

Sine 722228944007

40
70

[SZ - S 236B]

M.Sc. DEGREE EXAMINATION
ZOOLOGY

Second Semester

MOLECULAR BIOLOGY

(Effective from the admitted batch of 2022 -2023)

Time : 3 Hours

Max. Marks : 70

Answer One Question from each unit.

All questions carry equal marks.

UNIT - I

1. (a) Explain the Watson - Crick model of DNA. 5
(b) Describe the structure of t RNA and micro RNA. 5
Add a note on their functions.

(OR)

2. (a) Discuss the methods to measure DNA content variation.
(b) Give an account on kinetics of DNA - DNA hybridization.

UNIT - II

3. (a) Discuss the various types of DNA damaging agents. 5
(b) Explain the homologous, non homologous and site specific recombination of DNA.

(OR)

4. (a) Write a brief account on DNA repair mechanisms. 5
(b) Describe the various types of topoisomerases and their functions. 5

(P.T.O)

[SZ - S 236B]

UNIT - III

5. (a) Explain the DNA polymerases, their composition and important features. 5
(b) Discuss the role of chromatin in eukaryotic gene regulation. 3

(OR)

6. (a) Give an account on replication initiation complexes and their assembly in eukaryotic replication.
(b) Write notes on epigenetic gene regulation.

UNIT - IV

7. (a) Describe the secondary and tertiary structure of t RNA. Add a note on their function. 2
(b) Write an essay on structure, types and functions of RNA polymerases.

(OR)

8. (a) Explain RNA splicing and processing. U A C C
(b) Write notes on reverse transcription. U

UNIT - V

9. (a) Explain the genetic code and its importance. A G C 4
(b) Discuss the control of eukaryotic translation. 4
(OR)
10. (a) Write notes on mitochondrial protein translation.
(b) Discuss protein folding and protein sorting and their importance.

* * *