Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
End Semester Examination: Oct. 2024
Faculty: Science and Technology

Program: **Semester: V** **SET: A**
Program (Specific): **Course Type: DSC**
Class: TYBSc **Max.Marks: 35**
Name of the Course: Basic and Conceptual Immunology
Course Code: 24-MB-352 **Time: 2Hr**
Paper: II

Instructions to the candidate:

1) ***There are 4 sections in the question paper. Write each section on separate page.***
2) ***All Sections are compulsory.***
3) ***Figures to the right indicate full marks.***
4) ***Draw a well labelled diagram wherever necessary.***

SECTION: A

Q1) Answer the following. (5 X 1=5 Marks)

I. Name the region which gives flexibility to Immunoglobulin molecules.
II. Fluid remaining after reabsorption of Interstitial fluid in blood capillaries is called as _____
   a) Plasma c) Blood
   b) Serum d) Lymph
III. Cytokines are group of proteins that mediate complex interactions between immune cells, (State whether TRUE or FALSE)
IV. Expand the term: PALS

V. _____is an primary lymphoid organ
   a) Lymph node c) MALT
   b) Spleen d) Thymus

Q2) Answer <u>any four</u> of the following. (4 X 1 = 4 marks)

I. Name the Method for HLA typing.
II. Enlist the pathways of complement fixation
III. Define epitope
IV. Name two phagocytic cells

V. How are M cells distinct from epithelial cells of intestine?
VI. Quote the Immunoglobulin involved in immediate allergic reactions.

SECTION: B

Q3) Answer <u>any four</u> of the following. (4X2=8 Marks)

I. Distinguish between Exogenous and Endogenous antigens.
II. List the physical barriers in first line of defense and explain any one.
III. Relate: Thymus and Thymocytes
IV. State the role of Toll like receptors.
V. Explain the role of HAT medium in selection of Hybridomas.
VI. Illustrate process of Phagocytosis.

SECTION: C

Q4) Answer <u>any four</u> of the following. (4X2=8 Marks)

I. Explain Redundancy and Pleiotropy in cytokines.
II. Compare and contrast the properties of peptide binding cleft of MHC-I and MHC-II.
III. Describe any three chemical barriers of defense mechanism
IV. Predict the cardinal signs and cellular changes after tissue injury.
V. Draw neat labelled diagram of spleen.
VI. Enlist the functions of IgG.

SECTION: D

Q5) Attempt <u>any two</u> of the following. (5 X 2 = 10 Marks)

I. Explain Heavy chain gene arrangement.
II. Describe thymus dependent and independent antigens.
III. Illustrate the complement pathway, initiated by antigen antibody complex.
IV. Match the following and write correct pair.

COLUMN A	COLUMN B
Antigen fragment held on MHC II molecules	NK cells
Carry out hydrolytic lysis of foreign antigen in vesicles	Dendritic cell
Cells that express different markers on viral infection	Plasma cell
Degranulation of cells lead to smooth muscle contraction	Macrophage
Products of these cells are pentameric globulin proteins.	M cell
	Mast cell