

FPT- 510 MOLECULAR TECHNIQUES IN SEAFOOD QUALITY ANALYSIS (1+1)**Theory**

Sl.no.	Topic	No of lecture	Course instructor
1.	Introduction to molecular biology: Nucleic acids, structure	1	Dr. Pooja Saklani
2.	Replication	2	
3.	Transcription	2	
4.	Translation	2	
5.	Genes, ORF, organization of genes, operons, plasmids	2	
6.	Vectors used in cloning and their structures	1	
7.	Enzymes in molecular biology	1	
8.	Polymerases, ligases, restriction enzymes, topoisomerases	2	
9.	Molecular methods: molecular methods and their principles,	1	
10.	PCR, RT-PCR, hybridization, microarray, AFLP, RFLP	2	
11.	Immunological techniques in pathogen detection: Antigen-antibody reactions	1	
12.	Immunoassays-ELISA	1	
13.	FAT	1	
14.	Authenticity testing	1	
Total		20	

FPT- 510 MOLECULAR TECHNIQUES IN SEAFOOD QUALITY ANALYSIS (1+1)**Practical**

Sl. No	Topic	No of Practicals	Course instructor
1.	Conventional DNA extraction	1	Dr. Pooja Saklani
2.	Application of PCR for pathogen detection	1	
3.	Probe labeling and Southern hybridization	1	
4.	Primer designing, T _m determination	1	
5.	Agarose and protein gel electrophoresis	1	
6.	Cloning of genes	1	
7.	transformation techniques	1	
8.	Bioinformatic analysis of DNA and proteins	1	
9.	In-silico DNA and protein analysis, Restriction digestion	1	
10.	Primer and probe designing, Protein structure prediction and Genome comparisons	1	
Total		10	