

Lesson Plan
Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans- Odd Semester (Semester-V)
Session – 2018-19

Names of the Teachers- Dr. Sandeep
Department- MFT (Food Science)

Class- B.Sc. III (MFT)
Paper–I: Environmental Microbiology (BMF-5001)

Month	Date		Topics to be Covered	Academic Activity Undertaken
	From	To		
July	24.07.2018	31.07.2018	Introduction to Soil Microbiology- Soil composition, role of microbes in soli quality, Rhizosphere effect	Lecture method, PPT, animation videos
August	01.08.2018	31.08.2018	<ul style="list-style-type: none"> • Soil enrichment techniques, soil enzymes as bio-indicators of fertility. • Isolation of Soil microbes and their characterization Biological interactions (positive, negative and neutral); special emphasis on VAM, lichens, Nitrogen fixation 	Lecture method, PPT
September	01.09.2018	30.09.2018	<p>Introduction to Bio-fertilizers, Bio-pesticides (Different classes and types), advantages of using them over chemical fertilizers Different biogeochemical cycles (N, P, K, water and carbon cycle)</p> <p>Introduction to terms: Bio-sorption, Bio-remediation, Bio-degradation, Bio-deterioration</p> <p>MST</p>	Lecture method, PPT, Animation Videos
October	01.10.2018	31.10.2018	<p>Degradation of different xenobiotics and role of microbes. Microbial deterioration of Wood, Textiles, Paper</p> <p>Biogas production pathway and their advantages, Hydrogen gas production and its applications.</p>	Lecture method, PPT, Practical demonstration using visit to college biogas setup plant
November, December	01.11.2018	03.12.2018	<p>Solid waste management (types of solid waste and different methods) BOD, COD, sewage water treatment steps (primary, secondary, tertiary), Role of biofilms and indicator microbes for potability.</p> <p>Revision and Class test</p>	Lecture method, PPT, Online animation videos, Visit to sewage treatment plant with live demonstration of each step, Visit to composting and vermi-compositing units at our college.

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Names of the Teacher- Dr.Bindu
Department- MFT (Food Science)

Class- B.Sc. III (MFT)
Paper–II: Food analysis and Quality control (BMF-5002)

S. No.	Date		Topics to be Covered	Academic Activity Undertaken
	From	To		
July	30.07.2018	31.07.2018	Introduction to Food Quality Control, Sampling techniques and preparation of food samples	Lecture method
August	01.08.2018	31.08.2018	Proximate analysis of Food-Moisture, Carbohydrates, Proteins, Fats, Crude Fiber, Ash content, Minerals, Vitamins. Physico-chemical properties–(TS,TSS,Acidity,solubility, sedimentation)	Lecture method, PPT, Group Discussion
September	01.09.2018	30.09.2018	Sensory assessment of food quality – Appearance of food, Flavor of food, Texture of food – Subjective & Objective Analysis Sensory Tests – Difference, Rating & Sensitivity tests, Types of panels, Testing area & schedule	Lecture method, PPT, Videos
October	01.10.2018	31.10.2018	Adulterants and Preservatives Food quality management – TQM, Good manufacturing practices, seven principles of HACCP & codex, Quality control methods of raw materials, manufacturing process & finished products MST Food Safety – Role of agencies & legal aspects, National & International food laws, Nutritional labeling requirements of foods	Lecture method, PPT, Videos
November & December	01.11.2018	20.11.2018	Quality control of Milk & milk products, Oils & Fats, Cereal grains & flours, Fruits & vegetable products, Canned foods, Egg & egg products, Meat & Meat products	Practical demonstration using Museum specimens Lecture method, PPT
	21.11.2018	03.12.2018	Class tests, Revision and Discussion	

Lesson Plan
Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans- Even Semester (Semester-VI)
Session – 2018-19

Name of the Teacher- Dr. Sandeep Kaur

Department- Food Science

Class- B.Sc. III (MFT)

Paper-I: Intellectual Property rights (BMF-6001)

Month	Date		Topics to be Covered	Academic Activity Undertaken
	From	To		
January	14.01.2019	31.01.2019	Introduction to tangible and non-tangible property, IPR rights, and their types, Paris and Berne convention, WIPO, WTO and their role , TRIPS agreement and its implications (in India).	Lecture method, PPT
February	01.02.2019	28.02.2019	Concept of prior and competing art, types of prior art searches, databases for search, USPTO and EPO. Patent and its definition, types. Basic requirement of patentability. Indian Patent Act-1970 and its recent amendments. Patent Filing process-fees, forms, guidelines, who can file a patent etc. Types of patent applications, provisional and complete, Conventional patent filing process in detail.	Lecture method, PPT, Hands on practical demo session using search databases
March	01.03.2019	31.03.2019	MST International patenting, PCT and its implications. Patent infringement (meaning, scope, case studies). Special issues in patenting. Role of country patent office, Publication rules for university and organization, publication by students, lecturers, scientists. Credit sharing and financial incentives. Nanotechnology-meaning, scope and applications, Govt. policy and rules for regulation of nanotechnology.	Lecture method, PPT, case studies discussions
April	01.04.2019	19.04.2019	Safe workplace and self-regulation, Liability and negligence of nanotechnology, Class action and certification, Risks associated with Nano-particles Revision and Class test	Lecture method, PPT

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Names of the Teachers- Dr.Bindu
Department- MFT (Food Science)

Class- B.Sc. III (MFT)
Paper–II: Food Engineering (BMF-6002)

Month	Date		Topics to be Covered	Academic Activity Undertaken
	From	To		
January	14.01.2019	31.01.2019	<p>Units and Dimensions: Concept of Unit operation, Mass Energy balance, Dimensions and Units, Unit Conversion, Dimensional Analysis</p> <p>Psychrometric chart: Dry and wet bulb temperature, humidity & relative humidity, adiabatic saturation temperature, Dew point, Information about psychometric chart</p> <p>Refrigeration: Reverse Carnot's cycle, Pressure enthalpy chart, temperature entropy chart, vapor compression refrigeration system, equipment's C.O.P., Refrigeration load calculation, Application of refrigeration in food processing Operations</p>	Lecture method, PPT, Animations
February	01.02.2019	28.02.2019	<p>Freezing: Principles and methods, Different types of Freezers, Industrial problems associated of frozen storage food products</p> <p>Introduction to Heat Transfer: Heat Transfer, modes of heat transfer, conduction through a flat wall, conduction through hollow cylinder, convective heat transfer, radiation heat transfer</p> <p>Heat transfer Equipments and Design: Heat Transfer equipments, parallel and counter current flow heat exchangers, Logarithmic mean temperature difference, heat transfer coefficient, heat exchanger design (preliminary), concept of black body, Emissivity and Absorptivity</p>	Lecture method, PPT
March	01.03.2019	31.03.2019	<p>MST</p> <p>Flow of fluids: Types of fluids and fluid flows, viscosity, Bernoulie's equation and its application for measurement of flow rate Different types of pumps (Reciprocating, rotary and centrifugal pumps).</p> <p>Evaporation: Mechanisms of vaporization, Boiling Point elevation, Different types of evaporators, Evaporation of heat sensitive materials</p> <p>Size Reduction: Principles of size reduction, methods of size reduction.</p> <p>Mixing: Theory of mixing, mixing of liquids & solids, types of mixers, power calculation in mixing. Homogenization</p>	Lecture method, PPT, videos
April	01.04.2019	19.04.2019	<p>Separation processes: Principles and methods of gas absorption, Distillation, Extraction and washing, Filtration, sedimentation, sieving, centrifugation</p> <p>Membrane Separation Processes: Separation by Sieving, Screen effectiveness; Theory of filtration, Reverse Osmosis, Nano filtration and Ultra filtration</p> <p>Revision and Class test</p>	Lecture method, PPT, videos