Lesson plan of
2023-2024

(4th SEMESTER FOOD TECHNOLOGY)

DISCIPLINE:FT	SEMESTER:4th	NAMEOFTHETEACHINGFACULTY: Miss.ITUSHREE RANI RATHA
SUBJECT:ORGANIC 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	IUPAC NOMENCLATURE 1.1 Scope of organic chemistry 1.2 Differentiate organic compound and inorganic compounds
2ND	1ST 2ND 3RD 4TH	1.3 Importance of organic Chemistry in modern life 1.4 Classification and sources of organic compounds .
3RD	1ST 2ND 3RD 4TH	1.5 IUPAC naming of mono functional and poly functional Organic Compound 1.6 Concept type and example of isomerism
4TH	1ST 2ND 3RD 4TH	2.0 ALIPHATIC COMPOUNDS 2.1 Methods of preparations, properties and uses of CH4 and C2H5. and uses of formic acid and acetic acid.
5TH	1ST 2ND 3RD 4TH	2.2 Methods of preparations properties of ethylene 2.3 Methods of preparation, properties and uses of acetylene 3.0 AROMATIC COMPOUNDS

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6TH		2.4 Methods of preparation properties and uses of methanol and ethanol. 2.5 Absolute alcohol and denatured alcohol. 2.6 Methods of preparation properties
7TH	1ST 2ND 3RD 4TH	2.7 Methods of preparation properties and uses of formaldehyde and acetone.
8TH	1ST 2ND 3RD 4TH	3.1 Methods of preparation, properties and uses of (a) Benzene (b) Toluene
9TH	1ST 2ND 3RD 4TH	4.0 CARBOHYDRATES, PROTEINS & FATS 4.1 Classification of carbohydrates
10TH	1ST 2ND 3RD 4TH	4.2 Synthesis and inter conversions of monosaccharides
11TH	1ST 2ND 3RD 4TH	4.3 Manufacturing properties and uses of glucose, fructose, sucrose, and starch.
12TH	1ST 2ND 3RD 4TH	4.4 Preparation, properties and uses of Amino acid
13TH	1ST 2ND 3RD 4TH	4.5 Classification of proteins, Peptides
14TH	1ST 2ND 3RD 4TH	4.6 Properties and uses of proteins.
15TH	1ST 2ND 3RD 4TH	4.7 Sources,Properties and uses of fats

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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

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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. 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.

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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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(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

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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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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

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		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
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

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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. 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

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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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(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.. 3.2 Sanitary aspect of water supply, source and quality of water in use for industry..
8TH	1ST 2ND 3RD 4TH	
9TH	1ST 2ND 3RD 4TH	3.3 Purification and disinfections of water. 3.4 Preventing

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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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