

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. Name the macrophages present in lungs.
2. What is MALT?
3. _____ cells have a role in clearing virally infected cells.
4. Microbial surfaces initiates _____ pathway of complement.
5. State role of memory cells.
6. What are dendritic cells?
7. Name the site for maturation of B cells.
8. State true or false: MHC class II molecules are present primarily on antigen presenting cells.
9. Explain Naïve B cell.
10. State true or false: Mature B cells secrete antibody.
11. State true or false: T_H cells secrete antibodies to activate B cells.
12. What is peptide binding cleft of MHC class I?
13. What are pro-B cells?
14. State true or false: The antigen recognition by CD8⁺ T_C cells is class I MHC restricted.
15. When the antigen-antibody ratio is optimal, maximum precipitate will be formed; this is called as _____ zone.
16. Give significance of two dimensional immunoelectrophoresis.
17. Give one word for: The antibody involved in bringing about agglutination reaction.
18. Give one example of incomplete antibody.
19. Name the technique used in blood typing.
20. Give one example of substrate used in ELISA.

Q.2 A Elaborate on Classical Pathway of complement. **08**

Q.2 B Discuss structure & function of various types of granulocytes. **07**

OR

Q.2 C Give an account on structure & function of thymus as a primary lymphoid organ. **08**

Q.2 D Describe various complement mediated deficiencies. **07**

Q.3 A Give an account on T cell maturation. **08**

Q.3 B Discuss MHC and disease susceptibility. **07**

OR

Q.3 C With the help of suitable diagram elaborate on T cell receptor. **08**

Q.3 D Describe exogenous pathway of antigen presentation by major histocompatibility complex. **07**

Q.4 A Elaborate on complement fixation test. **08**

Q.4 B Give an account on application of flow cytometer in immunodiagnostics. **07**

OR

Q.4 C Give a brief account on immunodiffusion techniques. **08**

Q.4 D How would you detect hepatitis B virus in blood sample through use of radioimmunoassay. **07**

Q.5 Write Short notes on **any three** of the following **15**

- a. Haematopoiesis.
- b. Structure of MHC class II molecules.
- c. B cell receptor.
- d. Direct coomb's test.
- e. Sandwich ELISA.