



25019339

**QP CODE: 25019339**

**Reg No** : .....

**Name** : .....

**B.Sc DEGREE (CBCS) ) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY  
CHANCE EXAMINATIONS, FEBRUARY 2025**

**Fourth Semester**

B.Sc Biotechnology Model III

**Core Course - BT4CRT09 - MOLECULAR BIOLOGY**

2017 Admission Onwards

80CAA6B3

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Define transforming principle.
2. What is  $T_m$  of DNA molecule?
3. What is intron?
4. What is transcription start site?
5. What is central dogma of molecular biology?
6. Functions of topoisomerase enzyme in DNA replication.
7. Types of excision repair methods.
8. What is 5' capping?
9. Polycistronic mRNA.
10. Who described the operon concept?
11. Inducer present in Lac operon?
12. What are the two enzymes that encode by LINES?

(10×1=10)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. What is the difference between DNA and RNA?
14. Explain the organization of prokaryotic genome.
15. Briefly explain modern concept of gene.
16. Explain C-value paradox with examples.
17. Give a note on the enzymes involved in prokaryotic DNA replication.
18. Briefly explain elongation of prokaryotic transcription.
19. Explain genetic code ? Describe the properties with examples.
20. What is an inducer? Give an example for it
21. Describe IS elements?

(6×5=30)

### **Part C**

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Explain the important discoveries in Molecular Biology..
23. Explain about the extra chromosomal genomes with the help of diagrams.
24. Explain steps involved in eukaryotic DNA replication with the help of diagrams.
25. Explain steps involved in eukaryotic translation with the help of diagrams.

(2×10=20)

