(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FRUITS & VEGETABLE TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Classification & Nutritive value of fruits & vegetables
2ND	1ST 2ND 3RD 4TH	Transpiration, respiration, ripening and their effects Harvesting & processing of fruits & vegetables
3RD	1ST 2ND 3RD 4TH	Microbiology of fresh fruits and vegetables
4TH	1ST 2ND 3RD 4TH	Spoilage and its control
5TH	1ST 2ND 3RD 4TH	Principles and methods of storage-cold storage, atmosphere storage, gas storage, hypobaric storage, pre-cooling, radiation, waving etc
6TH	1ST 2ND 3RD 4TH	Processing of vegetables: Potato chips, French fries, frozen patties, sweet potato chips, flakes, Tomato -juice, puree, sauce, ketchup, chutney. Mushroom-freeze drying, pickles, dehydration
7TH	1ST 2ND 3RD 4TH	Processing of fruits: Jam, Jelly, squash, marmalade, pickles, vinegar
8TH	1ST 2ND 3RD 4TH	Study the effect of processing on the nutritive value of fruits and vegetables
9TH	1ST 2ND 3RD 4TH	Preserve fruits and vegetables by heat, chemicals, sugar, salt, fermentation, drying
10TH	1ST 2ND 3RD 4TH	Preserve fruits and vegetables by heat, chemicals, sugar, salt, fermentation, drying
11TH	1ST 2ND 3RD 4TH	Definition of Fermented foods

12TH	1ST 2ND 3RD 4TH	Pickling and curing of foods
13TH	1ST 2ND 3RD 4TH	Classification Processing of spice and condiment products
14TH	1ST 2ND 3RD 4TH	Adulteration of spices.
15TH	1ST 2ND 3RD 4TH	Processing tea, coffee, and cocoa and their products Processing of fruit juices.

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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FOOD & NUTRITION	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Introduction to food and nutrients Functions of foods. Basic food groups.
2ND	1ST 2ND 3RD 4TH	Energy metabolism Specific Dynamic action. Nutritive value of foods
3RD	1ST 2ND 3RD 4TH	Calorific value of foods. Recommended dietary allowances for Indians.
4TH	1ST 2ND 3RD 4TH	Developing good eating habits. Food misinformation.
5TH	1ST 2ND 3RD 4TH	Menu planning for the family.
6TH	1ST 2ND 3RD 4TH	Menu planning for hospital settings.
7TH	1ST 2ND 3RD 4TH	Balanced diet. Diets during a normal life cycle.
8TH	1ST 2ND 3RD 4TH	Nutrition during pregnancy. Nutrition during lactation.
9TH	1ST 2ND 3RD 4TH	Nutrition from infancy to adolescence. Ways of measuring growth.
10TH	1ST 2ND 3RD 4TH	Nutritional assessment of a community.
11TH	1ST 2ND 3RD 4TH	Methods of assessment of nutritional status.

12TH	1ST 2ND 3RD 4TH	Nutrition surveys. Diet surveys.
13TH	1ST 2ND 3RD 4TH	Causes and consequences of malnutrition in India. Protein Energy Malnutrition.
14TH	1ST 2ND 3RD 4TH	Vitamin Deficiency. Deficiency of minerals.
15TH	1ST 2ND 3RD 4TH	Current Nutrition programme in India. Food fortification, food enrichment, food restoration

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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FRUITS & VEGETABLE TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Classification & Nutritive value of fruits & vegetables
2ND	1ST 2ND 3RD 4TH	Transpiration, respiration, ripening and their effects Harvesting & processing of fruits & vegetables
3RD	1ST 2ND 3RD 4TH	Microbiology of fresh fruits and vegetables
4TH	1ST 2ND 3RD 4TH	Spoilage and its control
5TH	1ST 2ND 3RD 4TH	Principles and methods of storage-cold storage, atmosphere storage, gas storage, hypobaric storage, pre-cooling, radiation, waving etc
6TH	1ST 2ND 3RD 4TH	Processing of vegetables: Potato chips, French fries, frozen patties, sweet potato chips, flakes, Tomato -juice, puree, sauce, ketchup, chutney. Mushroom-freeze drying, pickles, dehydration
7TH	1ST 2ND 3RD 4TH	Processing of fruits: Jam, Jelly, squash, marmalade, pickles, vinegar
8TH	1ST 2ND 3RD 4TH	Study the effect of processing on the nutritive value of fruits and vegetables
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13TH	1ST 2ND 3RD 4TH	Classification Processing of spice and condiment products
14TH	1ST 2ND 3RD 4TH	Adulteration of spices.
15TH	1ST 2ND 3RD 4TH	Processing tea, coffee, and cocoa and their products Processing of fruit juices.

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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FOOD & NUTRITION	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Introduction to food and nutrients Functions of foods. Basic food groups.
2ND	1ST 2ND 3RD 4TH	Energy metabolism Specific Dynamic action. Nutritive value of foods
3RD	1ST 2ND 3RD 4TH	Calorific value of foods. Recommended dietary allowances for Indians.
4TH	1ST 2ND 3RD 4TH	Developing good eating habits. Food misinformation.
5TH	1ST 2ND 3RD 4TH	Menu planning for the family.
6TH	1ST 2ND 3RD 4TH	Menu planning for hospital settings.
7TH	1ST 2ND 3RD 4TH	Balanced diet. Diets during a normal life cycle.
8TH	1ST 2ND 3RD 4TH	Nutrition during pregnancy. Nutrition during lactation.
9TH	1ST 2ND 3RD 4TH	Nutrition from infancy to adolescence. Ways of measuring growth.
10TH	1ST 2ND 3RD 4TH	Nutritional assessment of a community.
11TH	1ST 2ND 3RD 4TH	Methods of assessment of nutritional status.

12TH	1ST 2ND 3RD 4TH	Nutrition surveys. Diet surveys.
13TH	1ST 2ND 3RD 4TH	Causes and consequences of malnutrition in India. Protein Energy Malnutrition.
14TH	1ST 2ND 3RD 4TH	Vitamin Deficiency. Deficiency of minerals.
15TH	1ST 2ND 3RD 4TH	Current Nutrition programme in India. Food fortification, food enrichment, food restoration

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(5th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. ANIMA MISHRA
SUBJECT:DAIRY TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 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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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. SRIYA SUMAN PATRO
SUBJECT:FOOD ENGG. -1	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	General introduction to food technology Principles of food preservation Methods of food preservation
2ND	1ST 2ND 3RD 4TH	Effect of Heat on Micro-organisms Thermal Death Time (TDT) Curve Environmental factors
3RD	1ST 2ND 3RD 4TH	Canning Pasteurization & Sterilization
4TH	1ST 2ND 3RD 4TH	Effect of cold on micro-organism
5TH	1ST 2ND 3RD 4TH	Types of cold preservation Study & construction of cold storage
6TH	1ST 2ND 3RD 4TH	Advantages of drying and drying rate Changes during drying Methods of drying
7TH	1ST 2ND 3RD 4TH	Intermediate moisture foods Methods of concentration
8TH	1ST 2ND 3RD 4TH	Fermentation & benefits of fermentation Microbial activities in foods
9TH	1ST 2ND 3RD 4TH	Control of fermentation in foods
10TH	1ST 2ND 3RD 4TH	Kinds of ionising radiations
11TH	1ST 2ND 3RD 4TH	Radiations effects. Uses of radiations

12TH	1ST 2ND 3RD 4TH	Classification of food preservatives(class1 and 2 Salt: Mechanism of action, food pickling and curing
13TH	1ST 2ND 3RD 4TH	Sugar: Types, uses and mechanism of action against micro- organisms Chemical preservatives: importance and mechanism of action of benzoicacid , KMS, Sodium benzoate
14TH	1ST 2ND 3RD 4TH	Introduction to Food packaging Importance and function of food packaging.
15TH	1ST 2ND 3RD 4TH	Study types of rigid and flexible packaging

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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. SRIYA SUMAN PATRO
SUBJECT:FOOD ENGG. -1	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
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6TH	1ST 2ND 3RD 4TH	Advantages of drying and drying rate Changes during drying Methods of drying
7TH	1ST 2ND 3RD 4TH	Intermediate moisture foods Methods of concentration
8TH	1ST 2ND 3RD 4TH	Fermentation & benefits of fermentation Microbial activities in foods
9TH	1ST 2ND 3RD 4TH	Control of fermentation in foods
10TH	1ST 2ND 3RD 4TH	Kinds of ionising radiations
11TH	1ST 2ND 3RD 4TH	Radiations effects. Uses of radiations

12TH	1ST 2ND 3RD 4TH	Classification of food preservatives(class1 and 2) Salt: Mechanism of action, food pickling and curing
13TH	1ST 2ND 3RD 4TH	Sugar: Types, uses and mechanism of action against micro- organisms Chemical preservatives: importance and mechanism of action of benzoicacid , KMS, Sodium benzoate
14TH	1ST 2ND 3RD 4TH	Introduction to Food packaging Importance and function of food packaging.
15TH	1ST 2ND 3RD 4TH	Study types of rigid and flexible packaging

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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	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 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
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. SRIYA SUMAN PATRO
SUBJECT:FISH PROCESSING TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 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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(5th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:5th	NAMEOFTHETEACHINGFACULTY:MS. Sriya suman Patra
SUBJECT: Instrumentation & Process Control	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.07.2024 TO 08.11.2024 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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(4th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:4th	NAMEOFTHETEACHINGFACULTY:MS. Anima Mishra
SUBJECT:FOOD MICROBIOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	INTRODUCTION 1.1 History of microbiology, micro-organisms and men
2ND	1ST 2ND 3RD 4TH	1.2 Classification of micro-organisms : Bacteria, Yeast, Fungi, Algae, Protozoa, Viruses
3RD	1ST 2ND 3RD 4TH	CULTURE METHODS 2.1 Methods of isolation of pure culture,
4TH	1ST 2ND 3RD 4TH	Media preparation, Culture maintenance media
5TH	1ST 2ND 3RD 4TH	2.2 Techniques of culturing, asepsis
6TH	1ST 2ND 3RD 4TH	MICROSCOPY 3.1 Microscope, Different types of microscopes methods of microscopic examination
7TH	1ST 2ND 3RD 4TH	3.2 Staining techniques
8TH	1ST 2ND 3RD 4TH	MORPHOLOGY 4.1 Morphological and cultural characteristics of bacteria and fungi
9TH	1ST 2ND 3RD 4TH	4.2 Vegetative cells, spores, motility
10TH	1ST 2ND 3RD 4TH	PHYSIOLOGY 5.1 Physiology of micro-organisms

11TH	1ST 2ND 3RD 4TH	5.2 Autotrophs & Heterotrophs, chemosynthetic, saprophytes & parasites, Aerobes & Anaerobes,
12TH	1ST 2ND 3RD 4TH	microaerophilic, psychrophiles, mesophiles and thermophiles.
13TH	1ST 2ND 3RD 4TH	GROWTH & INHIBITION 6.1 Factors affecting growth and death, Cell division, Budding, Sporulation, Fragmentation
14TH	1ST 2ND 3RD 4TH	6.2 Growth optima, Phases of growth
15TH	1ST 2ND 3RD 4TH	6.3 Control of Microbial spoilage by various food preservation methods(Low temperature, high temperature, irradiation, dehydration, chemicals) in fruit & vegetables.

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(4th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:4th	NAMEOFTHETEACHINGFACULTY:MS. ANIMA MISHRA
SUBJECT:FOOD CHEMISTRY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	1.0 Carbohydrate 1.1 Introduction 1.2 Structure 1.3 Classification and general properties of sugar(physical and chemical)
2ND	1ST 2ND 3RD 4TH	1.4 Physiological functions of carbohydrates 2.0 Proteins 2.1 Introduction
3RD	1ST 2ND 3RD 4TH	2.2 Amino Acid sequence in proteins 2.3 Physical and Chemical Properties of amino acids and proteins 2.4 Food protein and their characteristics
4TH	1ST 2ND 3RD 4TH	3.0 Lipids 3.1 Introduction 3.2 Classification of Lipids
5TH	1ST 2ND 3RD 4TH	3.3 Acid number, iodine value, acetyl value, Reichert-Meissl number 3.4 Hydrolytic and oxidative rancidity, preservation of rancidity, reversion
6TH	1ST 2ND 3RD 4TH	4.0 Vitamins 4.1 Occurrence, Chemistry, Classification 4.2 Deficiency diseases and high intakes
7TH	1ST 2ND 3RD 4TH	5.0 Enzymes 5.1 Classification and nomenclature,5.2 mechanism of enzyme action 5.3 Effect of temperature, PH, enzyme concentration and substrate concentration on the rate of enzyme reaction
8TH	1ST 2ND 3RD 4TH	5.4 Specificity of enzyme, enzyme inhibition, kinetics of enzyme action, activation of enzymes 5.5 Functions of enzymes involved in digestion.
9TH	1ST 2ND 3RD 4TH	6.0 Metabolism of Carbohydrates 6.1 Embolden Meyer Hoff pathway 6.2 Kerb"s Cycle 6.3 Glycogenesis, Glycogenolysis, Gluconeogenesis

10TH	1ST 2ND 3RD 4TH	7.0 Metabolism of lipids 7.1 Digestion and absorption of lipids
11TH	1ST 2ND 3RD 4TH	8.0 Metabolism of proteins 8.1 Nitrogen pool, nitrogen balance
12TH	1ST 2ND 3RD 4TH	8.2 Evaluate quality of proteins 8.3 Metabolism of proteins and amino acids.
13TH	1ST 2ND 3RD 4TH	9.0 Minerals 9.1 Macronutrients 9.2Micronutrients Syllabus Coverage up to I.A
14TH	1ST 2ND 3RD 4TH	
15TH	1ST 2ND 3RD 4TH	

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(6th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:6th	NAMEOFTHETEACHINGFACULTY:MS. Anima Mishra
SUBJECT:MEAT AND POULTRY TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	CHAPTER- 1 Introduction 1.1 Study the development of meat and poultry industries in india 1.2 Study their role in national economy
2ND	1ST 2ND 3RD 4TH	
3RD	1ST 2ND 3RD 4TH	CHAPTER-2Plant layout and slaughtering 2.1 location, layout and structure of a slaughter house and poultry processing plant 2.2 Pre-slaughter care, anti and post martem inspection and kinds of animal/poultryslaughter
4TH	1ST 2ND 3RD 4TH	2.3Slaughtering and dressing of animal/poultry meats 2.4 Classify meat(wholesale, retail, special cuts)
5TH	1ST 2ND 3RD 4TH	CHAPTER-3 Quality of fresh meat 3.1 Factors affecting quality 3.2 Criteria to assess quality 3.3 Food value and chemical composition of meat
6TH	1ST 2ND 3RD 4TH	3.4 Bio-chemical changes in meat after slaughter leading to rigor mortis, aging, and tenderisation of meat 3.5 Meat additives and adulterants 3.6 Meat Product
7TH	1ST 2ND 3RD 4TH	CHAPTER- 4 Egg 4.1 Structure and composition 4.2 Egg qualit
8TH	1ST 2ND 3RD 4TH	4.3 Egg Processing 4.4 Effect of heat on egg proteins 4.5 Egg foams 4.6 Egg Products
9TH	1ST 2ND 3RD 4TH	
10TH	1ST 2ND 3RD 4TH	CHAPTER-5 Poultry 5.1Classification 5.2 Poultry Processing

11TH	1ST 2ND 3RD 4TH	5.3 Composition and nutritive value 5.4 Poultry cooking
12TH	1ST 2ND 3RD 4TH	
13TH	1ST 2ND 3RD 4TH	CHAPTER -6 Spoilage and preservation 6.1 Contamination, spoilage in general
14TH	1ST 2ND 3RD 4TH	6.2 Method of preservation of meat and poultry products (low temp, high temp, curing, smoking, antibiotics, radiation etc)
15TH	1ST 2ND 3RD 4TH	

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(6th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:6th	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FOOD SAFETY,HYGINE,SANITATION	NO. OF DAYS/ PER WEEK CLASS ALLOTTED: 4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	**CLASSDAY**	**THEORY/PRACTICALTOPICS**
1ST	1ST 2ND 3RD 4TH	Chapter-1 Introduction 1.1 Importance of Food Hygiene. 1.2 Importance of Food Sanitation. 1.3 Importance of food safety.
2ND	1ST 2ND 3RD 4TH	
3RD	1ST 2ND 3RD 4TH	Chapter-2 General principles of food hygiene 2.1 Aseptic processing packaging and storage 2.2 Evaluate personal hygiene
4TH	1ST 2ND 3RD 4TH	
5TH	1ST 2ND 3RD 4TH	2.3 Health checkups, cleanliness measures and their implementation. 2.4 Food handling habits
6TH	1ST 2ND 3RD 4TH	
7TH	1ST 2ND 3RD 4TH	Chapter-3 Sanitation 3.1 Sanitation and terminology related to sanitation viz. sanitary processes, sanitary food etc..
8TH	1ST 2ND 3RD 4TH	3.2 Sanitary aspect of water supply, source and quality of water in use for industry..
9TH	1ST 2ND 3RD 4TH	3.3 Purification and disinfections of water. 3.4 Preventing

10TH	1ST 2ND 3RD 4TH	contamination of portable water supply..
11TH	1ST 2ND 3RD 4TH	Chapter-4 Plant sanitation 4.1 Importance of cleaning, physical, chemical factors in cleaning, washing sanitation.. 4.2 Sanitizers commonly used and their properties.
12TH	1ST 2ND 3RD 4TH	
13TH	1ST 2ND 3RD 4TH	4.3 Sanitization of equipments. 4.4 Steam sanitization for closed system.
14TH	1ST 2ND 3RD 4TH	
15TH	1ST 2ND 3RD 4TH	

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(4th SEMESTER
FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:4th	NAMEOFTHETEACHINGFACULTY:MS. SRIYA SUMAN PATRA
SUBJECT:FLUID MECHANICS AND HEAT TRANSFER	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	1.0 INTRODUCTION TO FLUID STATICS 1.1 Classify fluid 1.2 Properties of fluid
2ND	1ST 2ND 3RD 4TH	1.3 Newton"s Law of viscosity 1.4 Differentiate Newtonian & Non-Newtonian fluid
3RD	1ST 2ND 3RD 4TH	1.5 Derive an equation of pressure head. 2.0 FLUID FLOW PHENOMENA AND FLUIDISATION 2.1 Types of flow
4TH	1ST 2ND 3RD 4TH	2.2. Reynolds"s experiment 2.3 Mechanism of fluid flow in pipes 2.4 Derived Bernoulli"s theorem
5TH	1ST 2ND 3RD 4TH	2.5 Friction factor and estimate friction loss in pipes 2.6 Fluidisation 2.7 Pressure drop equation in fluidised bed. 2.8 Fluid flow characteristic in packed bed.
6TH	1ST 2ND 3RD 4TH	3.0 FLOW MEASUREMENT AND TRANSPORTATION OF FLUID 3.1 Flow measurement and Transportation of fluid. 3.2 Fluid flow through orifice meter, venturi meter and derive an expression for flow measurement, solve simple problems on it.
7TH	1ST 2ND 3RD 4TH	3.3 Construction and working of rotameter. 3.4 Differentiate pipe and tube. 3.5 Standard pipe fittings
8TH	1ST 2ND 3RD 4TH	3.6 Construction and operation of different types of valves. 3.7 Classify pumps. 3.8 Construction and operation of centrifugal pump. 4.0 CONDUCTION 4.1 Heat low concept in conduction.
9TH	1ST 2ND 3RD 4TH	4.2 Steady state and unsteady state conduction. 4.3 Fourier"s law of conduction. 4.4 Derive an equation of hear flow in a composite wall and a cylinder. 4.5 Optimum thickness of insulation. 4.6 Solve problems on conduction.

10TH	1ST 2ND 3RD 4TH	5.1 Classify convection 5.2 Heat flow phenomenon in convection 5.3 Derive equation of individual and overall heat transfer co-efficient.
11TH	1ST 2ND 3RD 4TH	5.4 Different dimensionless no. used in convection and discuss different empirical equation on heat flow by convection. 5.5 Parallel, co-current and counter current flow. 5.6 Log mean temperature difference.
12TH	1ST 2ND 3RD 4TH	6.0 HEAT EXCHANGERS AND EVAPORATORS 6.1 Classify heat exchanger. 6.2 Construction and working of single pass, and multipass, shell and tube heat exchangers.
13TH	1ST 2ND 3RD 4TH	6.3 Energy balance for shell and tube heat exchanger and solve problems. 6.4 Classify evaporator
14TH	1ST 2ND 3RD 4TH	6.5 Construction and operation of different types of evaporators
15TH	1ST 2ND 3RD 4TH	6.6 Solve simple material balance and energy balance problems

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Lesson plan of
2023-2024

(6th SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:6th	NAMEOFTHETEACHINGFACULTY: Miss. SRIYA SUMAN PATRA
SUBJECT:PLANT SAFETY MANAGEMENT	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Chapter 1.0 INTRODUCTION TO INDUSTRIAL SAFETY MANAGEMENT 1.1 Fundamental of safety 1.2 Unsafe act and unsafe condition 1.3 Integration of Safety, Health and Environment
2ND	1ST 2ND 3RD 4TH	1.4 Objective and principle of Safety Management 1.5 Terms and definition used in safety management 1.6 Classification of accidents.
3RD	1ST 2ND 3RD 4TH	Chapter 2.0 SAFE WORKING PRACTICE 2.1 Good Housekeeping practice 2.2 Work place safety 2.3 Safe working environment
4TH	1ST 2ND 3RD 4TH	2.4 Spot a hazard to stop an accident 2.4 Precaution in use of ladder 2.5 Safety instruction during maintenance 2.6 Safety measures during handling of compressed system, cylinders and painting Equipments
5TH	1ST 2ND 3RD 4TH	2.7 Permit to work system Chapter 3.0 PERSONAL PROTECTIVE EQUIPMENTS (PPE) 3.1 Requirement of personal protective equipment 3.2 Classification of Hazards
6TH		3.3 Personal protective equipments for different parts of body 3.4 Guideline to use personal protective equipment
7TH	1ST 2ND 3RD 4TH	Chapter 4.0 FIRE PREVENTION AND FIRE FIGHTING 4.1 Fundamentals of fire, elements of fire. 4.2 Terms and definition in Fire Management. 4.3

		Classification of fire and fire extinguishing technique
8TH	1ST 2ND 3RD 4TH	4.4 Causes of fire and its prevention 4.5 Different types of fire extinguisher and their application 4.6 Precaution for prevention of fire
9TH	1ST 2ND 3RD 4TH	Chapter 5.0 CHEMICAL HAZARDS 5.1 Classification of Chemical Hazards 5.2 Factors influencing effects of toxic chemicals
10TH	1ST 2ND 3RD 4TH	5.3 Terms related to concentration level as per industrial hygiene norm 5.4 Control measure for Chemical hazards
11TH	1ST 2ND 3RD 4TH	Chapter 6.0 ELECTRICAL SAFETY, ELECTRICAL SHOCK AND THEIR PREVENTION 6.1 Introduction to electrical safety 6.2 Precaution and safety in use of electricity
12TH	1ST 2ND 3RD 4TH	6.3 Electrical hazards in Industrial system 6.4 Safety provision to prevent electrical hazards
13TH	1ST 2ND 3RD 4TH	Chapter 7.0 MECHANICAL HAZARDS 7.1 Sources of mechanical hazards 7.2 Machine Guard and Safety devices
14TH	1ST 2ND 3RD 4TH	7.3 Pressure hazards and pressure vessel
15TH	1ST 2ND 3RD 4TH	7.4 Safety measures in use of gas cylinders 7.5 Types of maintenance (example- Breakdown, preventive)

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(6th SEMESTER
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DISCIPLINE:FT	SEMESTER:6th	NAMEOFTHETEACHINGFACULTY:MS. SRIYA SUMAN PATRA
SUBJECT:CEREAL TECHNOLOGY	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:16.01.2024 TO 26.04.24 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	11.0 Introduction 1.1 Major cereals in India 1.2 Nutritive value of cereals
2ND	1ST 2ND 3RD 4TH	2.0 Structure 2.1 Study of structure, varieties and classification of cereal grain such as rice, wheat, sorghum, ragi, corn, barley, bajra etc
3RD	1ST 2ND 3RD 4TH	
4TH	1ST 2ND 3RD 4TH	3.0 Milling of cereal grains 3.1 Milling process such as cleaning, dehusking, polishing, grading, glazing, rice parboiling of rice milling 3.2 Wheat milling 3.3 Dry milling of corn into grits, coarse mill & flour
5TH	1ST 2ND 3RD 4TH	3.4 Wet milling of corn into starch, gluten, germ oil, cake, corn steep liquor, yellow & white dextrin, corn syrup, dextrose powder and high fructose corn syrup. 3.5 Milling of barley, malting, production of syrup, alcohol, beer etc.
6TH	1ST 2ND 3RD 4TH	
7TH	1ST 2ND 3RD 4TH	4.0 Technology of bakery products 4.1 Function of different ingredients for production of bread, cake, biscuits 4.2 Mixing, dough development, sheeting, rounding, proofing, fermentation, baking of bread
8TH	1ST 2ND 3RD 4TH	
9TH	1ST 2ND 3RD 4TH	4.3 Mixing and baking of cake 4.4 Mixing, sheeting, baking of biscuit

10TH	1ST 2ND 3RD 4TH	5.0 Technology of confectionery products 5.1 Production of confectionery products
11TH	1ST 2ND 3RD 4TH	6.0 Snacks food processing 6.1 Recent trends in snack food processing 6.2 Production of extruded cereal foods
12TH	1ST 2ND 3RD 4TH	
13TH	1ST 2ND 3RD 4TH	6.3 Production of break fast cereal foods 6.4 Production of cereal based baby foods
14TH	1ST 2ND 3RD 4TH	
15TH	1ST 2ND 3RD 4TH	6.5 processed foods, convenience foods

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(3rd SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:3rd	NAMEOFTHETEACHINGFACULTY: MS. ANIMA MISHRA
SUBJECT:FOOD & NUTRITION	NO. OF DAYS/ PER WEEK CLASS ALLOTTED:4	SEMESTERFROMDATE:01.08.2023 TO 30.11.2023 NO.OFWEEKS:15
WEEK	CLASSDAY	THEORY/PRACTICALTOPICS
1ST	1ST 2ND 3RD 4TH	Introduction to food and nutrients Functions of foods. Basic food groups.
2ND	1ST 2ND 3RD 4TH	Energy metabolism Specific Dynamic action. Nutritive value of foods
3RD	1ST 2ND 3RD 4TH	Calorific value of foods. Recommended dietary allowances for Indians.
4TH	1ST 2ND 3RD 4TH	Developing good eating habits. Food misinformation.
5TH	1ST 2ND 3RD 4TH	Menu planning for the family.
6TH	1ST 2ND 3RD 4TH	Menu planning for hospital settings.
7TH	1ST 2ND 3RD 4TH	Balanced diet. Diets during a normal life cycle.
8TH	1ST 2ND 3RD 4TH	Nutrition during pregnancy. Nutrition during lactation.
9TH	1ST 2ND 3RD 4TH	Nutrition from infancy to adolescence. Ways of measuring growth.
10TH	1ST 2ND 3RD 4TH	Nutritional assessment of a community.
11TH	1ST 2ND 3RD 4TH	Methods of assessment of nutritional status.

12TH	1ST 2ND 3RD 4TH	Nutrition surveys. Diet surveys.
13TH	1ST 2ND 3RD 4TH	Causes and consequences of malnutrition in India. Protein Energy Malnutrition.
14TH	1ST 2ND 3RD 4TH	Vitamin Deficiency. Deficiency of minerals.
15TH	1ST 2ND 3RD 4TH	Current Nutrition programme in India. Food fortification, food enrichment, food restoration

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(5th SEMESTER
FOOD TECHNOLOGY)

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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