

Programme: M.Sc. (Microbiology)

Course Code: MIO 109

Title of the Course: GENETIC ENGINEERING [P]

Number of Credits: 1

Effective from Academic Year: 2018-19

Prerequisites	Theoretical understanding of chromosomal DNA, plasmid DNA, selection media and preparatory microbiology is needed.	
Objective:	To have a hand on experience on plasmid DNA isolation, modification and insertion; basically a DNA cut-copy-paste technology that forms the basis of any genetic engineering wet lab.	
Content:		(24)
1.	Restriction mapping of bacterial plasmid and agarose gel analysis.	
2.	Preparation of competent cells and transformation of <i>E. coli</i> host with plasmid DNA using heat shock method and electroporator; confirmation of positive transformants.	
3.	Assessment of DNA ligation activity of T4 DNA ligase.	
Pedagogy:	Experiments in the laboratory	
References/Readings	As given under Theory Course MIO 105-T	
Learning Outcomes	1.A practical understanding of how the DNA modifying enzymes work. 2. Hand-on experience with plasmid and bacterial host.	