

Reg. No. :

Name :

Fourth Semester B.Sc. Degree Examination, May 2021

Career Related First Degree Programme under CBCSS

. Botany and Biotechnology

Core Course - BB 1472 : IMMUNOLOGY

(2019 Admission Regular)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in a word or **1** or **2** sentences. Each question carries **1** mark. :

1. Define Opsonization.
2. Comment on haptens.
3. What are NK-cells?
4. Define Phagocytosis.
5. What is Haematopoiesis?
6. Give note on IgE.
7. What is Paratope?
8. Name the scientist who identified Polio vaccine.
9. Comment on agglutination.
10. Define an Idiotypic.

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** marks. (Answer not to exceed **1** paragraph).

11. Define Allergy.
12. Comment on bone marrow.
13. What is immuno diffusion?
14. Explain Pernicious anemia.
15. Explain radio immunotherapy.
16. What are Toxoid vaccines?
17. Explain immuno-electrophoresis.
18. Write a note on Spleen.
19. What is Active Immunity?
20. Comment on B-Lymphocytes.
21. What are the Lysozymes?
22. Describe Whole-organism vaccines.
23. Explain Ig M structure.
24. Explain BCG.
25. Define Avidity.
26. What are Macrophages?

(8 × 2 = 16 Marks)

SECTION – C

Answer **any six** questions. Each question carries **4** marks. (Answer not to exceed **120** words) :

27. What is somatic recombination?
28. Give a brief account on monoclonal antibodies.
29. Describe Humoral immune responses.
30. Distinguish between innate and adaptive immunity.
31. Explain Primary Lymphoid organs.
32. Comment on Rheumatoid Arthritis.
33. Write the structure and properties of Antigen.
34. Discuss the historical perspectives and early theories of immunity.
35. Explain the structure and functions of IgG.
36. Give a brief note on antibody genes.
37. Explain various mechanisms involved in physical defence.
38. Discuss different treatment methods of autoimmune diseases.

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. Each question carries **15** marks. (Answer not to exceed **3** pages. :

39. Discuss different types of autoimmune diseases.
40. Write an essay on types of antigen-antibody reactions.

41. What is hybridoma technology? Explain the protocol and its applications.
42. Explain genetic basis of antibody diversity.
43. Explain different types of immunoglobulin and its functions.
44. What is ELISA? Describe on different types of ELISA.

(2 × 15 = 30 Marks)
