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(20524) Roll No

B.Sc. (Micro)-II Year

# 3498

## B.Sc. (Micro) Examination, May-2024

## Molecular biology

## (B-205)

## B.Sc. (Micro)

*Time : Three Hours ]* *[Maximum Marks : 50*

**Note :** Attempt any **five** questions. **All** questions carries equal marks.

1. Explain the mechanism of DNA replication in Eukaryotes with the function of all the replication components involved. 10

2. Briefly summarize the genetic basis of transformation, transduction and conjugation. 10



3. (a) Explain Organisation of genetic material. 5

   (b) Distinguish between insertion sequence and a composite transposon. 5

4. (a) Explain structure of prokaryotic gene. 5

   (b) Write the initiation and termination codons of eukaryotes and prokaryotes. 5

5. What do you mean by genetic code? Write down the properties of genetic code and explain Wobble hypothesis. 2+8=10

6. Explain the major steps of transcription in prokaryotes. 10

7. *Describe the following:* 2×5=10

   (a) *DNA packaging*

   (b) Chargaff's rules

(c) RNA polymerase

(d) Shine- Dalgaeno recognition and binding site.

(e) Chain termination codon.

8. What do you mean by Translation. Explain the process of translation in Eukaryotes. Also explain the pest translation of protein. 10

9. Describe how the lac operon is regulated? 10

10. What are inductim and repression and why are they useful? Explain with suitable example. 10