

**RAN-2403000503028001**
**B.Sc. (Microbiology) (Sem.-III) Examination March - 2026**
**Bioscience (Microbiology) - Major-2 (Paper IV)**
**BM-MJ-2-302 : Microbial Genetics**
**Time: 1 Hour ]**
**[ Total Marks: 25**

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| <b>સૂચના : / Instructions</b><br>(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.<br>Fill up strictly the above details on your answer book<br>(2) Figures to the right indicate full marks.<br>(3) Draw neat & clean diagram wherever necessary. | Seat No.:<br><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><br><div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div> Student's Signature |
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**Q-1. Multiple choice questions: (Any Five)**
**05**

- 1) Which of the followings is a nucleoside?
  - a) ATP
  - b) Adenosine
  - c) UTP
  - d) All
- 2) Radioactive isotopes are used in DNA & Protein by \_\_\_\_\_
  - a) Hershey and Chase
  - b) Watson and Crick
  - c) Avery, McCarty and Macleod
  - d) Griffith and Avery
- 3) DNA polymerase is required for the \_\_\_\_\_
  - a) Transformation
  - b) Transcription
  - c) Translation
  - d) Replication
- 4) Which of the following is an initiation codon?
  - a) AUG
  - b) CGU
  - c) UUU
  - d) All
- 5) \_\_\_\_\_ is an example of gene mutation
  - a) Frame shift mutation
  - b) Point mutation
  - c) Both point & frame shift mutation
  - d) Chromosomal mutation

- 6) Which of the following is not a DNA repair mechanism?
- a) Frame shift
  - b) Excision
  - c) Direct
  - d) Mismatch

**Q-2.** Explain in detail Semi-conservative replication of DNA. **10**

**OR**

**Q-2.** Answer the following questions. **10**

- 1) Write a detailed Griffith's experiment.
- 2) Describe in brief fine structure of gene

**Q-3.** Describe in detail transcription in prokaryotes. **10**

**OR**

**Q.3.** Answer any two of the following. **10**

- 1) Describe in brief DNA repair mechanism.
  - 2) Write a note on point mutation.
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