

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

CLASS: MSc/PRE-PHD
BRANCH: BIOTECHNOLOGY

SEMESTER : III/NA
SESSION : MO/2022

SUBJECT: BT501 IMMUNOTECHNOLOGY

TIME: 3:00 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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- Q.1(a) Define Innate phagocytosis. [2]
Q.1(b) Give the difference between innate and adaptive immunity [3]
Q.1(c) Discuss the Antigen clearance mechanism with the help of a neat and labeled diagram. [5]
- Q.2(a) Define immunogen with examples. [2]
Q.2(b) Differentiate between Class I and Class II MHC giving the figures of both. [3]
Q.2(c) Write a short note on theories of diversity of antibodies and with the help of diagrammatic representation explain the diversity of light chain and heavy chains. [5]
- Q.3(a) Define Elispot Assay. [2]
Q.3(b) Write short note on the following: RIA, ELISA, Comet assay [3]
Q.3(c) Discuss the principle and application of any two techniques used in immunology. [5]
- Q.4(a) Define immunodeficiency diseases with examples. [2]
Q.4(b) Give the difference between primary and secondary immunodeficiency diseases with examples. [3]
Q.4(c) Discuss the different types vaccines along with examples. [5]
- Q.5(a) Define adjuvants with examples. [2]
Q.5(b) Write a short note on dose and route of antigen administration. [3]
Q.5(c) Describe various reactor system for production of Monoclonal antibodies. [5]

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