

Lesson Plan

Name of the Faculty : Mr. Viraj Krishna Mishra
Discipline : Biotechnology
Semester : 4th
Subject : Immunology (Theory: BTE-206A; Practical: BTE-218LA)
Lesson Plan Duration : 15 Weeks (From April, 2021 to Aug, 2021)

**Work Load (Lecture/Practical) per week(in hours): Lecture- 03; Practical- 03

Week	Theory		Practical	
	Lecture Day	Topic(including assignment /test)	Practical Day	Topic
1 st	1 st	Introduction to immune system: Innate and acquired immunity,	1	Routine techniques in handling laboratory animals: feeding, cleaning and bleeding procedure for mice and rabbit.
	2 nd	Primary and secondary lymphoid organs		
	3 rd	Humoral and cell mediated immune response		
2 nd	4 th	Cells and organs of immune System- B Lymphocytes and T-Lymphocytes	2	Surgical removal of lymphatic organs from mice
	5 th	Antigens. Immunoglobulins- structure and function		
	6 th	Antigenic Determinants (isotype, allotype, idio type)		
3 rd	7 th	Monoclonal antibodies and Hybridoma technology	3	Preparation and administration of antigens, following immunization protocols.
	8 th	Antibody Engineering		
	9 th	Organization and expression of immunoglobulin genes		
4 th	10 th	Generation of Antibody diversity	4	To bleed rabbits for the generation of antibodies.
	11 th	Class switching		
	12 th	Class switching		
		Assignment I/Test 1 of Unit I		
5 th	13 th	Major histocompatibility complex	5	Purification of immunoglobulins
	14 th	Major histocompatibility complex		
	15 th	Antigen Processing and presentation.		
6 th	16 th	Antigen Processing and presentation.	6	Isolation and purification of lymphocytes from mouse
	17 th	Immunoprecipitin reactions		
	18 th	Agglutination reactions		
7 th	19 th	Complement tests, ELISA	7	Immunoprecipitation techniques
	20 th	Immunofluorescence		
		Assignment II/Test II of Unit II		
	21 st	Cytokines		
8 th	22 nd	Complement system	8	Agglutination techniques
	23 rd	Complement system		
	24 th	Hypersensitive reactions		
9 th	25 th	Hypersensitive reactions	9	ELISA
	26 th	Auto immunity and immune response to infectious diseases.		
	27 th	Auto immunity and immune response to infectious diseases.		

10 th	28 th	Auto immunity and immune response to infectious diseases	10	Revision
	29 th	Tumor immunity		
	30 th	Tumor immunity		
11 th	31 st	Immune response to transplants.	11	Revision
	32 nd	Immune response to transplants		
	33 rd	Vaccines		
12 th	34 th	Vaccines	12	Revision
	35 th	Vaccines		
	36 th	Assignment IV/Test IV of Unit IV		
13 th	37 th	Revision		Internal Evaluation
	38 th	Revision		
	39 th	Revision		
14 th	40 th	Class Test		
	41 st	Revision		
	42 nd	Revision		
15 th	43 rd	Class Test		
	44 th	Revision		
	45 th	Revision		