

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. Classical complement pathway is initiated by \_\_\_\_\_.
2. What are CTL?
3. State role of mast cells.
4. State true or false: Dendritic cells function as antigen presenting cells.
5. What is the site for T cell maturation?
6. Give an example of a cell which contains vesicles with histamine.
7. What is the function of spleen?
8. Name any one cell which carry MHC class II molecules.
9. State true or false : B cell receptor binds to antigens.
10. Fill in the blank: Peptide binding cleft of MHC class I is made of \_\_\_\_\_ and \_\_\_\_\_ domains.
11. State true or false: Antigen recognition by CD4<sup>+</sup> T<sub>H</sub> cells is MHC class II restricted.
12. State true or false: Pro- B cells express a transmembrane tyrosine phosphatase called CD45R.
13. State true or false: Immature B cells secrete antibodies.
14. State true or false: More than one Fab site should be available to react with an antigen.
15. Radial immunodiffusion is also known as \_\_\_\_\_ method.
16. RBCs of which animal are used in complement fixation test?
17. State one difference between direct and indirect coombs test.
18. Name the immunodiagnostic technique involving use of I<sup>125</sup>
19. Give example of one enzyme used in ELISA.
20. Define titer.

- Q.2 A** What is CALT? Describe its role in an immune response. **08**
- Q.2 B** Elaborate on structure & function of mononuclear phagocytes. **07**
- OR**
- Q.2 C** Describe biological consequences of complement activation. **08**
- Q.2 D** With the help of suitable diagram discuss the formation & development of red & white blood cells. **07**
- Q.3 A** Give an account B cell development by Thymus independent antigen. **08**
- Q.3 B** Describe functions of different types of T cells. **07**
- OR**
- Q.3 C** Discuss structure of T cell receptor: CD 3complex with the help of suitable diagram. **08**
- Q.3 D** Elaborate on development & maturation of B cells. **07**
- Q.4 A** Describe ELISPOT assay. **08**
- Q.4 B** Give a brief account on Ouchterlony technique and its application. **07**
- OR**
- Q.4 C** Explain principle and application of Fluorescent antibody technique. **08**
- Q.4 D** With a suitable example discuss application of western blot in immunodiagnostics. **07**
- Q.5** Write Short notes on **any three** of the following **15**
- a. Lymph node.
  - b. Complement mediated deficiencies.
  - c. MHC and disease susceptibility.
  - d. Hemagglutination.
  - e. Complement fixation test.