

**2103000203026001/2103001103030004**  
**EXAMINATION FEBRUARY-MARCH 2024**  
**BACHELOR OF SCIENCE (THIRD SEMESTER)**  
**MICROBIOLOGY PAPER - V**  
**MB-301 PRINCIPLES OF BACTERIAL SYSTEMATICS**

[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 : **MICROBIOLOGY PAPER – V MB-301 PRINCIPLES OF BACTERIAL SYSTEMATICS**
  - c. Subject Code No : **2103000203026001/2103001103030004**
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 Give Specific answers.**

**8**

- a. Write the difference of serovar and morphovar.
- b. Explain the term Methanogenesis
- c. Define: anoxygenic photosynthesis.
- d. Give two examples of Haloarchaea.
- e. How is mol%G+C calculated?
- f. What is parasporal body?
- g. Give class and order of Rhizobium.
- h. Name the any two species of genus Bacillus.

**Q.2 Explain/comment on any two of the following.**

**14**

- a. Comment on RNA as the first replicating biomolecule.
- b. Give a detailed account on major groups of Archaea.
- c. Members of order Hydrogenophiales are chemolithotrophs.

**Q.3 Discuss any two of the following.**

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- a. Discuss in brief about the phylum Cyanobacteria.
- b. What is taxonomy? Describe Taxonomic ranks.
- c. Explain 3-Hydroxypropionate/4-Hydroxybutyrate cycle in detail.

**Q.4 Write short notes on any two of the following**

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- a. Methanotrophy
- b. Class Epsilonproteobacteria
- c. Phylum Spirochaetes

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