

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

Monthly Teaching Plans- Odd Semester (Semester I)

Session–(2021-2022)

Name of the Teacher: Dr. Vandana Sharma

Department: Department of Food Science

Class: B.Sc. MFT (I)

Subject: BMF 1001 – GENERAL AND FOOD MICROBIOLOGY

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	13.09.2021	18.09.2021	Applications and History of Microbiology Organization of Cell - Concept of Prokaryotic and Eukaryotic cell, extra nuclear and nuclear organization of cell.	Interactive Lecture method, Power Point Presentations, Reference book
2.	20.09.2021	30.09.2021	Characteristics of major groups of microorganisms: Archaeobacteria, Eubacteria, Fungi, Protozoa and Viruses and Bacteriophages. Revision Test	Interactive Lecture method, Power Point Presentations, Reference book
Departmental Meeting regarding Webinar on Business Opportunities on 09.09.21 ; for celebrating Fungal Awareness Week on 27.09.2021 and to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
3.	01.10.2021	10.10.2021	Prokaryotic cell structure and function: Cell morphology; the capsule and slime layer; cell wall; cell membrane; ribosome; flagella; fimbriae and pili; nuclear region and spores.	Interactive Lecture method, Power Point Presentations Practical demonstration
4.	11.10.2021	20.10.2021	Microbial Nutrition: Nutritional requirements of microbes; Types of culture media;	
5.	21.10.2021	31.10.2021	Microbial classification and nomenclature; Classification of microbes on the basis of nutritional requirements, Identification of bacteria. Revision Test	
Departmental Meeting regarding conduction of PMFME training on 05.10.21 and for celebration of World Food Day on 25-26 Oct, 2021 and to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
6.	01.11.2021	12.11.2021	Bacterial Growth - Bacterial growth curve, Methods of measurement of growth, Bacterial growth at high and low	Interactive Lecture method, Power Point Presentations, Audio-visual aid

			temperature; Other environmental factors affecting microbial growth Synchronous and Diauxic growth.	
7.	18.11.2021	25.11.2021	MST	
8.	26.11.2021	30.11.2021	<p>Control of microorganisms:- Physical and Chemical methods of sterilization/Disinfection.</p> <p>Human-Microbial Interactions: Normal flora – Gastrointestinal tract; Pathogenic mechanisms of food borne bacteria, Brief account of mechanisms of action of chemotherapeutic agents, Introduction to specific and nonspecific defense mechanisms to infections.</p>	Interactive Lecture method, Power Point Presentations, Audio-visual aid
<p>Departmental Meeting regarding MST on 15.11.21 and to Coordinate and Review the Monthly completion of Syllabus as per lesson plans on 26.11.2021</p>				
9.	01.12.2021	10.12.2021	<p>Food-borne Pathogens: General characteristics and brief account of food borne diseases caused by- <i>Staphylococcus aureus</i>; <i>Clostridium botulinum</i>; <i>C. perfringen</i>; <i>Listeria monocytogene</i>; <i>Salmonella</i>; <i>Escherichia.coli</i>; <i>Yersinia enterocolitica</i>; <i>Vibrio parahaemolyticus</i>, Mycotoxins.</p> <p>Detection of food pathogens: Overview of Conventional and Rapid methods to detect food pathogens.</p>	Interactive Lecture method, Power Point Presentations, Group Discussion, Flipped classroom
10.	11.12.2021	20.12.2021	<p>Food Spoilage - Contamination of foods from natural sources, Intrinsic and Extrinsic parameters, Associations of microorganisms involved in spoilage, Physical and Chemical changes in food caused by micro-organisms.</p> <p>Microbiology of different foods –Spoilage of the different food products: a) Cereal and cereal</p>	

12.	20.12.2021	30.12.2021	Remedial Classes	Discussion
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Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Semester I; ODD SEM)
Session–(2021-2022)

Name of the Teacher: Dr. Kirti Singla

Department: Department of Food Science

Class: B.Sc. MFT (I)

Subject: BMF 1002 – MICROBIAL AND FOOD BIOCHEMISTRY

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	13.09.2021	18.09.2021	Introduction to major biomolecules	Lecture, Online Sources
2.	20.09.2021	30.09.2021	Introduction to carbohydrates, Classification, structure and properties.	Lecture
09.09.2021 Departmental Meeting regarding webinar on Business opportunities (Azadi ka amritmahotsav) 27.09.2021 Departmental Meeting regarding Fungal Awareness Week. 30.09.21 Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
3.	01.10.2021	10.10.2021	Fermentation, Artificial sweeteners, browning and Maillard Reaction, anaerobic respiration.	Lecture
4.	11.10.2021	20.10.2021	Glycolysis, TCA, ETC, ED, PPP,	Lecture, Online Videos, Cycle slides.
5.	21.10.2021	31.10.2021	Enzymes classification, Enzyme kinetics, Enzyme inhibitions, factors	Lecture, Online Sources
05.10.21 Departmental Meeting regarding PMFME training. 25-26.10.21 Departmental Meeting regarding World Food Day Event. 30.10.21 Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
6.	01.11.2021	12.11.2021	Classification and structure of amino acids, physic chemical properties, protein catabolism.	Lecture, Cycle slides.
7.	18.11.2021	25.11.2021	MST	
8.	26.11.2021	30.11.2021	Lipids classification, structure and functions, phospholipids, catabolism of fatty acids.	Lecture, Cycle slides.
15.11.21 Departmental Meeting regarding conduct of MST. 04.12.21 Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans and conduction of final practical exams.				

9.	01.12.2021	09.12.2021	Vitamins and minerals, Pigments and flavors	Lecture, Group Discussion
10.	10.12.2021	12.12.2021	Changes in food constituents during processing	Lecture, Online Sources
11.	13.12.2021	20.12.2021	Biosynthesis pathways	Lecture, Online Videos
12.	20.12.2021	30.12.2021	Remedial Classes	Discussion

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc. Other Methods adopted by the teacher – Please write the specific teaching method

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session–(2020-21)

Name of the Teacher: Dr. Vandana Sharma
Department: Department of Food Science
Class: B.Sc. MFT (II)

Subject: BMF 4001- Microbial Genetics and r-DNA Technology
Lesson Plan

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	03.02.2022	10.02.2022	Introduction to Microbial genetics; Genome organization in prokaryotes	Interactive Lecture method, Power Point Presentations, videos
2.	11.02.2022	20.02.2022	Molecular nature of the genetic material	
3.	21.02.2022	28.02.2022	Composition and structure of prokaryotic DNA and RNA, Types of RNA and DNA	
Departmental Meeting				
4.	03.03.2022	10.03.2022	Replication- DNA replication mechanism in prokaryotes, Enzymes involved in DNA replication, theta and sigma modes of replication	Interactive Lecture method, Power Point Presentations, Flipped classroom
5.	11.03.2022	20.03.2022	Gene Expression I – Prokaryotic transcription process- Initiation, Elongation and Termination. Gene Expression II- General characteristics of the genetic code	

6.	21.03.2022	31.03.2022	Charging of tRNA, Prokaryotic translation process- Initiation, Elongation and Termination. Mutations – Spontaneous and induced mutations, types of mutations, Physical and chemical mutagenic agents, repair of DNA damage, Replica plating, Transposable elements in bacteria, drug resistance.	
Departmental Meeting				
7.	01.04.2022	10.04.2022	Genetic Exchange – Gene transfer by Transformation; Generalized and Specialized transduction; Conjugation processes. Gene Regulations – Operon concept- Lactose operon and Tryptophan operon in E.coli.	Interactive Lecture method, Power Point Presentations, Audio-visual aid, Practical demonstration
8.	11.04.2022	20.04.2022	Recombinant DNA Technology- Tools of genetic engineering- DNA cloning vectors- Plasmids, Cosmids, Phage vectors, Shuttle vectors, Expression vectors, BAC/YAC vectors; Restriction endonuclease, DNA ligase, Alkaline phosphatase, DNA polymerase, Exonuclease.	
9.	21.04.2022	30.04.2022	Gene cloning – Basic techniques used to identify, amplify and clone genes; Construction of genomic and cDNA libraries and Screening of DNA libraries. Applications of Recombinant DNA Technology in health and food sector. DNA amplification- PCR; Types and Applications.	
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
10.	01.05.2022	11.05.2022	DNA Transferring Mechanisms – Chemical methods, biolistic gun, Electroporation, Liposome mediated gene transfer and phage transfection.	Interactive Lecture method, Power Point Presentations and Audio-visual aid

10.	12.05.2022	20.05.2022	Techniques of molecular biology- Dot- Blot, Southern blotting, Northern blotting and Western blotting techniques, DNA sequencing by Maxam-Gilbert, Dideoxy - chain termination and Automated dideoxy method,	
11.	21.05.2022	25.05.2022	Revision and Remedial Classes	Discussion