

2 ½ Hours

Total Marks: 75

**NOTE:**

1. Attempt **all** questions.
2. All **questions** carry **equal** marks.
3. Draw **neat labeled diagrams** wherever necessary.
4. 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. Platelets are also known as \_\_\_\_\_.
2. Name any one enzyme involved in digestion in humans.
3. State true or false: Pulmonary ventilation is commonly referred to as breathing
4. The \_\_\_\_\_, commonly called the voice box, is the passageway for air between the pharynx above and the trachea below.
5. Name any one type of nephron found in the kidney of humans.
6. Name the hardest substance in the human body which surrounds the dentin in the crown of the tooth.
7. Name the thin-walled tube that drains urine from the bladder and conveys it out of the human body.
8. True or false: C4 pathway is also known as Hatch Slack Pathway.
9. Give any two roles of gibberellin ( plant hormone).
10. Define: Photosynthesis.
11. Give any two uses of secondary metabolites.
12. What do you mean by Reaction Centre?
13. The Calvin cycle is also known as \_\_\_\_\_.
14. Vaccine is an example of \_\_\_\_\_ immunity.
15. Find the correlation. MHC Class I: \_\_\_\_\_; MHC Class II: T<sub>H</sub> cell.
16. \_\_\_\_\_ heavy chain present in IgG antibody.
17. What is the full form of ADCC?
18. What is the action of Mercaptoethanol reduction and alkylation on antibody?
19. Find the correlation. Antigen: Epitope; Antibody: \_\_\_\_\_.
20. What is phagocytosis?



- Q 2 A** What do you mean by photophosphorylation? Diagrammatically explain cyclic and non cyclic photophosphorylation. 08
- Q 2 B** Explain in detail about the C4 cycle with the help of a diagram. 07
- OR**
- Q 2 C** What is the CAM pathway ? Explain in detail. 08
- Q 2 D** Write a note on Secondary metabolites. 07
- Q 3 A** Give brief account on liver , gallbladder and pancreas with respect to digestion in humans 08
- Q 3 B** Describe the significance of blood in humans and add a note on its components 07
- OR**
- Q 3 C** Describe respiratory tract in humans and add a note on expiration. 08
- Q 3 D** Describe the anatomy and physiology of the kidney with a neat labelled diagram 07
- Q 4 A** Explain the properties of B-cell epitopes. 08
- Q 4 B** How chemical and enzymatic methods revealed basic antibody structure? 07
- OR**
- Q 4 C** What are the different effector functions mediated by antibody? 08
- Q 4 D** Write a note on active acquired immunity and their types. 07
- Q 5** Write a short note on any three of the following. 15
- a Calvin cycle
  - b Photophosphorylation
  - c Blood clotting
  - d Humoral immunity
  - e Haptens