

BSc DEGREE EXAMINATION DECEMBER 2017
(Third Semester)

Branch **BIOTECHNOLOGY**

MOLECULAR BIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x2 = 20)

- 1 T4 Genome.
- 2 Bacteriophage
- 3 Histone.
- 4 Lagging strand.
- 5 Lac Z.
- 6 RNA polymerase.
- 7 Anticodons.
- 8 Mutagenesis.
- 9 Sister strand exchange.
- 10 Transposase.

SECTION - B 125 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Briefly explain the genome of λ (lambda) phage.
OR
b Explain the specialized transduction with a neat diagram.
- 12 a Explain the rolling circle model of DNA replication.
OR
b Write a short note on Eukaryotic nucleosome packaging.
- 13 a Describe the post translational modifications.
OR
b Explain the complementation test.
- 14 a Describe the lac operon in *E. Coil*.
OR
b Give an account on Ames test.
- 15 a Explain the mis match repair with a neat diagram.
OR
b Explain the photoreactivation in bacteria.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain the process of conjugation in bacteria with a neat diagram.
- 17 Describe the Meselson & Stahl experiment to prove semi conservative replication.
- 18 Explain the post transcriptional modifications in eukaryotes.
- 19 Write short notes on (a) Structure of tRNA (b) DNA polymerase
- 20 What are transposons? Explain the transposons mechanism in bacteria.