2020/TDC(CBCS)/ODD/SEM/
ZOODSE-501T (A/B)/035

TDC (CBCS) Odd Semester Exam., 2020
held in March, 2021

ZOOLOGY

(5th Semester)

(Immunology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Honours students will Answer Group—A and Pass students will Answer Group—B

GROUP—A

(For Honours students)

Course No. : ZOODSE-501T (H)

SECTION—A

Answer any *fifteen* of the following questions : 1×15=15

1. Who is considered as the progenitor of modern immunology?

2. What is immunity?

3. What is lymph?

4. What is inflammation?

5. Which immunity is obtained during the lifetime of an organism?

6. What is antigenicity?

7. What is hematopoiesis?

8. What are epitopes?

9. N-K cells develop from which cell lineage?

10. Mention the name of the cells of immune system which participate in allergic reaction.

11. What are APCs?

12. Which tissue produces erythrocyte, leukocyte and lymphocyte?

13. Name the lymphoid organ where maturation of B-cell and T-cell takes place.

14. What is immunogenicity?

15. What is superantigen?

16. Which specific part of the immunoglobulin recognizes the antigen?

17. Which antibody class is found at highest concentration in serum?

18. Which immunoglobulin is produced first as primary response to an antigen?

19. Which immunoglobulin is found predominantly in external secretion?

20. What is the full form of MHC?

21. Name the class of MHC molecule recognized by $CD4T_H$ cell and $CD8T_C$ cell.

22. What is the size of antigenic peptide presented by class II MHC molecule?

23. What is complement?

24. What are cytokines?

25. Vaccination imparts which type of immunity in body?

26. Who is considered as the father of vaccination?

27. Give example of a recombinant vaccine.

28. What type of vaccine is approved against COVID-19 in India?

29. What type of genome is present in HIV?

30. Which population of lymphocyte decreases during HIV infection?

SECTION—B

Answer any *five* questions

31. What is opsonization? 2

32. Differentiate between humoral and cell-mediated immunity. 2

33. What is phagocytosis? Mention the name of cells of the immune system that performs phagocytosis. 1+1=2

34. Mention the name of different types of organs with examples involved with immune system. 2

35. Discuss the basic properties a foreign body should possess to call it as an antigen. 2

36. What are haptens? Give examples. 1+1=2

37. Write the major differences between class–I MHC and class–II MHC. 2

38. What are the basic functions of the complement system? 2

39. What is autoimmunity? Give an example of autoimmune diseases. 1+1=2

40. What is immunodeficiency? 2

SECTION—C

Answer any *five* questions

41. Write a short note on different components of innate immune system. 5

42. What is adaptive immunity? What are the basic features of adaptive immunity? How does passive immunization differ from active immunization? 1+2+2=5

43. Discuss the major role of different lymphocytes participate in immune response. 5

44. Elucidate the structure of a lymph node with proper diagram. 5

45. Describe with labeled diagram the basic structure of immunoglobulin. 5

46. What is a monoclonal antibody? Describe the process of production of monoclonal antibody. 5

47. Describe the mechanism of processing of endogenous antigen and its presentation with class–I MHC molecule. 5

48. Discuss the process of classical pathway of complement activation. 5

49. Write a short note on different generations of vaccine. 5

50. What is causative organism of AIDS? Give an account on immunological basis of AIDS. 1+4=5

GROUP—B

(For Pass students)

Course No. : ZOODSE–501T (P)

SECTION—A

Answer in very short on any *fifteen* of the following questions : 1×15=15

1. Define the word 'immunity'.

2. What are 'mechanical barriers' in innate immunity?

3. What is the basic difference between innate and adaptive immunity?

4. What is phagocytosis?

5. What are lymphoblasts?

6. Name few chemical barriers of innate immunity.

7. Define the term haematopoiesis.

8. Name the site of origin of B cells.

9. What are lymphoid organs?

10. Maturation of T-lymphocytes takes place in which place?

11. Name two secondary lymphoid organs.

12. What are stem cells?

13. What is an immunogen?

14. Define epitope and paratope.

15. What are haptens?

16. Write one importance of monoclonal antibodies.

17. What do you understand by opsonization?

18. What are adjuvants?

19. What is major histocompatibility complex (MHC)?

20. Define endocytosis.

21. What are APCs?

22. What are cytokines?

23. Write at least two functions of MHC.

24. Name two different kinds of cytokines.

25. What is autoimmune reaction?

26. What do you understand by autoimmune diseases?

27. What is molecular mimicry?

28. Define the term 'vaccine'.

29. Name one live attenuated vaccine.

30. What are toxoids?

SECTION—B

Answer in short on any *five* of the following questions : 2×5=10

31. What are the cytological barriers of innate immunity?

32. What is primary and secondary immune response?

33. Write on the origin of cells involved in immune system.

34. Write down about apoptosis.

35. What is antigenic determinant? What is its function?

36. What are monoclonal antibodies?

37. What is exogenous pathway of antigen presentation?

38. What are the basic properties of cytokines?

39. Write about the prevention of AIDS.

40. Draw a diagram of HIV.

SECTION—C

Answer *any* **five** questions

41. What do you mean by innate immunity? Discuss the principal components/barriers of innate immunity. 1+4=5

42. Name different types of cell involved in adaptive immune response. Differentiate between humoral and cell mediated immune system. 2+3=5

43. What are primary lymphoid organs? Explain the structure and function of spleen. 1+(2+2)=5

44. What are lymphocytes? Describe different types of T-lymphocytes involved in the cell-mediated immune system. 1+4=5

45. Discuss the general properties of antigen. 5

46. What are immunoglobulins? Give an account of antibody structure with diagram. 1+4=5

47. Enlist the chief features of MHC class–I and class–II molecules. 2½+2½=5

48. What is complement system? Write about the classical pathway of complement fixation. 1+4=5

49. Write a general note on different types of immunodeficiency disorders. 5

50. What are live vaccines? List the characteristics of an ideal vaccine. 1+4=5

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