

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
IMMUNOLOGY: BIO F342
II SEMESTER: 2022-23
MID TERM EXAMINATION

Max Marks: 60 (40CB + 20)
Total Time: 90 min

Date: 13/03/2023

NOTE: Collect open book paper after submitting closed book answer sheet.

PART A CLOSED BOOK (30)

Q1. Should an AIDS patient preferably be kept in isolation? Why? (assume that no mixing of body fluids will take place even when socially interacting with others). (3)

Q8. Do all lymphoid cells have antigen-specific receptors on their membrane. Justify. (3)

Q3. Write the full form of GAVI. What is its significance? (2)

Q4. Why does a kidney transplanted patient have to be on the following medication for his entire life? Explain briefly.

(i) Immunosuppressive drugs (ii) Antibiotics drugs (3)

Q5. Suppose your friend receives an intravenous immunoglobulin to treat a cobra bite, is it true that he will be protected from cobra bite in future but not from the venom of any other types of snakes. Justify your answer. (3)

Q6. Can DNA profiling be used to differentiate between muscle cells, nerve cells and lymphocytes from the same individual. Justify your answer. (3)

Q.7 Do you expect clonal selection to occur at the site of an infection or elsewhere? Explain your answer. (3)

Q9. Identify which of the following cells are myeloid and which are lymphoid. Draw a table to depict the same.

a. Dendritic cells b. Neutrophils c. NK cells d. Basophils e. Macrophages f. T cells g. B cells h. ILCs (4)

Q10. What effect would removal of the bursa of Fabricius (bursectomy) have on chickens? (3)

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
IMMUNOLOGY: BIO F342
II SEMESTER: 2021-22
MID TERM EXAMINATION

Total Time: 90 min (OB + CB)

Date: 14/04/2022

PART B OPEN BOOK (15)

Q1. How many light chain, heavy chain and total domains are present in the following antibodies in their most prominent form. (3)

(i) IgE

(ii) IgA

Q2 (i) A novice scientist found that antibodies directed against immunoglobulin proteins appeared to bind to the T-cell receptor. Could he be possibly correct or would it most likely be an experimental error. Justify your answer. (2)

(ii) Suppose he further performs a similar experiment and now reports that antibodies against Ig are also bind with (i) ICAM 1 (ii) Chemokine receptors. How correct could he be this time. (2)

Q3. IgM has 10 antigen-binding sites per molecule, whereas IgG only has two. Would you expect IgM to be able to bind five times as many antigenic sites on a multivalent antigen as IgG? Why/why not? (4)

Q4. How do B- and T-cell receptor proteins mediate cell signal transduction, when bound to an antigen, in spite of having have remarkably short intracytoplasmic regions. (4)

GOOD LUCK