

**2003000204020071**  
**EXAMINATION FEBRUARY-MARCH 2024**  
**BACHELOR OF SCIENCE (FOURTH SEMESTER)**  
**MEDICAL LABORATORY TECHNOLOGY-VIII**  
**MT-08-MICROBIAL METABOLISM AND 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 (FOURTH SEMESTER)**
  - b. Name of the Subject : **MEDICAL LABORATORY TECHNOLOGY-VIII MT-08-MICROBIAL METABOLISM AND GENETICS**
  - c. Subject Code No : **2003000204020071**
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 Answer in brief:**

**8**

1. Enlist the methods to regulate the metabolic pathways.
2. What is catabolism?
3. What is the role of DNA gyrase and SSB proteins in replication of DNA.
4. What are transposable elements?

**Q.2 Answer the following: (Any Two):**

**14**

1. Explain redox reactions.
2. Discuss the principles governing biosynthesis.
3. Write a short note on: Genetic code

**Q.3 Explain the following: (Any Two):**

**14**

1. Give a brief outline of the three stages of a Transcription cycle in bacteria.
2.  $F^+ \times F^-$  and  $F' \times F^-$  conjugation.
3. Microorganisms are classified on the basis of energy, carbon and electron requirements.

**Q.4 Write short notes on:(Any Two):**

**14**

1. Initiation and elongation of DNA.
2. Generalised transduction.
3. Phototrophic fueling reactions.

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