

Lesson Plan

Name of Faculty : Dr. Rubrinder Singh Sandhu
Discipline : Food Technology
Semester : 3rd
Subject : Introduction to Food Biotechnology (BSC/8-T)
Lesson Plan Duration: 15 Weeks (from August, 2024 to November, 2024)
Work Load (Lecture/Practical) per week (in hours): Lectures 03 hours

Theory			Topic covered Date and Remarks		
Week	Lecture Day	Topic (Including Assignment/Test)	Date	HOD	Director-Principal
1 st	1	Introduction to biotechnology			
	2	History, scope and present status of biotechnology in India			
	3	General applications of food technology.			
2 nd	4	Introduction of Single Cell Protein (SCP)			
	5	Microbial production of SCP- microorganisms involved			
	6	Microbial production of SCP- raw materials, substrates			
3 rd	7	Advantages and optimum conditions for growth of microorganism			
	8	Biotechnological methods of the production of organic acids			
	9	Biotechnological methods of the production of organic acids			
4 th	10	Biotechnological methods of the production of vitamins			
	11	Biotechnological methods of the production of mushrooms			
	12	Substrates used, optimum process parameters			
5 th	13	Applications of biotechnologically produced organic acids, vitamins and mushrooms.			
	14	Applications of biotechnologically produced organic acids, vitamins and mushrooms.			
	15	Introduction to enzymes, terms related to enzymes			
6 th	16	Sources of enzymes			
	17	Advantages of microbial enzymes			
	18	Microbial production of enzymes.			

7th	1st Minor Test			
8 th	19	Extraction & purification of enzymes		
	20	Extraction & purification of enzymes		
	21	Application of enzymes in food industry		
9 th	22	Fermented dairy products- dahi & yoghurt		
	23	Fermented dairy products-cheese		
	24	Fermented cereal products- bread		
10 th	25	Fermented vegetables products- sauerkraut		
	26	Fermented vegetable products- kimchi		
	27	Fermented meat products- sausages		
11 th	28	Fermented meat products- ham and bacon		
	29	Fermented beverages- beer		
	30	Fermented beverages- vinegar		
12 th	31	Fermented beverages- cider & wine		
	32	Introduction to environmental biotechnology		
	33	Waste biochemical oxygen demand		
13 th	34	Chemical oxygen demand		
	35	Aerobic methods for treatment for treatment of food industry wastes		
	36	Anaerobic methods for treatment for treatment of food industry wastes		
14th	2nd Minor Test			
15 th	37	Anaerobic methods for treatment for treatment of food industry wastes		
	38	Methanogenesis		
	39	BIS standards for safe disposal of industrial waste water.		