

**Programme: M.Sc. (Marine Microbiology)**

**Course Code: MMO 317**

**Title of the Course: MICROBIOLOGICAL ANALYSIS IN FISHERIES - Practical**

**Number of Credits: 1**

**Effective from Academic Year: 2020-21**

<b>Prerequisites</b>	Knowledge of fishes, and microbial diversity.	
<b>Objective:</b>	Provides hands-on experience in the fish anatomy and its associated microbial flora, including human pathogens.	
<b>Content:</b>		<b>24 H</b>
<b>1.</b>	Sampling techniques for microbiological investigation of moribund fish.	
<b>2.</b>	Methods for examination and analyzing fish for health certification/diagnosis of disease condition, techniques for sample collection and processing for bacteriological agents	
<b>3.</b>	Isolation and identification of various human bacterial pathogens from fish samples ( <i>Enterobacteriaceae</i> and <i>Vibrio</i> ).	
<b>Pedagogy:</b>	Experiments in the laboratory.	
<b>References/ Readings</b>	Woo, P. and Bruno, D. Fish Diseases and Disorders, Vol 3: Viral, Bacterial and Fungal Infections, CABI Publishers.	
	Noga, E. C., Fish Disease: Diagnosis and Treatment. Wiley-Blackwell Publishers.	
	Leatherland, J. F. and Wook, P. K. T., Fish Diseases and Disorders, CABI Publishers.	
<b>Learning outcomes</b>	Apply the tools and techniques of microbiology to specifically assess the microbiological quality of fishes in terms of associated disease or as carrier for human pathogens.	