

**2003000203020116**  
**EXAMINATION FEBRUARY-MARCH 2024**  
**BACHELOR OF SCIENCE (THIRD SEMESTER)**  
**BIO SCIENCE (MICROBIOLOGY) PAPER – IV**  
**BS-302:MICROBIAL GENETICS**

[Time: As Per Schedule]

[Max. Marks:50 ]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF SCIENCE (THIRD SEMESTER)**
  - b. Name of the Subject: **BIO SCIENCE (MICROBIOLOGY) PAPER - IV BS-302: MICROBIAL GENETICS**
  - c. Subject Code No: **2003000203020116**
2. Sketch neat and labelled diagram wherever necessary.
  3. Figures to the right indicate full marks of the question.
  4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Multiple choice questions (MCQs).**

**8**

1. Which of the followings is a nucleoside?
  - a. ATP
  - b. Adenosine
  - c. CTP
  - d. All
  
2. Which of the followings is a pyrimidine?
  - a. U
  - b. C
  - c. T
  - d. All
  
3. A process in which RNA is synthesized from DNA is called \_\_\_\_\_.
  - a. Transformation
  - b. Transcription
  - c. Translation
  - d. All
  
4. Radioactive isotopes are used in DNA & Protein by \_\_\_\_\_ ?
  - a. Watson and Crick
  - b. Avery, McCarty and Macleod
  - c. Griffith and Avery
  - d. None

5. Which of the following is a non-sense codon?
  - a. UAG
  - b. UGA
  - c. UAA
  - d. All
  
6. Nucleus of a cell is the site for the \_\_\_\_\_
  - a. Replication
  - b. Transcription
  - c. Both transcription & replication
  - d. All
  
7. \_\_\_\_\_ is an example of gene mutation
  - a. Frame shift mutation
  - b. Lethal mutation
  - c. Biochemical mutation
  - d. Chromosomal mutation
  
8. Which of the following is a mutagen?
  - a. Some chemicals
  - b. Some viruses
  - c. Some pollutant
  - d. All

**Q.2 [A] Answer as directed: 4**

1. State any two nucleotides
2. State the any two gene mutation.
3. Nucleotide sequence of DNA is ---ATCTAGGCTAAGCTA--- then what will be the sequence in the complementary strand?
4. Define: Ribozyme.

**[B] Write short note on (Any Two) 10**

1. Avery, McCarty & McLeod experiment.
2. Replication machinery.
3. DNA repair.

**Q.3 Write an essay on - Double helix structure of DNA. 14**

**OR**

**Answer the following questions. 14**

1. Write a note on polynucleotide.
2. Enlist various types of RNA. Explain in brief t-RNA.

**Q.4 Answer any two of the following.**

**14**

1. Write a detailed account on transcription
2. Describe in brief characteristics of Genetic code n.
3. Write a note on structure of gene.

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