

(Teaching Plan)
MCM DAV College for Women, Sector– 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session – (2025-26)

Name of the Teacher: **Dr. Deepika Malik**

Department: **Department of Food Science**

Class: **B.Sc. MFT (II)**

Section: **A**

Subject: **BMF-DSC- MIN -303 / Bioanalytical Techniques**

Sr. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	21.07.2025	30.08.2025	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.	01.09.2025	15.09.2025	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	16.09.2025	30.09.2025	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.	01.10.2025	30.10.2025	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 Practical exams and internal assessment				

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Name of the Teacher: **Dr. Deepika Malik**

Department: **Department of Food Science**

Class: **B.Sc. MFT (II)**

Section: **A**

Subject: **BMF-DSC- MAJ -301 / Industrial Microbiology**

Sr. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1	21.07.2025	30.08.2025	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.	01.09.2025	15.09.2025	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	16.09.2025	30.09.2025	Microbial Growth Kinetics – Measurement and Monitoring of growth during Fermentation; Factors affecting microbial fermentation: Oxygen, pH, Temperature 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.	01.10.2025	30.10.2025	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 Practical exams and internal assessment				

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Name of the Teacher: **Dr. Deepika Malik**

Department: **Department of Food Science**

Class: **Second Year (SEC)**

Section: **A**

Subject: BMF-SEC-3-301 / Food Product and Value-Addition

Sr. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1	21.07.2025	30.08.2025	Introduction: Definition of value-added product, need for value addition, approaches in value addition, reasons for developing value added products, benefits of value-added products, limitations of value-added products.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
2.	01.09.2025	15.09.2025	Value-added food products from fruits and vegetables : Preparation, Cost of production, Packaging and Labelling, Shelf-life studies based on sensory evaluation.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
3	16.09.2025	30.09.2025	Value-added food products from cereals and pulses : Preparation, Cost of production, packaging and Labelling, Shelf-life studies based on sensory evaluation.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
4.	01.10.2025	30.10.2025	Value-added food products from Dairy : Preparation, Cost of production, Packaging and Labelling, Shelf-life studies based on sensory evaluation.	Lecture, PPT, Online Sources
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				

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MCM DAV College for Women, Sector– 36A, Chandigarh
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Name of the Teacher: **Dr. Gurpreet Kaur**

Department: **Department of Food Science**

Class: **B.Sc. MFT (II)**

Section: **A**

Subject: **BMF-DSC-MAJ-302 / Processing Technology of Cereals and Pulses**

S.No	Date (Monthly)		Topic to be Covered	Academic Activity Undertaken
	From	To		
1.	24.07.2025	30.07.2025	Present status and future prospects of cereals, pulses and millets; Nutritive value of cereals	Lecture, Online Sources
2.	31.07.2025	6.08.2025	Wheat: Types, composition and physicochemical characteristics; wheat milling-products; factors affecting quality parameters; Cleaning, tempering and conditioning of wheat.	Lecture
3.	07.08.2025	13.08.2025	Various processed wheat-based foods; manufacture of whole wheat atta, blended flour and fortified flour. Production of starch and vital wheat gluten	Lecture, PPT
4.	14.08.2025	20.08.2025	Rice: Structure, Classification, Quality Characteristics, physicochemical properties of rice. Milling and Parboiling of Paddy, Curing and aging of paddy.	Lecture, PPT
5.	21.08.2025	31.08.2025	Criterion and assessment of milling, cooking, nutritional and storage qualities of raw and parboiled rice. Processed rice products (Flaked expanded and puffed rice).	Lecture, PPT
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
6.	01.09.2025	14.09.2025	Corn and other coarse grains: Structure, types and Composition of Corn. Wet and dry milling of corn. Starch and its conversion products, processed breakfast cereals.	Lecture, PPT
7.	15.09.2025	30.09.2025	Structure and composition of millets and their processing. Pearling and Malting of Barley. Oats: composition and processing	Lecture, PPT
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
8.	1.10.2025	15.10.2025	Pulses and Legumes: composition, anti-nutritional factors, storage and Milling of pulses. Nutritional changes during soaking and sprouting of pulses.	Lecture, PPT, Online Videos
9.	16.10.2025	31.10.2025	Processing of legumes for protein concentrates and isolates, Extrusion cooking technology; snack foods; development of low-cost protein foods.	Lecture, PPT, Online Videos
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
10.	1.11.2025	10.11.2025	Revision of topics, class tests and assignments	Discussion
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				

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Name of the Teacher: **Dr. Anila Kumari**

Department: **Department of Food Science**

Class: **B.Sc. MFT (II)**

Section: **A**

Subject: **BMF-DSC-MIN-304) / Fundamentals of Food Biotechnology**

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	24.07.2025	31.07.2025	Introduction: History and scope of Food biotechnology, food substrates for microbes, factors affecting growth of microorganisms. Detection of microorganisms in food: test for bacterial toxins in foods.	Lecture, Online Sources
2.	01.08.2025	20.08.2025	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.	21.08.2025	3.09.2025	Nutraceuticals and Functional foods: Biotechnology in production of bioactive compounds, fortification and encapsulation technologies.	Lecture, PPT
4.	04.09.2025	20.09.2025	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.	21.09.2025	30.09.2025	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.	01.10.2025	07.10.2025	Production of Cereal and Legume based fermented foods: Idli/Dosa batter, Tempeh, Tofu, Miso, Sauerkraut.	Lecture, PPT
7.	08.10.2025	22.10.2025	Production of Alcoholic and Non-alcoholic Fermented Beverages: Beer, Wine and Lassi	Lecture, PPT
8.	23.10.2025	01.11.2025	Genetically modified foods: Golden rice, Flavr Savr tomato, potato, 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.	2.11.2025	10.11.2025	Revision of topics, class tests and assignments	Discussion
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				

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Name of the Teacher: **Dr. Sandeep Kaur**

Department: **Department of Food Science**

Class: **Second Year (SEC)**

Section: **A**

Subject: **BMF-MDC-3-301 / Community Nutrition**

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken
	From	To		
1.	24/07/2025	31/08/2025	Introduction: Nutrition and health in National development, food consumption patterns and choices, food security and poverty. Malnutrition: meaning. factors contributing to malnutrition, over nutrition.	Lecture, power-point presentations, OnlineVideos
2.	01/09/2025	30/09/2025	Nutritional disorders: prevention and dietary treatment for Protein Energy malnutrition, nutritional anemias & vitamin deficiency disorders. Methods of assessing nutritional status: a) Sampling techniques, Identifications of risk groups, Diet surveys.	Lecture, powerpoint presentations, OnlineVideos
3.	01/10/2025	24/10/2025	Improvement of nutrition of a community: Modern methods of improvement or nutritional quality of food, food fortification, enrichment etc. Nutritional and infection relationship: Immunization and its importance, Overview of Food borne diseases and control measures.	Lecture, powerpoint presentations, OnlineVideos
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
4.	25/10/2025	13/11/2025	National and International agencies: WHO, UNICEF, ICMR, ICAR, CSIR, CFTRI. Community nutrition programs and planning. Revision and Class test	Lecture, powerpoint presentations, OnlineVideos
Departmental Meeting to Coordinate and Review the Practical exams and internal assessment				