**BILASPUR UNIVERSITY, BILASPUR**

**M.Sc Microbiology and Bioinformatics**

**III Semester examination**

**MB-303 IMMUNOLOGY**

(A) **Very short answer question**.

1. In humans, MHC genes are located which chromosomes?
2. Give full form of MHC?
3. Give examples of antigen presenting cells?
4. Give examples of cytokines?
5. Give full form of CD?
6. Give full form of IL?
7. Give full form of INF?
8. Which domains of α and β chains forms antigen binding cleft in MHCII?
9. Which domains of α chains forms antigen binding cleft in MHC I?
10. Write the full name of ELISA?
11. Write the full name of RIA?
12. Write the full name of IFA?
13. Name one isotope used in radio immunoassay?
14. Name one enzyme used in ELISA?
15. Name the indicator used in complement fixation?
16. Name one hormone that can be detected by ELISA?
17. Name few chemicals measured by RIA?
18. What is the shape of band formed in test for detecting unrelated antigens?
19. Name the antibody that can cross placenta.
20. Name the antibody that is a pentamer.
21. Name the antibody that is found on the B cell surface.
22. Name the antibody found in milk.
23. Name the antibody whose concentration increases during allergy.
24. Which antibody is found in highest concentration normally.
25. Which antibody is found in highest concentration during infection.
26. Name the bonds found in antibody.
27. How many types of heavy chains are there?
28. How many types of light chains are there?
29. Give full form of AIDS
30. Give full form of SSCID
31. Give full form of HIV
32. Which T cell is affected in AIDS?
33. Which immune cell becomes deficient in Di-George syndrome?
34. Which immune cell becomes deficient in Burton's agammaglobulinamia?
35. Which gp of AIDS virus binds with Th cell?
36. Name one enzyme found in AIDS virus.
37. What is the nature of nucleic acid in AIDS virus?
38. Which cancer is associated with AIDS patient?
39. Name the amino acids found in hinge region.
40. Give 2 examples of heterophile antigens ?
41. Who discover blood group antigens ?
42. Write full form of PAMP ?
43. Syngraft?
44. Allograft?
45. Xenograft?
46. White graft?
47. Graft rejection?
48. Host Vs graft rejection?
49. Graft Vs host rejection?
50. Allograft rejection?
51. Blocking antibodies?
52. Give one example of sequestered antigen
53. Give one example of cross reactive antigens
54. Give 2 example of haemolytic autoimmune
55. Give 2 example of localized autoimmune disease
56. Give 2 example of systemic autoimmune disease
57. Which harmones becomes deficient in hasimoto disease.
58. Name the autoantibodies produced in systemic lupus erythematosus?
59. Name the biomolecule that can be an antigen ?
60. Write full form of BSA ?
61. What is the other name of grave disease.

(B**) Short answer question**

1. Define thrombocytonia.
2. Define lymphadenpathy.
3. Define neutropenia.
4. Define auto antigens
5. Define auto antigens
6. Define auto antibodies.
7. What are sequestered Antigens.
8. Write short note an autoimmune Haemolytic Anaemia
9. Write short note on thrombocytopenia
10. Write short note on Grave disease
11. Write short note on Addison’s
12. Write short note on myasthenia Graveis
13. Write short note on Haemolytic Anaemia
14. Write short note on lupus Erythematosus.
15. Write short note on Rheumatoid Arthritis
16. Write short note on Hasimoto’s disease
17. Define active immunization
18. Define Passive immunization
19. What is sabin? Give example
20. What is salk Vaccine
21. Define Vaccines
22. Define Homologous Vaccines
23. Define Heterologous Vaccines
24. What are Subunit Vaccines
25. Define Immunoprophylaxis
26. Define Serum Sickness
27. Why are MHC products highly polymorphic?
28. Describe the classes of MHC?
29. Draw well labelled diagram of MHC I and MHC II?
30. How does MHC I interact with Tc cells?
31. How does MHC II interacts with Th cells?
32. Differentiate between MHC Class I+ II ?
33. What are the functions of MHC?
34. What is Ouchterlony test?
35. What is Oudin test?
36. What is Oakely fulthrope test?
37. Define zone of equivalence.
38. Define Agglutination.
39. Define immunoelectrophoresis.
40. Define serology.
41. Define antibody.
42. Define paratope.
43. Draw a neat labeled diagram of antibody.
44. Describe few properties of antibody.
45. Define valency.
46. Define allotype.
47. Define Idiotype.
48. Define affinity.
49. Define avidity.
50. What are hypervariable region.
51. Define epitope ?
52. Define functional valency ?
53. Define total valency ?
54. Write short notes on chemical nature of antigen ?
55. How does solubility affect antigenicity ?
56. How does molecular weight affects antigenicity ?
57. Define cross reactive antigens ?
58. What are forssman antigen ?
59. Define haptens ?
60. Define thymus dependent antigens ?
61. Define thymus independent antigens ?
62. Define carrier ?
63. Define heterophile antigens ?.
64. Define leucopenia
65. Name the factors response for secondary immunodeficiency disease
    1. Define immunodeficiency.
    2. Define primary immunodeficiency.
    3. Define secondary immunodeficiency.
    4. Write short note on Reticular Dysgenesis.
    5. Write short nte on Burton's agammaglobulinamia.
    6. Write short note on Di-George syndrome.
    7. Write short note on severe combined immune deficiency disease.

(C) **Long answer question**.

1. What is transplantation? Describe the types of transplantation?
2. What is allograft rejection? Explain its mechanism?
3. What is graft rejection? Describe the types and mechanism of graft rejection?
4. Describe the methods to prevent graft rejection?
5. Write a brief note on immunological enhancement?
6. Give an account of the immune response occurring during transplantation?
7. What is graft Vs host rejection? Briefly describe its mechanism and clinical symptoms?
8. Describe in detail the characterstics of Autoimmune disease.
9. Describe in detail the causes of autoimmune disease.
10. Describe in detail the classification of Autoimmune disease.
11. Describe in detail the localized Autoimmune disease.
12. Describe in detail the systemic Autoimmune diseases.
13. Describe in detail the structure of AIDS virus .
14. . How to contain AIDS .
15. Describe the treatment strategies in AIDS patients.
16. How to avoid transmission of AIDS .
17. Describe in detail primary immuno deficiency disease.
18. Describe in detail secondary immuno deficiency disease.
19. Describe in detail the time schedule of immunization as specified by WHO
20. Describe in details the Complications related with Immunization
21. Describe in details the type of Vaccines
22. Classify Vaccination
23. Describe in detail the role of memory cell in Immunization
24. What are the complication associated with Passive Immunization.
25. Describe in detail the expression of MHC Class I?
26. Describe in detail the expression of MHC Class II?
27. Describe in detail the classes of MHC their expression, function along with well labelled diagram?
28. Describe in detail how does MHC interacts with T lymphocytes?
29. Describe in detail the mechanism of agglutination with suitable example.
30. What is immunoflourescence? Describe its applications and methods.
31. Distinguish between precipitation and agglutination.
32. Describe in detail immunoelectrophoresis with an example.
33. Describe in detail ELISA and its applications.
34. Describe in detail types of antibodies along with their important characteristics.
35. Describe in detail the functions of Immunoglobulins.
36. Describe in detail the ways of creating diversity in antibody.
37. Describe in detail the essential factors for antigenicity ?
38. Describe in detail the chemical nature of antigens and antigenic determinants ?
39. How does anatomical barriers protect us from infection?
40. How does skin protects from infection? Describe in detail along with other innate factors of immunity.
41. Describe in detail the concepts of immunohematology
42. Describe Hypersensitivity. Describe in detail its types