

Course contents for Immunological Techniques

1. Faculty: FLSB

2. Course Code:

3. Course Title: Immunological Techniques

4. Number of Credits: Two

5. Course objective:

The goal is to provide in-depth knowledge for various immunological techniques. Students will recognize the fundamental properties of techniques based on antigen-antibody interactions.

6. Minimum prerequisites for taking this course, if any: Masters degree in biology or allied areas.

7. Course structure with units, if applicable:

- a. Raising and testing of polyclonal antisera and monoclonal antibodies
- b. Detection and quantitation of proteins using Western blotting and ELISA
- c. Assessment of expression and localization of specific antigens in cells and tissues by using flow cytometry and con-focal microscopy
- d. Phenotyping, cell cycling analysis by flow cytometry and isolation of defined cells by cell sorting techniques
- e. Phagocytosis and phagocytic index
- f. Isolation of immune cells from primary and secondary immune organs in mice
- g. Density dependent separation of immune cells
- h. T-cell activation using MTT

8. Suggested Readings:

- a. Kuby Immunology. W. H. Freeman & Co.
- b. Immunology by Ivan Roitt, Jonathan Brostoff, and David Male. Mosby, London.
- c. Immunobiology - the immune system in health and disease, by Charles Janeway, Jr. and Paul Travers. Garland Publishing, Inc.
- d. How the immune system works, by Lauren Sompayrac. Blackwell Science
- e. Basic Immunology by Abul K. Abbas and Andrew H. Lichtman, Saunders

9. Evaluation:

Mid-semester Written Examination	: 40% Marks
End-semester Written Examination	: 40% Marks
Quiz / Assignment/Presentation (oral / poster)/other	: 20% Marks