

**Class –B.Sc. BT (II)yr**

**Subject – Molecular Biology**

**Paper – BT-6**

**Time Allowed : 3 hrs.**

**Maximum Marks : 40**

**SECTION- A**

All questions are compulsory. Each question will carry one mark. Maximum length of answer can be about 1/3 of a page. (8x1)

1. (i) Z form of DNA
- (ii) tRNA
- (iii) Klenow fragment
- (iv) Reverse transcription
- (v) Consensus sequence
- (vi) Topoisomerase
- (vii) Transposition
- (viii) Nick Translation.

**SECTION- B**

5 questions to be attempted and maximum length of answer can be upto two pages. Each question carries 4 marks. (5x4)

2. Discuss briefly about DNA Polymerases and their characteristic features.
3. Explain briefly DNA recombination mechanism (site specific).
4. Explain different forms of DNA and their features.

5. Write a note on Transposons.
6. Explain structure of prokaryotic gene.
7. Write about Lac Operon in Prokaryotic gene expression.
8. Briefly explain prokaryotic translation process.
9. Write down differences between transcription and replication.

**SECTION- C**

Two questions to be attempted. Each question carries 6 marks. Maximum length of 5 pages to be written. (6x2=12)

10. Explain DNA repair along with its mechanism in prokaryotes.
11. Give detailed account of prokaryotic DNA replication. Also differentiate between Eukaryotic and prokaryotic replication.
12. How does recombination helps in repair of stalled replication fork. Write the molecular mechanism for same.
13. Discuss mechanism of prokaryotic transcription.

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