

Name of the Program: M.Sc. Marine Microbiology

Course Code: MMI-503

Title of the Course: Microbial Biochemistry - Practical

Number of Credits: 01

Effective from AY : 2022 - 23

Prerequisites for the course:	It is assumed that students have theoretical knowledge about various biomolecules.	
Objective:	This course provides opportunities for hands-on experience with microbiological and biochemical concepts in laboratory setup.	
Content:	1. Standard curves for carbohydrates, proteins and lipids. (8hrs, refs. 1 and 2) 2. Enzyme assay. (4 hrs, refs. 1 and 2) 3. Precipitation of protein from solution by salting out. (6 hrs, refs. 1 and 2) 4. Dialysis. (6 hrs, refs. 1 and 2) 5. Specific activity, fold purification, percentage yield of enzyme. (6 hrs, refs. 1 and 2)	30 hrs
Pedagogy:	Experiments in the laboratory.	
References/ Readings:	1. Plummer M.U. & Plummer D.T. (2008). An Introduction to Practical Biochemistry (3 rd edn), Tata McGraw Hill Publishing Company. New Delhi. 2. Murray R.K., Bender D.A., Botham K.M., Kennelly P.J., Rodwell V.W. & Weil P.A. (2018). Harper's Illustrated Biochemistry (31 st edn), The McGraw-Hill Companies, Inc. NewYork.	
Course Outcomes:	1. Estimate the concentration of various biomolecules. 2. Measure and calculate enzyme activity, specific activity and fold change. 3. Assess the efficiency of protein purification by salting out and dialysis method. 4. Design and perform experimental work on extracellular enzymes.	