.)**

REFERENCE:

1. **"Fundamentals of Food Process Engineering"** – Romeo T. Toledo
2. **"Food Science"** – Norman N. Potter & Joseph H. Hotchkiss
3. **"Food Processing and Preservation"** – B. Sivasankar
4. **"Introduction to Food Science and Technology"** – George Stewart & Maynard Amerine
5. **"Food Safety and Protection"** – V.K. Joshi
6. **"Food Packaging: Principles and Practice"** – Gordon L. Robertson
7. **"HACCP: A Practical Approach"** – Sara Mortimore & Carol Wallace
8. **"Principles and Practices for the Safe Processing of Foods"** – John A. Bower

1DIFBP4 – FOUNDATION OF FOOD BUSINESS MANAGEMENT

COURSE OBJECTIVE:

1. To provide a foundational understanding of food business management and industry structure.
2. To highlight the role and importance of food safety and hygiene in the food processing industry.
3. To develop an understanding of food control systems and entrepreneurship in food businesses.
4. To analyze market trends, supply chain dynamics, and consumer behavior in food enterprises.
5. To explore innovation, sustainability, and global trends in food business strategies.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit I: Introduction to Food Business Management	What is Food Business Management? Scope in food business industry with spotlight on food processing. Career opportunities in food processing. Overview of the food industry and its stakeholders. **(12 Hrs.)**
Unit II: Food Safety and Hygiene	Food safety and hygiene – basic steps and importance. Concept of food safety and standards. Food safety strategies. Preventive food safety systems – monitoring safety, wholesomeness, and nutritional quality of food.

	Prevention and control of microbiological and chemical hazards. **(12 Hrs.)**
Unit III: Food Control Systems and Entrepreneurship	Components of food control system. Important principles in food control. Entrepreneurship in food business. Basic planning, financing, and risk management in food business. **(12 Hrs.)**
Unit IV: Food Business Strategy and Market Dynamics	Scope and significance of food business. Locational factors influencing food business. Study of supply chain management in food planning. Constraints and challenges in food processing industries. Market trends and consumer behavior in food businesses. **(12 Hrs.)**
Unit V: Innovation and Sustainability in Food Business	Innovation in food product development. Use of technology and automation in food industries. Sustainable practices and eco-friendly packaging. Food business in the digital age: e-commerce, branding, and marketing. Globalization and international food trade opportunities. **(12 Hrs.)**

REFERENCE:

1. Food Business Management – M. Panda
2. Food Processing Technology: Principles and Practice – P.J. Fellows
3. Essentials of Food Safety and Sanitation – David McSwane
4. Entrepreneurship Development and Small Business Enterprises – Poornima M. Charantimath
5. Food Safety Management: A Practical Guide for the Food Industry – Yasmine Motarjemi
6. Supply Chain Management – Sunil Chopra & Peter Meindl

1DIFBP5 – FOOD PRODUCT PROCESSING ,FOOD PACKAGING

COURSE OBJECTIVE:

1. To understand the process of manufacturing various food products including bakery, dairy, meat, and fruits & vegetables.
2. To gain knowledge about the machinery used and unit operations in food processing.
3. To learn different packaging materials and techniques used in the food industry.
4. To explore innovations and sustainable solutions in food packaging.
5. To study the role of marketing, quality control, and supply chain in food product distribution.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit I: Product Manufacturing	Manufacturing of bakery products, dairy products, meat products, and fruits and vegetable products. **(12 Hrs.)**
Unit II: Machinery Required	Machinery used in food processing. Unit operations during the processing of various food products. **(12 Hrs.)**
Unit III: Packaging Technology	Conventional packaging methods. Types of packaging materials. Food labelling standards.

	Machinery used for packaging. Biodegradable and non-biodegradable packaging. Novel and smart packaging techniques.**(12 Hrs.)**
Unit IV: Marketing and Distribution	Branding and promotion strategies in food business. Channels of food distribution. Retail and wholesale models. Digital marketing in food industry. Consumer behavior and food trends.**(12 Hrs.)**
Unit V: Quality Assurance and Sustainability	Food quality assurance and control practices. HACCP and ISO standards. Sustainability in food manufacturing. Eco-friendly packaging solutions. Waste management in food industries. **(12 Hrs.)**

REFERENCE:

1. **Food Packaging: Principles and Practice** – Gordon L. Robertson
2. **Technology of Food Products** – Desrosier & Desrosier
3. **Packaging of Food Products** – Robertson & Sacharow
4. **Postharvest Technology of Horticultural Crops** – A.K. Thompson
5. **Food Processing and Preservation** – B. Sivasankar
6. **Modern Food Packaging** – R. Ahvenainen

1DIFBP6 – QUALITY EVOLUTION OF FOOD PRODUCTS– LAB

COURSE DETAILS:

Total Credit: 2 **Hours/Week**: 4

NOTE:

The list suggests the program set. Hence, the concerned staff may modify the list as needed.

1. Estimation of moisture content
2. Estimation of fat content
3. Estimation of protein content
4. Estimation of ash content and pH
5. Estimation titratable acidity
6. Estimation of ascorbic acid content
7. Estimation of engineering properties of grains
8. Estimation of engineering properties of food product
9. Sensory evaluation of food product
10. Types of packaging material for food products

SYLLABUS SEMESTER - II

2DIFBP1 – FOOD BUSINESS MANAGEMENT AND ENTREPRENEURSHIP

COURSE OBJECTIVE:

1. To understand the fundamentals of food business and market dynamics.
2. To analyze marketing strategies and consumer behavior in the food industry.
3. To explore the structure and actors involved in food logistics and supply chain management.
4. To develop entrepreneurial skills and understand the processes involved in launching food startups.
5. To study risk management and technological advancements in the food supply chain.

COURSE DETAILS:

Total Credit: 3 **Hours/Week**: 3

CONTAINS:

Unit	Topics Covered
Unit I: Introduction to Food Business and Marketing	Food product market measurement and forecasting, Market segmentation; micro and macro environments, Consumer behavior, Marketing planning process, Product policy and planning: product mix, product line, product life cycle, New food product development process, Product branding, packaging, and service decisions, Brainstorming techniques, Pricing strategies: Average pricing, Marginal pricing. **(09 Hrs.)**
Unit II: Food Logistics & Supply Chain Management	Evolution of food systems and their relationship with the economy, Significance and drivers of food supply chains, Types of food chains, Key actors: producers, processors, retailers, distributors, hospitality sectors, consumers, Food logistics: Movement and transportation of food, Packaging in logistics, Temperature-controlled supply chains. **(09 Hrs.)**
Unit III: Entrepreneurship & Business Management	Definition, functions, and roles of an entrepreneur, Entrepreneurial motivation and barriers, Types and theories of entrepreneurship, Stages in the entrepreneurial process, Entrepreneurs vs. managers, Forms of business ownership: sole proprietorship, partnerships, etc., Types of industries, Startups and incubation: TBIs, STEP, Entrepreneurial support agencies at national, state, and district levels. **(09 Hrs.)**
Unit IV: Risk Management in Food Business	Managing supply chain risks, Risk factors in food supply, Technological trends in food supply chains, Use of traceability systems: RFID, barcoding, and other tech tools. **(09 Hrs.)**
Unit V: Sustainability and Future Trends in Food Business	Sustainability practices in food production and processing, Eco-friendly packaging and waste management, Innovations in food technology: automation, AI, and smart food production, The role of digital platforms in modern food businesses, Future food trends: plant-based foods, lab-grown meat, and functional foods. **(09 Hrs.)**

REFERENCE:

1. **Food Supply Chain Management** – Madeleine Pullman & Zhaohui Wu
2. **Entrepreneurship Development** – S.S. Khanka
3. **Essentials of Marketing** – Philip Kotler & Gary Armstrong
4. **Food Logistics and Supply Chain Management** – Jane Eastham, Liz Sharples, Stephen Ball
5. **Entrepreneurship: Theory and Practice** – Donald F. Kuratko
6. **Handbook of Entrepreneurship Development** – R. V. Badi & N. V. Badi
7. **Innovation and Entrepreneurship** – Peter F. Drucker
8. **Sustainability in the Food Industry** – Niki Ardeshiri & Gabriela M. H. Tomaz
9. **The Future of Food: The Technology, Sustainability and Business of Food Innovation** – Amanda K. K. Smith

2DIFBP2 – BASICS IN FOOD ANALYSIS

COURSE OBJECTIVE:

1. To understand the fundamental concepts and techniques of food analysis.
2. To explore the physical and chemical methods used in food composition analysis.
3. To examine the different analytical techniques for moisture, carbohydrates, fats, proteins, vitamins, and minerals.
4. To learn the importance of food analysis in ensuring quality, safety, and nutritional content.
5. To gain insight into the practical challenges and solutions in food sampling and analysis.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit I: Introduction to Food Analysis	Food composition and factors affecting food composition, Sampling and sample preparation, Selection of sampling procedures, Factors affecting the choice of sampling plan, Risks in selection of a plan, Sampling procedures, Problems in sampling, Preparation of samples, Physical & chemical properties of foods. **(12 Hrs.)**
Unit II: Physical Methods of Food Analysis	Refractometry, Polarimetry, Specific gravity, Viscosity, Food rheology, Freezing point determination, Surface tension, Electro-analytical determination, Polarography. **(12 Hrs.)**
Unit III: General Chemical Methods of Food Analysis	Analysis of moisture and total solids, Carbohydrate analysis: Importance and methods of analysis for monosaccharides, oligosaccharides, polysaccharides, Structural and non-structural carbohydrates, Dietary fiber (brief outline), Fat analysis: Importance, methods of analysis (analytical and instrumental), Fat characterization, Methods of analysis. **(12 Hrs.)**
Unit IV: Protein, Vitamins, and Minerals Analysis	Protein analysis: Importance, methods of analysis, Protein separation and characterization, Analysis of vitamins: Importance and methods of analysis, Analysis of ash: Importance, Analysis of minerals: Importance, methods of analysis. **(12 Hrs.)**
Unit V: Advanced Analytical Techniques in Food Analysis	Chromatographic methods (HPLC, GC), Spectrophotometry (UV-VIS, IR), Mass spectrometry, Enzyme-linked immunosorbent assay (ELISA), Atomic absorption spectroscopy (AAS), NMR and X-ray diffraction techniques in food analysis, Quality control and regulatory standards in food analysis. **(12 Hrs.)**

REFERENCE:

1. **Food Analysis: Theory and Practice** – S. Suzanne Nielsen
2. **Food Chemistry** – H.-D. Belitz, W. Grosch, P. Schieberle
3. **Food Analysis** – Leo M.L. Nollet & Fidel Toldrá
4. **Introduction to Food Chemistry** – Jeffrey H. Lee
5. **Handbook of Food Analysis** – Leo M.L. Nollet
6. **Principles of Food Chemistry** – John M. deMan
7. **Food Quality Assurance: Principles and Practices** – S. Sundararajan
8. **Techniques in Food Chemistry and Biochemistry** – R. B. H. W. A. E. M. Haenstra

2DIFBP3 – SUPPLY CHAIN MANAGEMENT IN FOOD INDUSTRY

COURSE OBJECTIVE:

1. To understand the basic concepts and importance of supply chain management (SCM).
2. To analyze various supply chain strategies, models, and their application in food industries.
3. To explore demand and supply management processes, including forecasting, planning, and inventory management.
4. To identify the specific challenges and management strategies in food supply chain operations.
5. To study the impact of sustainability and risk management within the food supply chain.

COURSE DETAILS:

Total Credit: 4 **Hours/Week**: 4

CONTAINS:

Unit	Topics Covered
Unit 1: Fundamentals of Supply Chain Management	Understanding supply chain concepts, Role and importance of supply chain management, Historical evolution of supply chains, Key supply chain processes and components, Supply chain stakeholders and their roles. **(12 Hrs.)**
Unit 2: Supply Chain Strategies and Models	Supply chain strategy development, Supply chain design models, Lean vs. agile supply chains, Risk management in supply chains, Sustainability in supply chain strategies. **(12 Hrs.)**
Unit 3: Demand and Supply Management	Demand forecasting methods, Supply chain planning and coordination, Inventory in demand and supply management, Managing demand variability, JIT and MRP in supply chain operations. **(12 Hrs.)**
Unit 4: Supply Chain Management in the Food Industry	Importance of supply chain management in the food industry, Challenges in supply chain management in food industry, Management strategies in supply chain management in food industry. **(12 Hrs.)**
Unit 5: Emerging Trends and Future Directions in Food Supply Chain	Technological advancements in food supply chains (AI, IoT, blockchain), Automation in food production and distribution, Big data analytics in supply chain decision-making, The role of sustainability and traceability in food supply chains, The future of food supply chains in a globalized market. **(12 Hrs.)**

REFERENCE:

1. **Supply Chain Management: Strategy, Planning, and Operation** – Sunil Chopra & Peter Meindl
2. **The Supply Chain Management Handbook** – James A. Tompkins & Jerry L. White
3. **Food Supply Chain Management** – Madeleine Pullman & Zhaohui Wu
4. **Logistics and Supply Chain Management** – Martin Christopher
5. **Operations and Supply Chain Management** – F. Robert Jacobs & Richard B. Chase
6. **Food Systems and Supply Chain Management: A Global Perspective** – Chris D. R. Ryan
7. **Introduction to Operations and Supply Chain Management** – Cecil B. Bozarth & Robert B. Handfield

2DIFBP4 – MATRIAL MANAGEMENT

COURSE OBJECTIVE:

1. To understand the evolution, scope, and objectives of materials management and its interface with other functions.
2. To explore the principles and practices of inventory management and materials handling.
3. To analyze materials requirement planning (MRP) systems and their advantages over conventional planning.
4. To study the various purchasing methods and vendor relations in materials management.
5. To understand the importance of store management, its functions, and the organization of stores.

COURSE DETAILS:

Total Credit: 03 **Hours/Week**: 03

CONTAINS:

Unit	Topics Covered
Unit 1: Introduction to Materials Management	Evolution, Importance, Scope, and Objectives of Materials Management, Interface with other functions, Evolution to 3PL, Trade-off between customer service & cost, Materials Handling: Principles of materials handling systems, Materials handling equipment, Safety issues in materials handling. **(09 Hrs.)**
Unit 2: Inventory Management	Need for inventory, Costs associated with inventory, Types of inventory, Basic EOQ model, EOQ with discounts, ABC analysis, Classifications of materials (VED, HML, FSN, GOLF, SOS), Numerical problems on EOQ and EOQ with discounts, Inventory control & cost reduction techniques, Inventory turnover ratio, Codification concept and benefits. **(09 Hrs.)**
Unit 3: Materials Requirement Planning (MRP)	Advantages of MRP over conventional planning, Inputs and outputs of the MRP system, Forecasting: Overview of qualitative and quantitative methods of forecasting, Bill of materials explosion, Materials flow in MRP, Concepts of ERP, Materials preservation, packing, and packaging. **(09 Hrs.)**
Unit 4: Purchasing Management	Responsibility of the purchase department, The purchase cycle, Negotiation & bargaining, Vendor relations & development, Purchasing methods, Global sourcing, Store function and importance, Organization of stores layout, Store procedures and documentation. **(09 Hrs.)**
Unit 5: Advanced Topics in Materials Management	Just-in-time (JIT) system, Total Quality Management (TQM) in materials management, Role of IT in materials management (e.g., E-procurement), Lean management and Six Sigma in materials management, Sustainable materials management practices, Green supply chain management, Reverse logistics and disposal of materials. **(09 Hrs.)**

REFERENCE:

1. **Materials Management: An Integrated Approach** – P. Gopalakrishnan & M. Sundaresan
2. **Operations Management** – Jay Heizer & Barry Render
3. **Inventory Management and Production Planning and Scheduling** – Edward A. Silver, David F. Pyke, & Rein Peterson
4. **Logistics and Supply Chain Management** – Martin Christopher
5. **Purchasing and Supply Chain Management** – Robert M. Monczka, Robert B. Handfield, Larry C. Giunipero, James L. Patterson
6. **Materials Management: Procedures, Texts, and Cases** – A. K. Sharma
7. **Production and Operations Management** – R. P. Mohanty & S. G. Deshmukh

2DIFBP5 – QUALITY ASSURENCE AND CONTROL

COURSE OBJECTIVE:

1. To understand the importance and functions of quality control in the food industry.
2. To explore various quality assurance systems and tools used in food businesses, such as control charts, inspections, and reliability techniques.
3. To study the role of quality control in food business planning and decision-making.
4. To examine the regulatory aspects of food quality, including labeling, certifications, and compliance.
5. To analyze the application of statistical process control and quality assurance programs in the food industry.

COURSE DETAILS:

Total Credit: 03 **Hours/Week**: 03

CONTAINS:

Unit	Topics Covered
Unit 1: Introduction to Quality Control	Objectives, importance, and functions of quality control, Quality systems and tools used for quality assurance including control charts, acceptance and auditing inspections, critical control points, reliability, safety, recall, and liability. **(09 Hrs.)**
Unit 2: Quality Control Tools and Methods	Quality control and QC tools, Sampling and test methods, Quality standards & testing methods. **(09 Hrs.)**
Unit 3: Quality Control in Food Business	Importance of quality control in food business, Impact of quality control in food business planning, Statistical process control, Control charts, QA/QC programs. **(09 Hrs.)**
Unit 4: Food Labeling and Quality Compliance	Labeling: Nutritional labeling, Specification rules and regulations, ISI certification principles, Role of AGMARK, FPO, BIS, and PFA, Quality compliance, Need for food quality assurance, Major functions of quality assurance. **(09 Hrs.)**
Unit 5: Modern Food Safety and Global Standards	HACCP principles and implementation, ISO 22000 and other international food safety standards, BRC (British Retail Consortium), GFSI (Global Food Safety Initiative), Role of traceability and audits in quality systems, Emerging technologies in food quality control. **(09 Hrs.)**

REFERENCE:

1. **Food Quality Assurance: Principles and Practices** – S. Sundararajan
2. **Food Quality Control: A Practical Guide for Food Business** – J. S. M. M. A. S. Patil
3. **Food Safety Management: A Practical Guide for the Food Industry** – Yasmine Motarjemi & Huub Lelieveld
4. **Handbook of Food Quality and Safety** – C. M. L. P. O'Neill
5. **Principles of Food Quality Control** – R. K. S. Rajpoot
6. **Food Quality Assurance: Principles and Practices** – M. R. K. Gupta
7. **HACCP: A Practical Approach** – Sara Mortimore & Carol Wallace

2DIFBP6 – FOOD TECHNOLOGY LAB

COURSE DETAILS:

Total Credit: 3 **Hours/Week**: 6

NOTE:

The list suggests the program set. Hence, the concerned staff may modify the list as needed.

1. **Preparation of fermented product**
2. **Preparation of bakery product**
3. **Preparation of dairy product**
4. **Preparation of meat product**
5. **Preparation of fruit product**

Sant Gadge Baba Amravati University Amravati
Faculty: Commerce and Management
One Year- Two Semester- Diploma in Food Business Planning
Instructions for Paper Setters
For Subjects having Maximum 80 Marks

Duration of Exam – 3 Hrs		Max. Marks 80
Question No. 1	10 MCQs (2 from each unit)	Marks 10
Question No. 2	05 Fill in Blank (1 from each unit)	Marks 05
Question No. 3	05 Questions Answer in One Sentence (1 from each unit)	Marks 05
Question No. 4 to 8	Each question having internal choice (4 from each unit) as follows: Q.a) Long answer Question for 08 Marks Q.b) Short answer Question for 04 Marks OR Q.c) Long answer Question for 08 Marks Q.d) Short answer Question for 04 Marks	Marks 60