

Unit 1

Overview of the Immune System

- 1.1 Introduction to basic concepts in immunology
- 1.2 Components of immune system
- 1.3 Principles of innate and adaptive immune system; Haematopoiesis
- 1.4 Cells and organs of immune system

Unit 2

Antigens and antibodies

- 2.1 Basic properties of antigens
- 2.2 B and T cell epitopes, haptens and adjuvants
- 2.3 Structure, classes and function of antibodies, monoclonal antibodies,
- 2.4 Antigen antibody interactions as tools for research and diagnosis

Unit 3

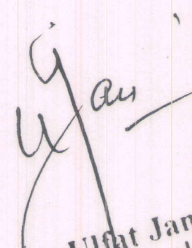
Working of the immune system

- 3.1 Structure and functions of MHC
- 3.2 Exogenous and endogenous pathways of antigen presentation and processing
- 3.3 Basic properties and functions of cytokines
- 3.4 Complement system: Components and pathways.

Unit 4

Immune system in health and disease

- 4.1 Gell and Coombs
- 4.2 Classification and brief description of various types of hypersensitivities
- 4.3 Introduction to concepts of auto immunity and immunodeficiency
- 4.4 Introduction to vaccines


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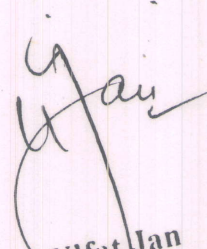
(CREDITS 2)

1. Demonstration of lymphoid organs
2. Histological study of spleen, thymus and lymph nodes through slides/ photographs
3. Preparation of stained blood film to study various types of blood cells.
4. Ouchterlony's double immuno-diffusion method.
5. ABO blood group determination.

7. Demonstration of
 - a) ELISA
 - b) Immunoelectrophoresis

SUGGESTED READINGS

- ☐ Kindt, T. J., Goldsby, R.A., Osborne, B. A. and Kuby, J (2006). *Immunology*, VI Edition. W.H. Freeman and Company.
 - ☐ David, M., Jonathan, B., David, R. B. and Ivan R. (2006). *Immunology*, VII Edition, Mosby, Elsevier Publication.
 - ☐ Abbas, K. Abul and Lichtman H. Andrew (2003.) *Cellular and Molecular Immunology*. V Edition. Saunders Publication.
- CBCS Undergraduate Program in Zoology


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