Reg. No ..... Name **25P349-S**

M. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025

SEMESTER 3 : ZOOLOGY

COURSE : **21P3ZOOT12 : IMMUNOLOGY**

(For Supplementary 2023/2022/2021 Admissions)

Duration : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	Difference between cellular expression of Class I and Class II MHC molecules.	(U, CO 7, CO 8)
2.	What is flow cytometry?	(U, CO 8)
3.	What are the major biological consequences of complement activation?	(R)
4.	Write a note on Tumor specific antigens.	(U, CO 7)
5.	Define allergy.	(U)
6.	What is antigenicity?	(R, CO 6)
7.	What is Lymphocyte extravasation.	(U, CO 4)
8.	What is an agglutination reaction?	(R, CO 2)
9.	What is a heavy chain in antibody?	(R, CO 4)
10.	Outline the alternate pathway of complement activation.	(A, CO 7)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Explain class switching.	(U, CO 5)
12.	Brief on immune response during malaria.	(U, CO 7)
13.	MHC and disease susceptibility.	(U)
14.	Write a note on Immunofluorescence.	(U, CO 8)
15.	What do you mean by multi gene organization of immunoglobulin genes?	(R, CO 3, CO 6)
16.	Role of mast cells and basophils in type-1 hypersensitivity.	(U, CO 8)
17.	Write an account of complement deficiencies.	(U, CO 7)
18.	What are the types of chemokine expression?	(U, CO 4)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Describe the types of immunity.	(A)
20.	Elaborate on Acute inflammation.	(U, CO 4)
21.	Explain the two antigen processing and presentation pathways?	(An, CO 4, CO 5)
22.	The three complement activation pathways converge to generate MAC and bring about complement effector functions. Justify the statement.	(An, CO 8)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 2	Outline antigens and antibodies and their interactions	U	8	1
CO 3	Explain the complement system	U	15	2
CO 4	Classify and interpret the Immune effector mechanisms	U	7, 9, 18, 20, 21	14
CO 5	Explain about allergy and hypersensitivity	U	11, 21	7
CO 6	Explain about the Major Histocompatibility Complex (MHC)	U	6, 15	3
CO 7	Explain the mechanism of immune reactions behind health problems and diseases	U	1, 4, 10, 12, 17	7
CO 8	Explain and interpret the basics of immunological techniques	U	1, 2, 14, 16, 22	11

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;