

Lecture plan

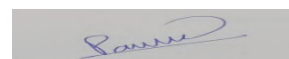
Subject – FPT-322 Microbiology of Fish and Fishery Products 3 (2+1)

Theory

Sl. No.	Topic	No. of lecture	Name of the Course Instructor
1.	Introduction and history of microorganisms in foods. Role and significance of microorganisms in nature and in foods.	2	Dr. Parmanand Prabhakar
2.	Sources and types of microorganisms in fish and fishery products.	2	
3.	Enumeration of microorganisms in food by conventional and rapid techniques.	2	
4.	Factors (intrinsic and extrinsic) affecting the growth and survival of microorganisms in food.	2	
5.	Microbial principles of fish preservation and processing by application of low temperature, high temperature, drying, irradiation and chemicals.	4	
6.	Microbiology and spoilage of fresh, semi processed and processed fish and fishery products.	2	
7.	Indicators of microbiological quality of fish and fishery products.	2	
8.	Food borne pathogens involved in infective and intoxication type of food poisoning	2	
9.	Occurrence, growth, survival, pathogenicity and prevention of <i>Vibrio cholerae</i> , <i>Vibrio parahaemolyticus</i> .	2	
10.	Occurrence, growth, survival, pathogenicity and prevention of <i>E. coli</i> , <i>Salmonella</i> .	2	
11.	Occurrence, growth, survival, pathogenicity and prevention of <i>Listeria monocytogenes</i> .	2	
12.	Occurrence, growth, survival, pathogenicity and prevention of <i>Clostridium botulinum</i> , <i>C. perfringens</i> ,	2	
13.	Occurrence, growth, survival, pathogenicity and prevention of <i>Campylobacter</i> and <i>Staphylococcus aureus</i> .	2	
14.	Biological hazards associated with fish and fishery products-marine toxins-shellfish toxins, scombroid toxins	2	
15.	Biological hazards associated with fish and fishery products-ciguatera toxins and puffer fish toxins; mycotoxins, parasites and viruses	2	
Total lecture		32	

Practical

Sl. No.	Topic	No. of lecture	Name of the Course Instructor
1.	Introduction about media preparation	1	Dr. Parmanand Prabhakar
2.	Method of sampling for microbiological analysis	1	
3.	Enumeration of microbial load in fish and fishery products by Total Plate Count (TPC) technique	2	
4.	Enumeration of microbial load in fish and fishery products by Most Probable Number (MPN) technique	2	
	Isolation of <i>E. coli</i>	1	
6.	Confirmatory test of <i>E. coli</i>	2	
7.	Isolation of <i>Salmonella</i> from fish sample	4	
8.	Isolation of <i>Staphylococcus aureus</i>	2	
9.	Biochemical test for the characterization of bacteria	1	
10.	Molecular detection of pathogenic bacteria	1	
11.	Determination of MIC and MCC of chemical preservatives	1	
Total Practical		18	



Dr. Parmanand Prabhakar
(Course Teacher)