

Course Title:				<u>Immunology</u>					
Course Code:				<u>BTL MD204</u>					
Course Coordinator				<u>VINOD SINGH</u>					
Credits				<u>3-0-0</u>					
Evaluation Scheme Total 100 Marks									
Quiz (Total 20 Marks)				Assignment/Project (Total 20 marks) (Minimum Two Assignments or one Project)		Mid-Term	Major Examination	Total	
Quiz I (5 marks)	Quiz II (5 marks)	Quiz III (5 marks)	Quiz IV (5 marks)			20 marks) (1 ½ Hour Duration)	(40 marks) (3 Hour Duration)	100 Marks	
WEEKS				TOPICS TO BE COVERED					
Week 1				Immune response: an overview					
Week 2				Components of Immune System: Cytokines, Cells and Organs					
Week 3				Components of Immune System: Cytokines, Cells and Organs					
Week 4				Innate immunity, Complement System					
Week 5				B cells					
Week 6				Antibody structure, types and functions					
Week 7				Molecular basis of antibody diversity, Antibody affinity maturation, Class switching, Isotypes, allotypes and idiotypes					
Week 8				Hybridoma technology; Antigen-antibody reactions, Introduction to immunodiagnostics – RIA, ELISA					
Week 9				T- lymphocytes (Helper T-cell, Cytotoxic T-cell, Suppressor T-cells) and functions					
Week 10				T- lymphocytes (Helper T-cell, Cytotoxic T-cell, Suppressor T-cells) and functions, T-cell receptors					
Week 11 (17 th -21 st March, 2025)				Mid-Term					
2 nd May, 2025				Showing of Mid-Term Answer Sheets					
Week 12				Major Histocompatibility complexes - class I & class II MHC, Antigen processing and presentation.					
Week 13				Immunity to infection–immunity to different organisms, pathogen defense strategies, avoidance of recognition.					

Week 14	Immunity to infection–immunity to different organisms, pathogen defense strategies, avoidance of recognition.
Week 15	Immunodeficiency-AIDS, Autoimmune diseases
Week 16	Vaccines-types of vaccines, adjuvants, passive & active immunization.
Week 17 (5 th -9 th May, 2025)	Revision Week
Week 18 (13 th – 22 nd May, 2025)	Major Examinations
29 th May, 2025	Showing of Major Exams Answer Sheets

Course Outcomes: After successful completion of this course, students will be able to:

CO1: Give an overview of immune response and types; describe the components of the immune system and their functions.

CO2: Understand B cells, antibody-related various aspects, and diagnostics applications of antibody.

CO3: Describe the structure and functions of MHC-I and II molecules and the process of antigen presentation.

CO4: Understand the basis of autoimmune diseases, the role of immunity in protection against pathogens; the vaccines and their types.

Recommended Books:

1. Kuby's Immunology, 8th Edition, Stranford S, Owen J, Jones P and Jenny P, Macmillian Learning, UK.
2. Cellular and Molecular Immunology, 10th Edition, Abbas AK, Lichtman AH and Pillai S, Elsevier.
3. Janeway's Immunobiology, 10th Edition, Murphy KM, Weaver C and Berg L, W. W. Norton & Company.
4. Immunology, 8th Edition, Richard C, Wiley Blackwell.

Calendar of Quizzes/Assignment:

Component	Date
Quiz-I	27 th -31 st , January 2025
Quiz-II	24 th -28 th February, 2025
Assignment-I	10 th -12 th February, 2025
Mid-Term	17-21 st March, 2025
Assignment-II/ Project Submission	21 st – 24 th April, 2025
Quiz-III	7 th – 11 th April, 2025

Quiz-IV	28th April-2nd, May, 2025
Major Exam	13th – 22nd May, 2025

Note: One surprise Quiz may be fixed out of Quiz-II, Quiz-III or Quiz-IV.

Signature of Course Coordinator: