

A (Printed Pages 3)
(20622) Roll No
B.Sc.(Bio-Tech.)-II Yr

NS-3466 (N)

**B.Sc. (Biotechnology) Examination,
June-2022**

Molecular Biology

(B-203)

(New)

(B.Sc. Biotech.)

Time : Three Hours] [Maximum Marks : 50

Note : Attempt any **five** questions. **All** questions carry equal marks. Draw diagrams wherever necessary.

1. Discuss in detail Meselson-Stahl experiment for DNA replication 10
2. What is "Nucleosome Model" of Chromatin assembly. Explain Histone-DNA interaction. 10

P.T.O.

3. Discuss the role of following enzymes:
2×5=10

- (a) Helicase
- (b) Ligase
- (c) Topoisomerase
- (d) Reverse transcriptase
- (e) Primase

4. Discuss the role of following in prokaryotic DNA replication: 2×5=10

- (a) DNA Pol I
- (b) DNA Pol II
- (c) DNA Pol III
- (d) Sliding clamp
- (e) SSB proteins

5. Compare the process of transcription in prokaryotic and eukaryotes. 10
6. Discuss in detail about the double helix structure of DNA. Also compare alternative forms of DNA. 5+5=10

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7. Write detailed notes on the following:

5×2=10

(a) Split gene

(b) t-RNA

8. Write short notes on the following :

2.5×4=10

(a) Pribnow box

(b) TATA Box

(c) Transposable elements

(d) Cryptic genes

9. Discuss in detail the mechanism of translation in prokaryotes. 10

10. Write detailed notes on the following:

5×2=10

(a) Important properties of genetic code

(b) Lac Operon and gene regulation