Programme: M.Sc. (Microbiology)
Course Code: MIPC-401
Title of the Course: MICROBIAL BIOCHEMISTRY [P]
Number of Credits: 1, Practical
Contact hours: 30
Effective from Academic Year: 2022-23

Prerequisites	The student should be familiar with the different biomolecules and their metabolism.	
Objective:	This course deals with the characteristics, properties and biological significance of the biomolecules of life. In depth knowledge of the energetics and regulation of different metabolic processes in microorganisms.	
Content:		**(30)**
1.	Standard curve for reducing sugar, total sugar and polysaccharide (starch).	
2.	Standard curve for protein (Folin Ciocalteau method).	
3.	Enzyme assay (Amylase), determination of *Km* and *Vmax*.	
4.	Precipitation of protein from solution by salting out and dialysis	
5.	Size exclusion (Gel filtration) chromatography.	
6.	Specific activity, fold purification, percentage yield of enzyme.	
7.	Molecular weight determination by SDS-PAGE.	
Pedagogy:	Hands-on experiments in the laboratory, video, online data	
References/ Readings	As given under Theory Course MITC-401	
Learning Outcomes	Apply the knowledge for the estimation of various bio-macromolecules. Understand the handling of metabolites of microbial origin.	