

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER : IV
SESSION : SP/2024

SUBJECT: BE208 BIOLOGY OF IMMUNE SYSTEM
TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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			CO	BL
Q.1(a)	Give the role of humoral and cell mediated immunity in immunological response.	[5]	1	2
Q.1(b)	Summarize the different types of antibodies in a tabular form.	[5]	5	2
Q.2(a)	Define antigen, immunogen, hapten, epitope and superantigen.	[5]	2	1
Q.2(b)	Explain the technique of Radioimmunoassay and Comet assay.	[5]	4	3
Q.3(a)	What are cytokines? Describe their properties. What is their role in immune response?	[5]	2	3
Q.3(b)	What is complement system? What are the main effects of complement? Name the different types of complement system.	[5]	5	4
Q.4(a)	Why eye transplantation does not need a specific donor as in case of kidney or liver. With the help of a neat diagram differentiate between Class I & Class II MHC.	[2+3]	2	4
Q.4(b)	Discuss the different types of vaccines giving examples of each.	[5]	1	3
Q.5(a)	Illustrate types of hypersensitivity with the help of a tabular representation. Also, with the help of a diagram show how type I hypersensitivity works?	[5]	1	1
Q.5(b)	Describe any two immunological disorders or disease related to malfunctioning of immune system.	[5]	5	5

:23/04/2024:M