MONTHLY TEACHING PLAN

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

Monthly Teaching Plans - Odd semester (Semester - III)
Session – 2026-27

Department : Food Science

Class : B.Sc. II (MFT)

Subject : Bioanalytical Techniques (BMF-DSC- MIN -303)

Name of the Teacher - Dr. Deepika Malik

Sr. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	27.07.2026	30.08.2026	1. **Microscopy** - Principle and applications of Bright field, Fluorescence, Dark field and Electron microscopy, Fixation and Staining.. 2. **Centrifugation** - Principles and applications of Density gradient and Differential centrifugation; Ultracentrifugation.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
2.	01.09.2026	15.09.2026	3. **Electrophoresis** – Types of electrophoresis; Principles and application of Agarose Gel Electrophoresis; SDS-PAGE and 2D electrophoresis. 4. **Refractometry** - Basic Principle and its Applications. 5. **Polarimetry** - Basic principle of Polarimeter and its applications.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				

3	16.09.2026	10.10.2026	6. **Basic Chromatography:** Principles and applications of : Gel permeation, Ion-Exchange, Affinity, Paper, Thin-Layer and Size exclusion chromatography. 7. **Immunoassays**: Immuno fluorescent assay, Enzyme linked Immunosorbent assay, Radioimmunoassay, Flow cytometry.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
4.	11.10.2026	17.11.2026	8. **Radioisotopy:** Principles and applications of tracer techniques in biology, detection and measurement of radioactivity; specific activity. 9. **Biosensors:** Principle; types and applications of biosensors. **Revision and Class test**	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				

TEACHING PLAN

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

Monthly Teaching Plans - Even semester (Semester - III)
Session – 2026-27

Department : Food Science

Class : B.Sc. II (MFT)

Subject : Industrial Microbiology (BMF-DSC-MAJ -301)

Name of the Teacher - Dr. Deepika Malik

Sr. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1	27.07.2026	30.08.2026	**Introduction to Industrial Microbiology–** History and Development of Industrial fermentation; Industrially important microbes and their uses. **Stages of Fermentation Process:** An overview of key stages of industrial fermentation process: Upstream processing, fermentation process, downstream processing; Primary and Secondary metabolites. **Isolation and Screening of Industrially Important Microorganisms** - Primary and secondary screening of industrial microbes; Microbial preservation methods.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				

2.	01.09.2026	15.09.2026	**Improvement of Industrial Microorganisms** - Genetic improvement techniques for strain enhancement. **Fermentation Media and Inoculum Preparation** - Importance of inoculum size and age, Stages and methods in inoculum development; Media formulation and common substrates used in fermentation industry	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
3	16.09.2026	15.10.2026	**Microbial Growth Kinetics –** Measurement and Monitoring of growth during Fermentation; Factors affecting microbial fermentation: Oxygen, pH, Temprature and Agitation . **Design of Fermenters -** Key components and Basic Control Panels of a fermenter; Sterilization of fermenter and media.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
4.	16.10.2026	17.11.2026	**Downstream Processing of industrial fermentations:**Techniques for cell disruption, separation of biomass and insolubles. **Recovery and purification** - Concentration and purification of fermentation products. **Revision and Class test**	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				

Name of the Teacher**: Dr. Anila Kumari**
Department**: Department of Food Science**
Class**: B.Sc. MFT (II)**
Subject: BMF-DSC- MIN-304)/ **Fundamentals of Food Biotechnology**

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	27.07.2026	31.07.2026	**Introduction**: History and scope of Food biotechnology, food as substrates for microbes, factors affecting growth of microorganisms. **Detection of microorganisms in food**: test for bacterial toxins in foods.	**Lecture, Online Sources**
2.	01.08.2026	26.08.2026	**Enzymes in Food Industry:** Introduction and applications of enzymes in food industry. **Immobilization of enzymes and their applications**.	**Lecture**
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
3.	31.08.2026	09.09.2026	**Nutraceuticals and Functional foods:** Biotechnology in production of bioactive compounds, fortification and encapsulation technologies.	**Lecture, PPT**
4.	14.09.2026	22.09.2026	**Role of biotechnology in reducing food spoilage:** Microbial based Food preservation, Enzyme based preservation, Biopreservation, Natural antimicrobial compounds (essential oils, plant extracts).	**Lecture, PPT**
5.	23.09.2026	30.09.2026	**Production of Dairy based fermented foods:** Yogurt, Cheese, Buttermilk, Sour cream.	**Lecture, PPT**
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
6.	01.10.2026	07.10.2026	**Production of Cereal and Legume based fermented foods:** Idli/Dosa batter, Tempeh, Tofu, Miso, Sauerkraut.	**Lecture, PPT**
7.	08.10.2026	22.10.2026	**Production of Alcoholic and Non-alcoholic Fermented Beverages:** Beer, Wine and Lassi	**Lecture, PPT**
8.	23.10.2026	07.11.2026	**Genetically modified foods:** Golden rice, Favr savr tomato, protato, pomato. **Probiotics, prebiotics and Synbiotics.**	**Lecture, PPT, Online Videos**
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
10.	12.11.2026	17.11.2026	Revision of topics, class tests and assignments	**Discussion**
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				