



61434

IV Semester B.Sc. Examination, September/October 2022
(CBCS)
BIOTECHNOLOGY
Molecular Biology

Time : 3 Hours

Max. Marks : 70

Instruction : Draw a **neat** labelled diagram **wherever** necessary.

SECTION – A

I. Write a short notes on the following.

(5×2=10)

- 1) Dispersive replication.
- 2) Hfr conjugation.
- 3) Prokaryotic promoters.
- 4) Protein folding.
- 5) Activators.

SECTION – B

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

(4×5=20)

- 6) What are nucleic acids ? Explain the components of nucleic acids.
- 7) Define replication. Explain the role of enzymes involved in replication.
- 8) Give an account on Griffith's experiment.
- 9) Explain the transposable elements in *Drosophila*.
- 10) Briefly explain mitochondrial genome.

SECTION – C

III. Answer **any three** of the following.

(3×10=30)

- 11) Describe the conjugation process in bacteria . Add a note on its significance.
- 12) Explain the various steps involved in prokaryotic translation.

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- 13) Enumerate the structure of DNA. Comment on different forms of DNA.
- 14) Discuss the process of transcription in eukaryotes.
- 15) Explain the mechanism of regulation of Lac-operon.

SECTION – D

IV. Answer the following in **a word or sentence each**. (10×1=10)

- 16) Nucleotides.
- 17) Chargaff's rule.
- 18) DNA polymerase.
- 19) DNA repair.
- 20) Plasmid.
- 21) Spliceosomes.
- 22) Capping.
- 23) In prokaryotes AUG is recognized by t-RNA molecule acylated with
- 24) Recon.
- 25) The transposable element found in bacteria is

