



61429

IV Semester B.Sc. Examination, September/October 2023
(CBCS Scheme)

GENETICS
Molecular Genetics

Time : 3 Hours

Max. Marks : 70

Instruction : Draw diagrams *wherever* necessary.

PART – A

I. Answer **any five** of the following.

(5×3=15)

- 1) List the role of Microbiome.
- 2) What is meant by transduction ?
- 3) Give the beneficial effects of mutation.
- 4) Define pleiotropy with an example.
- 5) Mention the features of B-form of DNA.
- 6) Write the applications of Enzymology.
- 7) What is meant by initiation ?

PART – B

II. Answer **any five** of the following.

(5×5=25)

- 8) Explain the structure of Lac-operon.
- 9) Enumerate the steps involved in specialized transduction.
- 10) Give a brief note on Mismatch repair.
- 11) Explain Missense mutations with examples.
- 12) Describe Clover-leaf model of t-RNA.
- 13) Illustrate Meselson and Stahl experiment.
- 14) Define Genome organisation. Explain the fine structure of cistron.

P.T.O.



PART – C

- III. Answer **any three** of the following. (3×10=30)
- 15) Describe the structure and mechanism of tryptophan operon.
 - 16) Explain Avery MacLeod and McCarty experiment to prove DNA as genetic material.
 - 17) Give a detailed account on translation and add a note on post translational modifications.
 - 18) What are transposable elements ? Explain transposable elements in *Drosophila*.
 - 19) Write short notes on :
 - a) Deaminating agents
 - b) Photo reactivation.

