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DCBT401

Reg. No.

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IV Semester B.Sc. Degree Examination July/August - 2024

BIOTECHNOLOGY

Molecular Biology

(NEP Scheme 2021-22 Batch Onwards F+R)

Paper - IV



Time : 2½ Hours

Maximum Marks :60

Instructions to Candidates:

Answer any Four questions for Each Section.

Draw neat labelled diagram Wherever necessary.

## SECTION - A

I. Answer any Four questions. Each question carries 2 marks.

(4×2=8)

1. Phosphodiester bond
2. Helicase
3. Excision repair
4. SSB
5. Central dogma
6. Spliceosome

## SECTION - B

II. Answer any Four questions. Each question carries 5 marks.

(4×5=20)

7. Describe the structure and functions of mRNA. (3+2)
8. What is transformation? Explain Griffith's Experiment on transformation. (2+3)
9. What is DNA Damage? Add a note on mismatch repair mechanism (2+3)
10. What are DNA Polymerases? Discuss the types of DNA polymerases With its functions. (2+3)

[P.T.O.]



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11. Write short note on
- a) Chargaff's rule
  - b) Purines and pyrimidines. (2+3)
12. What is Operon ? Explain Tryp Operon. (2+3)

### SECTION - C

III. Answer any four questions. Each question carries 8 marks. (4×8=32)

13. Write a note on
- a) Forms of DNA (4+4)
  - b) Watson-Crick model of DNA.
14. What are Ribozymes? Add a note on functions of DNA and RNA. (2+6)
15. What is DNA replication? Comment on DNA replication in Prokaryotes. (2+6)
16. Define translation ? Explain the major steps involved in translation of Eukaryotes. (2+6)
17. What is transcription ? Discuss in detail steps involved in Prokaryotic transcription. (2+6)
18. Comment on
- a) Clover leaf model of t-RNA
  - b) Genetic code (4+4)
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