

NS4S-1214- B-23

B.Sc. IV Semester (NEP) Degree Examination, September/October-2023

ZOOLOGY

Gene Technology Immunology &amp; Computational Biology

Paper : DSC 4

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates:

- 1) All sections are compulsory.
- 2) Draw diagram wherever necessary.

## SECTION - A

I. Answer any Five of the following.

(5×2=10)

1. What is C-DNA? Write its importance.
2. List any two applications of Lambda phase.
3. Expand SCID and GMO
4. Write the significance of F-Test.
5. What is database?
6. Define mode & write its formula.
7. Name two barriers of innate immunity.

## SECTION - B

II. Answer any Five of the followings

(5×4=20)

8. What are restriction enzymes? Name any 4 types with their source and recognition sequence.
9. Describe the process of development of transgenic fish.
10. Enumerate the role of thymus in body defence.
11. Write a note on sequence analysis.
12. Explain the scope and applications of Bioinformatics.
13. List the important properties of antigens.
14. Explain pie diagram.

SECTION - C

III. Answer any Three of the following.

(3×10=30)

15. What is gene transfer? Explain any three direct methods of gene transfer.
16. Describe the process of synthesis of monoclonal antibodies.
17. Explain the role of T and B cells in immune system.
18. Calculate the standard deviation for the following data which toads.

Length in cm	5	6	7	8	9	10	11
No. of toads	1	2	5	5	3	3	1