

# 236C41 Immunotechnology Summary

## Course Units

### ***Unit 1: Hands-On Knowledge To Identify Blood Group And Typing***

- Identification of blood group and typing. Coomb's test. TPHA

### ***Unit 2: Adequate Skill To Perform Latex Agglutination Reactions***

- T cell identification (Demonstration) Latex Agglutination reactions- RF
- ASO
- CRP

### ***Unit 3: To Analyze Precipitation Reactions In Gels***

- Ouchterlony's Double Diffusion Method (antigen pattern). Single Radial Immuno Diffusion Method.

### ***Unit 4: To Investigate The Antigen & Antibody Reactions***

- Electrophoresis - Serum
- Counter and Immunoelectrophoresis.

### ***Unit 5: To Familiarize With Separation Of Lymphocytes***

- Separation of Lymphocytes by density gradient centrifugation method. ELISA: Hepatitis/ HIV

## Course Outcomes

**CO1:** Assess the blood groups and types

**CO2:** Competently perform serological diagnostic tests such as RF, ASO, CRP

**CO3:** Illustrate the antigen antibody reactions in gel.

**CO4:** Compare & contrast antigens and antibodies in electrophoresis

**CO5:** Examine the concept of ELISA.

## Text Books

1. Talwar. (2006). Hand Book of Practical and Clinical Immunology, Vol. I, 2nd edition, CBS.
2. Asim Kumar Roy. (2019).
3. Richard Coico, Geoffrey Sunshine, Eli Benjamini. (2003). Immunology – A Short Course. 5th Edition., Wiley-Blackwell, New York.

4. Judith A.Owen, Jenni Punt, Sharon A. Stranford, Janis Kuby. (2013). Immunology, 7thEdition., W. H. Freeman and Company, New York.
5. Pravash Sen. Gupta. (2003). Clinical Immunology. Oxford University Press.

## **Reference Books**

1. Frank C. Hay, Olwyn M. R. Westwood. (2008). Practical Immunology, 4th Edition, Wiley- Blackwell.
2. Wilmore Webley. (2016). Immunology Lab Manual, LAD Custom Publishing.
3. Rose. (1992). Manual of Clinical Lab Immunology, ASM.
4. Janeway Travers. (1997). Immunobiology- the immune system in health and disease. Current Biology Ltd. London, New York. 3rd Edition.
5. Peter J. Delves, Seamus Martin, Dennis R. Burton, Ivan M. Roitt. (2006). Roitt's Essential Immunology, 11thEdition., Wiley-Blackwell.

## **Web Resources**

1. [https://www.researchgate.net/publication/275045725\\_Practical\\_Immunology-\\_A\\_Laboratory\\_Manual](https://www.researchgate.net/publication/275045725_Practical_Immunology-_A_Laboratory_Manual)
2. <https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/labs/frelinger-lab/documents/Immunology-Lab-Manual.pdf>
3. [https://webstor.srmist.edu.in/web\\_assets/downloads/2021/18BTC106J-lab-manual.pdf](https://webstor.srmist.edu.in/web_assets/downloads/2021/18BTC106J-lab-manual.pdf)
4. Immunology Overview - Medical Microbiology - NCBI Bookshelf (nih.gov)
5. Immunology - an overview | ScienceDirect Topics