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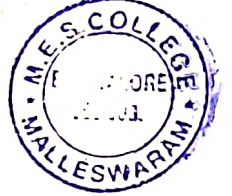
IV Semester B.Sc. Degree Examination, September - 2023

BIOTECHNOLOGY

Molecular Biology

Paper : IV

(NEP Scheme)



Time : 2½ Hours

Maximum Marks :60

Instructions to Candidates:

Answer any **FOUR** questions for each section.

SECTION - A

I. Answer any FOUR of the following.

(4×2=8)

1. What is anticodon loop?
2. Define Bidirectional Replication.
3. SOS Repair
4. What is central Dogma?
5. What is Poly adenylation?
6. Name the structural genes in Lac operon.

SECTION - B

II. Answer any FOUR of the following.

(4×5=20)

7. Define semiconservative Replication. Explain Meselson and Stahl Experiment to prove the same. **(1+4)**
8. Write a brief note on
 - a) Primosomes
 - b) Replisomes. **(2+3)**
9. What is DNA Repair? Explain Photo Reactivation **(1+4)**

[P.T.O.]



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10. Explain the structure and functions of Ribosomal RNA. (3+2)
11. Define Splicing. Explain the mechanism of m RNA splicing. (1+4)
12. Define operon. Explain the structure of Lac Operon. (1+4)

SECTION - C

III. Answer any FOUR of the following. (4×8=32)

13. Explain the structure and functions of B-form of DNA with a neat diagram. (3+3+2)
 14. Explain the mechanism of DNA Replication. Add a note on DNA polymerase I (5+3)
 15. Write a brief note on
 - a) Rolling circle mechanism
 - b) Theta model of Replication. (4+4)
 16. Explain transcription in Eukaryotes. Add a note on Eukaryotic RNA polymerases. (6+2)
 17. Discuss the mechanism of translation in Prokaryotes. Add a note on inhibitors of translation. (6+2)
 18. What is Genetic code? Explain the properties of Genetic code. Add a note on wobble hypothesis. (2+4+2)
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