Q. P. Code: 23080

2 ½ Hours

Total Marks: 75

1. Attempt **all** questions.
2. **All questions carry equal marks.**
3. Draw **neat labeled diagrams** wherever necessary.
4. Use of **log tables** and **non-programmable calculator is allowed.**
5. For **Q 2, Q 3 and Q 4** attempt A and B **OR** C and D.

Q 1 Do as directed (Any fifteen) 15

1. Give an example of an agranulocyte.
2. Name the macrophage specific to the kidneys.
3. What is the site for B cell maturation in humans?
4. What are PALS?
5. Fill in the blank: CD 4^+ cells are also called as _____.
6. What is MAC?
7. State true or false: C3bBb is also known as C5 convertase.
8. What is the full form of HLA?
9. Fill in the blanks: Peptide binding cleft of MHC class II is made of ___ and ____ domains.
10. State true or false: MHC class I is seen on the surface of all nucleated cells.
11. State true or false: BCR bind soluble antigens.
12. State true or false: Immature B cells secrete antibodies.
13. Define: Membrane proximal domain of MHC.
14. Define: Naive B cell.
15. Define: Precipitation reaction.
16. Give an example of fluorochrome used to tag antibodies.
17. What is ELISPOT assay?
18. State true or false: Widal test is an example agglutination reaction.
19. State true or false: Hemolytic indicator system used in Complement fixation test uses sheep RBC bound to anti-sheep RBC and complement.

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20. State true or false: Flow cytometry analyzes cell populations that have been labelled with two or three different enzymes.

Q 2 A	Discuss the anatomy and role of thymus in immune system.	08
Q 2 B	Describe the structure and function of various types of granulocytes.	07
	OR	
Q 2 C	Describe the activation of classical complement pathway.	08
Q 2 D	What is CALT? Describe its role in an immune response.	07
Q 3 A	Describe the structure of TCR and co-receptors.	08
Q 3 B	Diagrammatically represent the sequence of events in B-cell activation by a thymus-dependent antigen.	07
	OR	
Q 3 C	Describe the transport of antigens that bind MHC class I molecules – Endogenous pathway.	08
Q 3 D	Discuss the steps involved in maturation of a T cell.	07
Q 4 A	Explain the steps involved in indirect and competitive ELISA.	08
Q 4 B	Describe the technique of immunoelectrophoresis.	07
	OR	
Q 4 C	Discuss direct and indirect Coomb's test.	08
Q 4 D	Describe slide and tube agglutination reactions using a suitable example.	07
Q 5	Write short note on any three of the following	15
a	Hematopoiesis.	
b	Dendritic cells.	
c	MHC restriction.	
d	Technique of indirect immunofluorescence.	
e	Principle of RIA.	

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