Lesson plan of
2023-2024

(5th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY: Miss. Aashrita Nayak
SUBJECT:ENTREPRENEURSHIP and MANAGEMENT & SMART TECHNOLOGY (Common to All Branches)	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROM DATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Entrepreneurship · Concept /Meaning of Entrepreneurship · Need of Entrepreneurship · Characteristics, Qualities and Types of entrepreneur, Functions · Barriers in entrepreneurship · Entrepreneurs vrs. Manager
2ND	1ST 2ND 3RD 4TH	Forms of Business Ownership: Sole proprietorship, partnership forms and others · Types of Industries, Concept of Start-ups · Entrepreneurial support agencies at National, State, District Level(Sources): DIC, NSIC,OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.
3RD	1ST 2ND 3RD 4TH	· Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks 2. Market Survey and Opportunity Identification (Business Planning) · Business Planning · SSI, Ancillary Units, Tiny Units, ·
4TH	1ST 2ND 3RD 4TH	Service sector Units · Time schedule Plan, Agencies to be contacted for Project Implementation Assessment of Demand and supply and Potential areas of Growth · Identifying Business Opportunity · Final Product selection
5TH	1ST 2ND 3RD 4TH	3. Project report Preparation · Preliminary project report Detailed project report, Techno economic Feasibility

		· Project Viability
6TH		4. Management Principles · Definitions of management · Principles of management · Functions of management (planning, organising, staffing, directing and controlling etc.)Level of Management in an Organisation 5. Functional Areas of Management a) Production management · Functions, Activities · Productivity · Quality control · Production Planning and control b) Inventory Management · Need for Inventory management
7TH	1ST 2ND 3RD 4TH	· Models/Techniques of Inventory management c) Financial Management · Functions of Financial management · Management of Working capital
8TH	1ST 2ND 3RD 4TH	· Costing (only concept) · Break even Analysis · Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L Accounts, Balance Sheets(only Concepts)
9TH	1ST 2ND 3RD 4TH	d) Marketing Management · Concept of Marketing and Marketing Management · Marketing Techniques (only concepts) · Concept of 4P s (Price, Place, Product, Promotion)
10TH	1ST 2ND 3RD 4TH	e) Human Resource Management · Functions of Personnel Management · Manpower Planning, Recruitment, Sources of manpower, Selection process, Method of Testing, Methods of Training & Development, Payment of Wages
11TH		6. Leadership and Motivation a) Leadership · Definition and Need/Importance · Qualities and functions of a

		leader · Manager Vs Leader · Style of Leadership (Autocratic, Democratic, Participative)
12TH	1ST 2ND 3RD 4TH	b) Motivation · Definition and characteristics · Importance of motivation · Factors affecting motivation · Theories of motivation (Maslow) · Methods of Improving Motivation · Importance of Communication in Business · Types and Barriers of Communication 7. Work Culture, TQM & Safety · Human relationship and Performance in Organization
13TH	1ST 2ND 3RD 4TH	· Relations with Peers, Superiors and Subordinates · TQM concepts: Quality Policy, Quality Management, Quality system · Accidents and Safety, Cause, preventive measures, General Safety Rules , Personal Protection Equipment(PPE)
14TH	1ST 2ND 3RD 4TH	8. Legislation a) Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights b) Features of Factories Act 1948 with Amendment (only salient points) c) Features of Payment of Wages Act 1936 (only salient points) 9. Smart Technology · Concept of IOT, How IOT works · Components of IOT,
15TH	1ST 2ND 3RD 4TH	9. Smart Technology · Concept of IOT, How IOT works · Components of IOT, Characteristics of IOT, Categories of IOT · Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc.

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(5th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS.SRIYA SUMAN PATRA
SUBJECT:FOOD PROCESS ENGG. – II	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROM DATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	1.0 Size reduction & separation 1.1 Objects of size reduction 1.2 Screening, Air filter, Air separation , membrane separation . 1.3 Study sedimentation equipments(froth flotation)
2ND	1ST 2ND 3RD 4TH	1.4 Study of classifiers, separators. 1.5 Study the equipments used for grading & sizing in food industry. 1.6 State and Explain Kick's law and Rittinger's law 1.7 Explain grinding(wet and dry)
3RD	1ST 2ND 3RD 4TH	2.0 Filtration & Mixing 2.1 Theory of filtration 2.2 Types of filtration 2.3 Different types of Filters used in industry
4TH	1ST 2ND 3RD 4TH	2.4 Object of mixing, Different types of mixers used in food industry(centrifuge, batch and continuous)
5TH	1ST 2ND 3RD 4TH	3.0 Extraction 3.1 Principles of extraction 3.2 Types of Extraction(solid-liquid extraction, liquid extraction)
6TH	1ST 2ND 3RD 4TH	Study the types of equipments for extraction
7TH	1ST 2ND 3RD 4TH	4.0 Distillation &Crystallization 4.1Principles of Distillation, types of distillation(flash, steam and differential)
8TH	1ST 2ND 3RD 4TH	4.2Principles of Crystallization, types of Crystallization(batch, continuous)
9TH	1ST 2ND 3RD 4TH	5.0 Drying 5.1 Study the engineering aspects of Drying(Roller drier, spray drier

10TH	1ST 2ND 3RD 4TH	fluidised bed drier, freeze drier, solar dryer
11TH	1ST 2ND 3RD 4TH	6.0 Evaporator 6.1Different types of evaporators used in food industries
12TH	1ST 2ND 3RD 4TH	7.0 Canning & Freezing 7.1 Principles of canning, study of canning machine & other accessories used in canning industry.
13TH	1ST 2ND 3RD 4TH	7.2. Principles of freezing, study of different types of freezer
14TH	1ST 2ND 3RD 4TH	plate freezer, blast freezer, cryogenic freezer, vacuum freezer, refrigerator vans & wagons.
15TH	1ST 2ND 3RD 4TH	7.3 Study of different equipments used for processing of food.

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(5th SEMESTER
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DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. ANIMA MISHRA
SUBJECT:DAIRY TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROM DATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	1.0 Introduction 1.1Objective and development of milk processing industries in India
2ND	1ST 2ND 3RD 4TH	1.2 Present status and future scope
3RD	1ST 2ND 3RD 4TH	2.0 Secretion 2.1 Theories of milk secretion 2.2 Function of hormones and their influence on milk secretion
4TH	1ST 2ND 3RD 4TH	2.3 Hygenic milk production 3.0 Constitution and composition of milk 3.1 Major and minor constituents of milk 3.2 Phisico-chemical properties of liquid milk
5TH	1ST 2ND 3RD 4TH	3.3 Factors effecting the composition of milk 3.4 Nutritive value milk and milk products 3.5 Microbiology of milk
6TH	1ST 2ND 3RD 4TH	4.0 Processing, distribution and storage of liquid milk 4.1 Processing of milk-Straining, filtration, clarification, cream separation 4.2 Heat treatment of milk- boiling, pasteurization, homogenization
7TH	1ST 2ND 3RD 4TH	4.3 Standardization of milk 4.4 Preparation of butter, ghee, condensed milk, evaporated milk, dried milk, ice cream
8TH	1ST 2ND 3RD 4TH	5.0 Technology of indigenous milk products 5.1 khoa, rabri, kheer, lassie
9TH	1ST 2ND 3RD 4TH	pannier, channa, dahi,cheese

10TH	1ST 2ND 3RD 4TH	6.0 Fermented milk products 6.1 Preparation of different method of cheese(cheddar, cottage, processed Swiss, Roquefort, camembert)
11TH	1ST 2ND 3RD 4TH	6.2 Physical, chemical changes
12TH	1ST 2ND 3RD 4TH	microbiological changes
13TH	1ST 2ND 3RD 4TH	6.3 Fortification of milk products
14TH	1ST 2ND 3RD 4TH	7.0 Production of infant milk food
15TH	1ST 2ND 3RD 4TH	Nutritive value of Infant food

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(5th SEMESTER
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DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. SRIYA SUMAN PATRO
SUBJECT:FISH PROCESSING TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROM DATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	**1.0 Introduction** 1.1. Study the development of fisheries in India.
2ND	1ST 2ND 3RD 4TH	1.2 Structure of fish 1.3 Fish quality
3RD	1ST 2ND 3RD 4TH	1.4 Fish processing 1.5 Composition & Nutritive value
4TH	1ST 2ND 3RD 4TH	2.0 **Quality of fresh fish** : 2.1 Factors affecting quality.
5TH	1ST 2ND 3RD 4TH	2.2 Criteria to access quality.
6TH	1ST 2ND 3RD 4TH	2.3 Bio-chemical changes in fish after catching.
7TH	1ST 2ND 3RD 4TH	3.0 **Spoilage & Preservation** : 3.1 Contamination & spoilage in general
8TH	1ST 2ND 3RD 4TH	3.2 Method of preservation of fish by different method.
9TH	1ST 2ND 3RD 4TH	4.0 Fish Products: 4.1 Manufacture of fish protein,
10TH	1ST 2ND 3RD 4TH	4.0 Fish Products: 4.1 Manufacture of fish protein,

11TH	1ST 2ND 3RD 4TH	Fish Concentrate
12TH	1ST 2ND 3RD 4TH	Fish Concentrate
13TH	1ST 2ND 3RD 4TH	Fish Sauce
14TH	1ST 2ND 3RD 4TH	4.2. Quality aspects of processed fish
15TH	1ST 2ND 3RD 4TH	4.2. Quality aspects of processed fish

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DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. Srlya suman Patra
SUBJECT: Instrumentation & Process Control	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROM DATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	2. **1.0 INSTRUMENT** 3. 1.1 Instruments and its importance 4. 1.2 Standards of measurement
2ND	1ST 2ND 3RD 4TH	5. 1.3 Functional elements of instruments 6. 1.4 Performance characteristics of an instrument 7.
3RD	1ST 2ND 3RD 4TH	8. **2.0 MEASUREMENTS OF CHARACTERISTICS** 9. 2.1 Measurement of viscosity by Red Wood Viscometer, Falling Sphere Viscometer, Continuous Viscometer 10.
4TH	1ST 2ND 3RD 4TH	11. 2.2 Principle and uses of spectrophotometer 12. 2.3 Principle and uses of polarimeter 13.
5TH	1ST 2ND 3RD 4TH	14. 2.4 Measurement of refractive index by Refractometer 15.
6TH	1ST 2ND 3RD 4TH	16. **3.0 pH & CONDUCTIVITY MEASUREMENT** 17. 3.1 Measurement of pH
7TH	1ST 2ND 3RD 4TH	18. 3.2 Measurement of electrical conductivity 19.
8TH	1ST 2ND 3RD 4TH	20. **4.0 TEMPERATURE MEASURMENT** 21. 4.1 Different temperature scales. 22. 4.2 Different methods of temperature measurement.
9TH	1ST 2ND 3RD 4TH	23. 4.3 Temperature measurement by liquid in glass thermometer 24. 4.4 Describe temperature measurement on electrical phenomena – like thermocouple,

10TH	1ST 2ND 3RD 4TH	25. resistance thermometer, optical pyrometer, radiation pyrometer. 26.
11TH	1ST 2ND 3RD 4TH	27. **5.0 PRESSURE MEASUREMENT** 28. 5.1 Different types of pressure 29. 5.2 Different methods of measurement of pressure.
12TH	1ST 2ND 3RD 4TH	30. 5.3 Pressure measurement by Bourdon tube, Bellows 31. 5.4 Maintenance and repair of pressure measuring instruments. 32.
13TH	1ST 2ND 3RD 4TH	33. **6.0 AUTOMATIC CONTROL** 34. 6.1 Automatic control system and explain the application with example. 35. 6.2 Elementary idea about transfer functions for a first order system and time constant.
14TH	1ST 2ND 3RD 4TH	36. 6.3 Block diagram and components of Process Control system 37. 6.4 Types of process control system, advantages and disadvantages 38.
15TH	1ST 2ND 3RD 4TH	39. 6.5 Elementary idea about different types of automatic controllers. 40. 6.6 Principle of PLC, computer Aided measurement and control 41.

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