**IMMUNOGENETICS CREDIT HOURS 2+1**

**LEARNING OUTCOMES:**

**The students will be able to:**

1. Knowledge of the basic physiological mechanisms that regulate the functioning of the immune system
2. Understanding of the different types of immune responses and their biological significance.

**COURSE CONTENTS:**

Introduction to components of immune system, antibody response; nature of antibodies, structure and heterogeneity of immunoglobulin, allelic exclusion; monoclonal antibodies. Inheritance of immune response capacities; Immune tolerance; specific immune response variations, human IR genes, antigenic variation: genetic pathways for synthesis of A, B &O antigens, secretor loci, Rh factor, other blood groups. Compatibility of blood antigens. Histo compatibility: transplantation: HLA complex, HLA haplotypes, MHC/HLA and diseases, Immunological diseases: immune deficiency diseases, AIDS, autoimmune diseases, inherited abnormalities of complement system

**PRACTICALS:**

1. HLA typing
2. A, B &O antigens
3. Problems/ case studies related to autoimmune diseases.
4. Problems/ case studies related to inherited abnormalities.
5. Visit to health organizations for diagnosis of different allergens

**RECOMMENDED BOOKS:**

1. Abbas, A. K., Lichtman, A. H. and Pober, J. S. 2000. Cellular and Molecular Immunology, 4thEdition. Elsevier Saunders, Co. P.A.
2. Christiansen, F. T., & Tait, B. D. 2012. Immunogenetics: Methods and applications in clinical practice. New York: Humana Press
3. Cuturi, M. C., & In Anegon, I. 2016. Suppression and Regulation of Immune Responses: Methods and Protocols. New York, NY : Springer New York : Imprint: Humana Press
4. Dixon, F. J., Alt, F. and Austen, K. F. 2000. Advances in Immunology,Academic Press Inc., U.S.A.
5. Jackson, A. 2015. Immune systems. Transit Lounge Publishing. Melbourne.
6. Lesage, S. 2010. Immunogenetics: Tolerance and autoimmunity. New York: Nova Science Publishers.
7. Roitt, I. and Delves, P. J. 2001. Roitts Essential Immunology, 10thEdition, Blackwell Science, M.A.