D 140718 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2026

(CBCSS)

Zoology

ZOL2C05—MOLECULAR BIOLOGY

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

I. Answer any *four* questions. Each question carries 2 weightage :

1 Tn family.

2 Site specific recombination.

3 Virus induced cancers.

4 Distinguish proto oncogenes and tumor suppressor genes.

5 Pseudogenes and gene family.

6 What are promoters ? Explain different types.

7 Explain Wobble hypothesis. How does it contribute for the degeneracy of genetic code ?

(4 × 2 = 8 weightage)

II. Answer any *four* questions. Each question carries 3 weightage.

8 Explain the replication of DNA in prokaryotes with examples.

9 Elaborate the events in protein synthesis.

10 Discuss the role of antibiotics as translation inhibitors in protein synthesis.

11 Write an account on post translational modification of proteins.

12 Distinguish tryptophan and galactose operons.

Turn over

13 Write an account on transposable elements in maize. Write the contributions of Barbara Mcclintock.

14 Write an account on organelle genome. How do they differ from nuclear genome.

(4 × 3 = 12 weightage)

III. Answer any *two* questions. Each question carries 5 weightage :

15 Explain different models of replication with example.

16 Write an account on features of eukaryotic genome. Add note on cot value and genome complexity.

17 Explain the molecular mechanisms involved in recombination in eukaryotic organisms.

18 Write an essay on gene families with suitable examples. Add note on their evolution.

(2 × 5 = 10 weightage)