

Exam. Code : 107404
Subject Code : 2246

B.Sc. Bio-Technology Semester—IV

MOLECULAR BIOLOGY

Paper—BT-6

Time Allowed—3 Hours] [Maximum Marks—40

Note : Attempt ALL the questions of Section A, FIVE questions from Section B and TWO questions from Section C.

SECTION—A

Explain the following briefly :

1. A form of DNA
2. Okazaki fragments
3. Rec A protein
4. Helicase
5. Consensus sequence
6. Non-template strand
7. Ribozyme
8. Splicing.

1×8=8

SECTION—B

1. What are Chargaff's rules ? Explain Briefly.
2. Discuss briefly the semiconservative nature of DNA replication.
3. Define transposons. Explain briefly.

4. Explain briefly recombinational DNA repair.
5. Define operon. Explain 'lac' operon.
6. Differentiate between prokaryotic and eukaryotic transcription.
7. Define briefly DNA supercoiling.
8. What are histones ? Discuss briefly. $4 \times 5 = 20$

SECTION—C

1. Discuss the various enzymes and protein factors involved in DNA replication.
2. Enlist and discuss different types of genetic recombinations.
3. Detail the events taking place in RNA polymerase II dependent transcription in eukaryotes.
4. Discuss post translational regulation of gene expression. $6 \times 2 = 12$