

RAN-2503000505058001

B.Sc. (NCF-NEP) (Sem.-V) Examination October - 2025

B.Sc. Bioscience (Microbiology) (Minor-II)

Molecular Biology Theory (BM-ME-V)

Time: 1 Hour]

[Total Marks: 25

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) Draw neat and labelled diagrams wherever necessary.
- (3) Figures to the right indicate full marks of the question.

Seat No.:

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Student's Signature

Q.1. Multiple choice questions. (Any Five)

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1. The tertiary structure of the tRNA is _____.
 - a. Clover leaf
 - b. Crossbow
 - c. L shaped
 - d. Plus shaped
2. What is called Griffith effect?
 - a. DNA transcription
 - b. RNA translation
 - c. Bacterial transformation
 - d. Bacterial transduction
3. Which protein prevents re-annealing of DNA strands during replication?
 - a. DNA ligase
 - b. Single-strand binding proteins (SSBPs)
 - c. DNAGyrase
 - d. Helicase
4. Which of the following does not take part in gene expression?
 - a. Replication
 - b. Transcription
 - c. RNA processing
 - d. Translation
5. Which of the following is a physical mutagen?
 - a. UV radiation
 - b. Mustard gas
 - c. Nitrous acid
 - d. Base analogs
6. The Ames test is used for:
 - a. Detecting antibiotic resistance
 - b. Screening chemical mutagens
 - c. Measuring protein synthesis
 - d. Counting colony-forming units

Q.2. Answer any two of the following.

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1. Describe in brief about Hershey - Chase experiment.
2. Describe the role of DNA polymerase in DNA replication.
3. Write a note on Central dogma of life.

Q.3. Answer any two of the following.

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1. Describe the role of RNA polymerase in transcription.
 2. Define gene mutation. Write a note on point mutations.
 3. Write a note on characteristics of the genetic code.
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