

NRT/KS/19/2114

Bachelor of Science (B.Sc.) Semester–IV Examination
ZOOLOGY (Molecular Biology and Immunology)
Optional Paper–II

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Illustrate your answer with suitable diagrams.

1. Give an account of structure of DNA. 10

OR

Write notes on :

(A) Recombination in bacteria by transduction. 5

(B) RNA as a genetic material. 5

2. Describe in detail the process of DNA replication in prokaryotes. 10

OR

Write notes on :

(A) Transcription in eukaryotes. 5

(B) Wobble hypothesis. 5

3. What are antigens ? Describe the structure and types of antigens. 10

OR

Write notes on :

(A) Innate immunity. 5

(B) Agglutination reaction. 5

4. Give an account on cytokines. Add a note on cytokine related diseases. 10

OR

Write notes on :

(A) Immunodeficiencies. 5

(B) B cell response. 5

5. Write **four or five** lines on the following (any **ten**) :

(i) rRNA

(ii) z-DNA

(iii) Regulator gene

(iv) Degeneracy of genetic code

(v) β -galactosidase

(vi) Shine-Dalgarno sequences

(vii) Peyer's patches

(viii) Fab fragment

(ix) ELISA

(x) MBL pathway

(xi) Granzymes

(xii) Rheumatoid arthritis. 10