

Course Code: MMPE-412

Title of the Course: Estuarine Microbiology - Practical

Number of Credits: 01

Prerequisites for the course:	It is necessary that students should have working knowledge of the techniques used for sampling and analysis of marine samples.	
Objective:	The course develops the techniques involved in estuarine sample processing and analysis.	
Content:	1. Chemical characteristics of estuarine water sample – BOD (5 hrs, Refs.1 and 4) 2. Estimation of suspended load, Particulate Organic Carbon and Total Organic Carbon of estuarine water (8 hrs, Refs.1 and 4) 3. Qualitative estimation of plankton (phytoplankton and zooplankton) (6 hrs, Ref. 6) 4. Isolation of bacteria –Total Plate Count (5 hrs, Refs. 2 and 7) 5. Isolation of fungi – plating and wet mount (6 hrs, Ref. 5)	30 hrs
Pedagogy:	Experiments in the laboratory	
References/ Readings:	1. Kennish, M. J. (2017). Practical Handbook of Estuarine and Marine Pollution, CRC Press, Florida. 2. Green, L.H. and Goldman, E. (2015). Practical Handbook of Microbiology, 3 rd Edition. CRC Press, Florida. 3. Kennish, M.J. (2019). Practical Handbook of Marine Science, CRC Press, Florida. 4. Chaney, R.C. (1991). Sampling and Preparation of Marine Sediments, In, Foundation Engineering Handbook, Springer Publishers, New York. 5. Bull, A.T. (2003). Microbial Diversity and Bioprospecting. ASM Press, Washington, U.S. 6. Reddy, S.M., Charya, M.A.S. and Girisham, S. (2012). Microbial Diversity: Exploration and Bioprospecting, Scientific Publishers, India. 7. Thomas, T.R., Kavlekar, D.P., Lokabharathi, P.A. (2010). Marine drugs from sponge-microbe association: a review. Marine Drugs, 8: 1417-1468.	
Learning Outcomes:	The different microorganisms found in estuaries will be studied along with the physical and chemical parameters	

	governing the estuarine ecosystem.	
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