PARUL UNIVERS
ITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, Summer 2019
B. Sc Semester IV
Subject: Biotechnology

Paper Code: 11101255 **Title of the paper: Immunology-II**
Date: 02/03/2019 **Time: 9:30 am -11:00pm**
Maximum Marks: 40
Instructions:

1. **All questions are compulsory and options are given in first and second question only.**
2. **Numbers to the right of question indicate the marks of respective question.**

Q. 1	Attempt any one question of the following. (i) State principle of ELISA with examples of substrate used. Write about Indirect ELISA in detail with diagram, (ii)Explain B-cell epitopes in detail.	**(08)**
Q. 2	Attempt any three questions of the following. (i)Write a note on Mast cells and Basophiles (ii) Explain Type IV hypersensitivity. (iii) Give an account on Myasthenia Gravis. (iv)Enlist properties of antigens. Explain any two in detail. (v)Describe MHC class I & class II molecules with figure.	**(12)**
Q. 3	Do as directed. Attempt all five questions. (i) Give some examples of Secondary pharmacological agents. (ii) Write the principle of RIA. (iii) Define allergy. (iv)How TD antigens are different from TI antigens? (v)Define adjuvant.	**(05)**
Q. 4	Write correct option in your answer sheet for following 15 multiple choice questions.	**(15)**

MCQ 1	The most common class of antibody involved in type II hypersensitivity is_____.			
	(A)	IgG	(B)	IgE
	(C)	IgM	(D)	IgD
MCQ 2	Wheal and flare reaction is characteristic reaction associated with identification of _____ hypersensitivity.			
	(A)	Type I	(B)	Type III
	(C)	Type II	(D)	Type IV
MCQ 3	Which of the following are commonly tested for usingthe ELISA method?			
	(A)	Lyme disease	(B)	HIV
	(C)	Pregnancy	(D)	All of the above
MCQ 4	In sandwich ELISA, which of the following component is sandwiched			
	(A)	Ab	(B)	Ag

	(C)	Protein	(D)	All of the above
MCQ 5	Labelled antibodies are used to detect the presence of a particular _____.			
	(A)	DNA in southern blotting	(B)	RNA in southern blotting
	(C)	Protein in southern blotting	(D)	Protein in western blotting
MCQ 6	Fluorescence activated cell sorting uses_____.			
	(A)	Heavy isotope	(B)	Radioactive elements
	(C)	Immunological techniques	(D)	Energy content
MCQ 7	Which of the following is an immunodiffusion test?			
	(A)	Double-diffusion	(B)	Gel diffusion
	(C)	Ouchterlony technique	(D)	All of the above
MCQ 8	Type IV hypersensitivity is also called as_____hypersensitivity.			
	(A)	Immediate	(B)	Cytotoxic
	(C)	Delayed	(D)	Immune complex
MCQ 9	Anitgens which are found in some but not all member of species are known as			
	(A)	Autoantigens	(B)	Heterogentic antigens
	(C)	Isoantigens	(D)	Species-specific antigens
MCQ 10	_____is the ability to combine specifically with the final products of the above responses			
	(A)	Antigenicity	(B)	Immunogenecity
	(C)	Haptens	(D)	Foreignness
MCQ 11	Antigens can be			
	(A)	Proteins	(B)	carbohydrates
	(C)	Nucleic acids	(D)	All of these
MCQ 12	A molecule that reacts with specific antibody but is not immunogenic by tislf is called			
	(A)	Carrier	(B)	antigen
	(C)	Hapten	(D)	immunogen
MCQ 13	Haptens cannot activate T cell or B cells due to			
	(A)	Its low molecular weight anitgensarbscules	(B)	Its inability with to bind to MHC
	(C)	Both A & B	(D)	None of these
MCQ 14	An incomplete antigens			
	(A)	Are also called as haptens	(B)	Are immunogenic upon binding covalently to a carrier protein
	(C)	Cannot induce antibody production by itself	(D)	All of the above
MCQ 15	Which of the following statement is true			
	(A)	All immunogens are antigens but all antigens are not immunogens	(B)	All immunogens are antigens & all antigens are immunogens
	(C)	All immunogens are not antigens but all anitgens are immunogens	(D)	All immunogens are proteins & all protens are immunogens

-- All the best--