Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans- Odd Semester (Semester V)

Session– (2026-2027)

Name of the Teacher: Dr. Sandeep Kaur

Department: Department of Food Science

Class: B.Sc. MFT (III)

Subject: Medical Microbiology

(BMF-DSC-MAJ -501)

S.No.	Date(Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	20/07/2026	31/07/2026	**Introduction:** Scope and importance of medical microbiology, concepts of infection, disease, pathogenicity and virulence.	Interactive Lecture method, Power Point Presentations, Reference book
2.	01/08/2026	15/08/2026	**Transmission of Infection and Host–Microbe Interactions:** Sources and modes of transmission of infection; host–microbe interactions with special reference to normal microbial flora.	Interactive Lecture method, Power Point Presentations, Reference book
3.	16/08/2026	31/08/2026	**Medical Bacteriology:** General features, pathogenesis, transmission, prevention and control of medically important bacterial pathogens including *Vibrio cholerae*, *Salmonella typhi*, *Shigella dysenteriae*. General features, pathogenesis, transmission, prevention and control of *Clostridium botulinum*, *Escherichia coli* **O157:H7.** **Revision Test**	Interactive Lecture method, Power Point Presentations Practical demonstration
4.	01/09/2026	10/09/2026	**Medical Virology:** General properties of viruses; structure and viral pathogenesis; bacteriophages – structure and life cycle (lytic and lysogenic cycles). **Revision Test**	

5.	11/09/2026	30/09/2026	Overview of medically important viruses including Hepatitis A and E, Influenza virus, Rabies virus and Human Immunodeficiency Virus (HIV).	
6.	01/10/2026	14/10/2026	**Medical Mycology:** General characteristics, Modes of transmission, pathogenesis and prevention and control of medically important fungi including Candida spp., Aspergillus spp. **Revision Test**	Interactive Lecture method, Power Point Presentations, Audio-visual aid
8.	15/10/2026	07/11/2026	Medical Parasitology: General features, pathogenesis, transmission, prevention and control of medically important protozoa and helminths including *Entamoeba histolytica, Giardia lamblia* and helminths including *Ascaris lumbricoides* and *Taenia* spp.	Interactive Lecture method, Power Point Presentations, Audio-visual aid
10.	08/11/2026	17/11/2026	**Revision test and remedial classes**	

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans- Odd Semester (Semester V)
Session–(2026-2027)
Name of the Teacher: Dr. Vandana Sharma
Department: Department of Food Science
Class: B.Sc. MFT (III)
Subject: IMMUNOLOGY
(BMF-DSC-MAJ -502)

S.No.	Date(Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	20/07/2026	31/07/2026	**Scope and Components of Immune System:** Scope and relevance of immunology; Cells of Immune System	Interactive Lecture method, Power Point Presentations, Reference book
2.	01/08/2026	20/08/2026	**Components of the immune system:** lymphoid organs and immune cells involved in immune surveillance and response **Immunity and Antigens:** Types of immunity	Interactive Lecture method, Power Point Presentations, Reference book
3.	21/08/2026	31/08/2026	**Innate and adaptive immunity**; **Antigens** including basic concepts of antigenic determinants. **Revision Test**	Interactive Lecture method, Power Point Presentations Practical demonstration
4.	01/09/2026	19/09/2026	**Antibody Structure, Functions, and Interactions:** Basic immunoglobulin structure and their biological role, **Basic concept of Complement system;** **Overview of serological reactions** commonly employed in immunology to study antigen–antibody interactions. **Revision Test**	

5.	21/09/2026	05/10/2026	**Lymphocyte Activation and Differentiation:** Activation and differentiation of B-cells and T-cells and their effector functions.	
6.	06/10/2026	14/10/2026	**Immune Responses:** Humoral and Cell-mediated immune responses. **Revision Test**	Interactive Lecture method, Power Point Presentations, Audio-visual aid
8.	15/10/2026	26/10/2026	**Applied Immunology:** Gut immunity and Immunological basis of food allergies.	Interactive Lecture method, Power Point Presentations, Audio-visual aid
9.	27/10/2026	07/11/2026	**Vaccines:** Basic mechanisms of vaccine-induced immunity and types of vaccines used in disease prevention.	Interactive Lecture method, Power Point Presentations, Group Discussion, Flipped classroom
10.	08/11/2026	17/11/2026	**Revision test and remedial classes**	

MCM DAV College for Women, Sector – 36 A, Chandigarh
Monthly Teaching Plans **(**Odd Semester**)**
Session–(2026-27)

Name of the Teacher**: Dr. Gurpreet Kaur**
Department**: Department of Food Science**
Class**: B.Sc. MFT (III)** Section**: A**
Subject: BMF-DSC-MAJ-503 / **UNIT OPERATIONS IN FOOD PROCESSING**

S.No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	20.07.26	26.07.26	**Introduction and classification** of unit operations in food industry. Engineering properties of foods: physical, mechanical, thermal and rheological properties. Material and energy balance basics applied to food processes. Overview of Units and Dimensions.	**Lecture, Online Sources, PPT**
2.	27.07.26	9.08.26	**Size Reduction**: Principles of size reduction, methods of size reduction for solids and Liquids	**Lecture, PPT**
3.	10.08.26	23.08.26	**Mixing**: principles of liquid–liquid, solid–liquid and solid–solid mixing. Types of mixers, power in mixing.	**Lecture, PPT**
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
4.	24.08.26	6.09.26	**Evaporation**: Boiling Point elevation, Different types of evaporators, multiple effect evaporators, applications in milk, juice and syrup industries.	**Lecture, PPT**
5.	7.09.26	12.09.26	**Heat transfer:** different modes of heat transfer, conduction through a flat wall, conduction through hollow cylinder, convective heat transfer, radiation heat transfer, concept of black body, Emissivity and Absorptivity	**Lecture, PPT**
6.	14.09.26	20.09.26	**Heat transfer Equipments and Design**: Heat Transfer equipments, parallel and counter current flow heat exchangers, Logarithmic mean temperature difference, overall heat transfer coefficient	**Lecture, PPT**
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
7.	21.09.26	27.09.26	**Refrigeration:** 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	**Lecture, PPT**
8.	27.09.26	4.10.26	**Freezing:** Freezing curves, Different Principles and types of Freezers, Industrial problems associated of frozen storage food products influence on food quality	**Lecture, PPT**
9.	5.10.26	10.10.26	**Drying and dehydration:** drying rate curves, dryers for foods (tray, tunnel, spray, drum, fluidized bed, freeze dryers) and quality changes during drying	**Lecture, PPT**
10.	11.10.26	18.10.26	**Flow of fluids:** Bernoulli's equation, Newton's Law of Viscosity, Newtonian and non-Newtonian fluids, streamline and turbulent flow, Reynold's number Different types of pumps (Reciprocating, rotary and centrifugal pumps).	**Lecture, PPT, Online Videos**
11.	19.10.26	25.10.26	**Separation processes**: Filtration, sedimentation, sieving, centrifugation. Membrane Separation Processes: Reverse Osmosis, Nano filtration and Ultra filtration. Applications in juice clarification, dairy, edible oil and starch processing	**Lecture, PPT, Online Videos**
12.	25.10.26	31.10.26	**Psychrometrics:** properties of dry air: composition of air,	**Lecture, PPT**

			specific heat of dry air, enthalpy of dry air, dry bulb temperature, wet bulb temperature, humidity &relative humidity, dew point temperature. Psychometric chart	
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
13.	1.11.26	10.11.26	Revision of topics, class tests and assignments	**Discussion**
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans- Odd Semester (Semester V)
Session–(2026-2027)
Name of the Teacher: Dr. Sandeep Kaur
Department: Department of Food Science
Class: B.Sc. MFT (III)
Subject: Environmental Biotechnology
(BMF-DSC-MAJ -505)

S.No.	Date(Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	20/07/2026	31/07/2026	**Soil Microbiology:** Basics of soil composition and major soil microorganisms. Enrichment and isolation of soil microbes and their biotechnological importance. .	Interactive Lecture method, Power Point Presentations, Reference book
2.	01/08/2026	15/08/2026	**Biological Interactions:** Types of microbial interactions (positive, negative, and symbiotic) with emphasis on Rhizobium–legume and mycorrhizal associations, and their applications in sustainable agriculture and biotechnology.	Interactive Lecture method, Power Point Presentations, Reference book
3.	16/08/2026	31/08/2026	**Biogeochemical Cycling:** Overview of carbon, nitrogen, phosphorus, and sulphur cycles, focusing on the role of microorganisms in organic matter degradation, nutrient transformation, and recycling.Application of biogeochemical cycles. **Revision Test**	Interactive Lecture method, Power Point Presentations Practical demonstration
4.	01/09/2026	10/09/2026	**Microbes for Bio-energy:** Basics of biogas technology, including methane and hydrogen production by microorganisms. **Revision Test**	

5.	11/09/2026	04/09/2026	**Biofertilizers and Biopesticides:** Application of microorganisms in biofertilizers and biopesticides, highlighting their advantages over chemical fertilizers and pesticides. **Bioremediation and Biodegradation:** Concepts of Bioremediation and biodegradation	
6.	05/10/2026	20/10/2026	**Solid Waste Management:** Sources and types of solid waste and methods of disposal such as landfilling, composting, and vermicomposting, with emphasis on the role of biotechnology in organic waste recycling. **Revision Test**	Interactive Lecture method, Power Point Presentations, Audio-visual aid
8.	21/10/2026	07/11/2026	**Liquid Waste Management:** Concepts of BOD and COD and their significance. Sewage and wastewater treatment processes including primary, secondary (oxidation ponds, trickling filter, activated sludge, septic tank), and basic concepts of tertiary treatment, along with biofilm-based wastewater treatment.	Interactive Lecture method, Power Point Presentations, Audio-visual aid
9.	08/11/2026	17/11/2026	**Revision test and remedial classes**	