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**RAN-2403000503038001**

**S.Y.B.Sc. (Sem. III) (NEP) Examination March - 2025**

**Bioscience (Microbiology) Major**

**BM - MJ-303: Microbial Taxonomy & Virology**

**Time: 2 Hours ]**

**[ Total Marks: 50**

**सूचना : / Instructions**

(१)

नीचे दशावैल निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

**S.Y.B.Sc. (Sem. III) (NEP)**

Name of the Subject :

**Bioscience (Microbiology) Major BM - MJ-303: Microbial  
Taxonomy & Virology**

Subject Code No.: **2403000503038001**

Seat No.:

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Student's Signature

- (2) Figures to the right indicate full marks.
- (3) Draw neat & clean diagram wherever necessary.

**Q-1. Multiple choice questions: (Any Ten)**

**10**

1. Taxonomy is defined as \_\_\_\_\_
  - a. Science of biological evolution
  - b. Science of biological classification
  - c. Science of biological chemistry
  - d. None
2. Taxonomy consists of \_\_\_\_\_
  - a. Classification
  - b. Nomenclature
  - c. Identification
  - d. All
3. Polyphasic taxonomy includes \_\_\_\_\_
  - a. Phenetic classification
  - b. Phylogenetic classification
  - c. Genotypic classification
  - d. All

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4. A pseudomurein is found in \_\_\_\_\_
  - a. Methanobacteria
  - b. Green sulfur bacteria
  - c. Green nonsulfur bacteria
  - d. Purple sulfur bacteria
5. Which of the following is not an oxygenic photosynthetic bacterium?
  - a. Green sulfur bacteria
  - b. Green nonsulfur bacteria
  - c. Purple sulfur bacteria
  - d. All
6. Proteobacteria are divided into \_\_\_\_\_
  - a. Alpha Proteobacteria
  - b. Beta Proteobacteria
  - c. Gamma Proteobacteria
  - d. All
7. Which of the following properties are use to classify viruses by ICTV?
  - a. Type of NA
  - b. NA strandedness
  - c. Capsid symmetry
  - d. All
8. Which of the following are bacterial viruses?
  - a. T2
  - b. MS2
  - c. Lambda
  - d. All
9. The viral genome is packaged into a structure made of \_\_\_\_\_
  - a. Protein
  - b. Carbohydrate
  - c. Fats
  - d. lipids
10. Virus that affects fungi are called \_\_\_\_\_
  - a. Bacteriophage
  - b. Viroids
  - c. Mycovirus
  - d. None
11. Which of the following is the first step in replication by bacterial phages?
  - a. Adsorption
  - b. Penetration
  - c. Transcription
  - d. Assembly and release
12. Which of the following are the stages of vertebrate virus reproduction?
  - a. Adsorption
  - b. Penetration
  - c. Replication of viral NA
  - d. All

**Q-2. Answer the following questions. (Any One)**

**10**

1. Explain in brief molecular characteristics for microbial taxonomy.
2. Describe in brief systems of prokaryotic & eukaryotic phylogeny.

**Q-3. Answer the following questions. (Any Two) 10**

1. Write a note on Methanogens.
2. Describe in brief about Hierarchical arrangement.
3. Describe the characteristics of the major archaeal physiological groups.

**Q-4. Answer the following questions. (Any Two) 10**

1. Explain in detail NA classification of viruses.
2. Describe in brief general properties of viruses.
3. Complex viruses.

**Q-5. Answer the following questions. (Any One) 10**

1. Write an essay on - Cultivation of viruses.
2. Write a note on lytic cycle of bacteriophage.

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