

Name of the Programme: M.Sc. Biotechnology

Course Code: GBT 503

Title of the Course: LAB II: TECHNIQUES IN IMMUNOLOGY

Number of Credits: 2

Effective from AY: 2022-23

Pre-requisites for the Course:	No prerequisite is required.	
Course Objectives:	This course involves 1) learning techniques to understand the principles of antigen-antibody reactions 2) identifying immune reactions in the lab to form the basis for application in immunodiagnostics.	
Content:	<u>MODULE I</u> 1. Determination of Antibody titre using Double Immuno-diffusion assay. 2. Assessment of Similarity between antigens using Ouchterlony's Double Diffusion Test. 3. Estimation of Antigen Concentration using Radial Immuno Diffusion. 4. Quantitative Precipitation Assay	No. of hours 30
	<u>MODULE II</u> 5. DOT ELISA 6. Latex Agglutination 7. Immunoelectrophoresis 8. Rocket Immunoelectrophoresis 9. Slide / Tube agglutination Tests	30
Pedagogy:	Lectures/ tutorials-assignments/hands-on practical	
References/ Readings:	1. G.P. Talwar, S.K Gupta. A Handbook Of Practical And Clinical Immunology Vol I CBS Publishers, 2017. 2. K.R. Joshi, N.O. Osama, Immunology. 5 th Edition, Agrobios Ltd, India, 2012. 3. F.C. Hay, O. M.R. Westwood, Practical Immunology, 4th edition, 2008. 4. B. Detrick, R.G. Hamilton, J.D. Folds, et al. eds. Manual of Molecular and Clinical Laboratory Immunology. 7th ed. Washington, DC: ASM Press, 2006. 5. C.A. Janeway, P. Travers, M. Walport, M. Shlomchik, Immunobiology: The Immune System in Health and Disease. Garland Publishing, USA, 2001.	

Course Outcomes:	1. Hands-on experience of applying theoretical knowledge to laboratory. 2. Application of the varied interactions /reactions to be utilized in research. 3. Students become familiar with immunologic techniques that are used in clinical medicine as well as immunology research laboratories. 4. Students will develop interest towards functionality of various immunodiagnostic kits and its application in health & disease related research.