Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
End Semester Examination: Feb. 2025
Faculty: Science and Technology

Program: Gen BSc(03) **Semester: VI** **SET: A**
Program (Specific): **Course Type: DSC**
Class: TYBSc **Max.Marks: 35**
Name of the Course: Advanced Immunology and Immunological Techniques.
Course Code: 24-MB-362 **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. **(5X1=5marks)**

a) Define Affinity.
b) Pregnancy test is based on precipitation reaction between antigen and antibody. (State True /False)
c) _____is an example of systemic autoimmune diseases. (choose the correct alternative)

i. Grave's disease
ii. Hashimoto's thyroiditis
iii. Rheumatoid arthritis.
iv. Myasthenia gravis.

d) Expand the term FACS
e) Explain Autograft with one example.

Q2) Answer <u>any four</u> of the following. **(4X1=4 marks)**

a) Name the pathway of antigen presentation which involves invariant chain.

b) Explain anergy.

c) Enlist the mediators released in manifestations of type I hypersensitivity reactions.

d) Site one example of ADCC.

e) Define autoimmunity.

f) Identify the humoral immune response that initiates with memory B cells.

SECTION B

Q3) Answer <u>any four</u> of the following. **(4X1=4 marks)**

a) State the principle of Indirect ELISA.

b) Justify: "Hypersensitivity is different as compared to normal immune response".

c) Relate : TCR , Class II MHC molecules and CD4+ cells

d) Explain what are Germinal centers.

e) Diagrammatically represent Radial immunodiffusion.

f) Elaborate the concept of cross reactivity with reference to ABO blood group antigens.

SECTION C

Q4) Answer <u>any four</u> of the following questions (2X4= 8marks)

a) Relate: Proteosome, endogenous antigens and class I MHC expression.

b) Explain DTH with one example.

c) Enlist different types of grafts and give one example of each.

d) Compare and contrast central tolerance and peripheral tolerance.

e) State the significance of CMI.

f) Describe the mechanism underlying allograft rejection.

SECTION D

Q5) Answer <u>any two</u> of the following questions (5X2= 10marks)

a) Relate: Cytokines and B cell activation.

b) Describe action of CTL on target cell.

c) Explain Type III hypersensitivity reaction.

d) Match the pair:

COLUMN A	COLUMN B
1. B7 costimulatory molecule	a. Exogenous pathway
2. C1q complement deficiency	b. Graft rejection
3. WIDAL test	c. Systemic lupus Erythromatous
4. CLIP	d. T-cell activation
5. immunosuppression	e. Bacterial agglutination
	f. Type I hypersensitivity