

Name of the Programme:M. Sc.Marine Sciences

Course Code: MSC 505

Title of the Course: Marine Biology Practical

Number of Credits: 01

Effective from AY: 2022-23

Prerequisites for the course:	Degree of Bachelor of Science of this University or an examination of any other university recognized as equivalent.	
Objective:	To gain information on sampling devices used for collection of marine organisms and identification of some of the major groups.	
Content:	Introduction to standard sampling devices / instruments employed for collection and analysis of biological parameters in water and sediments used in oceanographic studies (4 hours; References 1, 2) Design and execution of field / sampling surveys for collection of water and sediment samples (2 hours; Reference 2) Analysis of biological communities (water and sediment), their preservation and storage techniques using standard methods (4 hours; Reference 2) Quantitative estimation & identification of phytoplankton in seawater (6 hours; References 3, 4) Quantitative estimation of zooplankton using volume displacement, wet weight and dry weight method (3 hours; Reference 5) Qualitative estimation of zooplankton using stereoscopic microscope (6 hours; Reference 5) Quantitative and qualitative estimation of benthic invertebrates (5 hours; References 6, 7, 8, 9)	30 hrs.
Pedagogy:	Demonstrations/ practical/ designing of experiments/ identification techniques	
References/ Readings:	1.Steele, J. H., Thorpe, S. A., & Turekian, K.K. (2010). <i>Marine Ecological Processes: A derivative of Encyclopaedia of Ocean Sciences</i> (2 nd ed). Academic Press, San Diego, CA (USA). 2.Intergovernmental Oceanographic Commission (1994) <i>Protocols for the Joint Global Ocean Flux Study (JGOFS) Core Measurements</i> . Paris, France, UNESCO-IOC, 170pp. (Intergovernmental Oceanographic Commission Manuals and Guides: 29), (JGOFS Report; 19). DOI: https://doi.org/10.25607/OBP-1409 . 3.Verlecar, X. N., Desai, S. R. (2004). <i>Phytoplankton Identification Manual</i> .National Institute of Oceanography, Dona Paula, Goa. 4.Goswami, S. C. 2004 <i>Zooplankton methodology, collection and identification- a field manual</i> . National Institute of Oceanography, Dona Paula, Goa. 5.Tagliapietra, D., Sigovini, M. (2010). Benthic fauna: collection and identification of macro-benthic invertebrates. In J. Dominik et al. (Eds.) <i>Terre et Environment</i> , 88 (pp. 253–261), Section des Science de la Terre, Université de Genève. 6.Barnes, R. D. (1980). <i>Invertebrates Zoology</i> (4 th ed), Philadelphia: Saunders College. 7.Day, J. H. (1967). <i>A monograph on the Polychaeta of Southern</i>	

	<i>Africa</i>. Natural History Museum (London) Publications. 8. Lyla, P.S., Velvizhi, S., Ajmal Khan, S. (1999). <i>A monograph on the amphipods of Parangipettai coast</i>. Annamalai University, India.	
Course Outcome:	1. Develop ability to identify marine biota at species level.	