



Seat No. : \_\_\_\_\_

**NN-128**

**November-2025**

**B.Sc., Sem.-III (NEP)**

**DSC-C-MIC-232T : Microbiology**

**(Microbial Growth & Physiology)**

**Time : 2:00 Hours]**

**[Max. Marks : 50**

- Instructions :**
- (1) All questions are compulsory.
  - (2) Figure on the right indicates marks.
  - (3) Mention correct question number against the answer.
  - (4) Draw figures wherever necessary.

1. Discuss with diagram the normal growth phases of bacteria. **10**

**OR**

1. (a) Discuss active transport mechanism of nutrient uptake in bacteria. **5**

1. (b) Enlist reproduction patterns in microorganisms and explain any one in detail. **5**

2. Describe classification of microorganisms on the basis of temperature requirement. **10**

**OR**

2. (a) Discuss various stages of biofilm formation. **5**

2. (b) Classify microorganisms on the basis of pH. **5**

3. Describe heat as a physical method of microbial control. **10**

**OR**

3. (a) Explain characteristics of ideal antimicrobial agent. **5**

3. (b) Discuss halogens as microbial control agent. **5**

4. Describe inhibition of cell wall synthesis with example of penicillin. **10**

**OR**

4. (a) Explain how ciprofloxacin inhibits microorganism. **5**

4. (b) Explain principles of chemotherapy. **5**

5. Give short and specific answers in **1-2** lines only : (any **10** out of 12)

**10**

- (1) What is Symport ?
  - (2) Name any differential medium.
  - (3) Name two methods of viable cell number measurement.
  - (4) What is facultative anaerobe ?
  - (5) What are Xerophiles ?
  - (6) Name any biofilm forming bacteria.
  - (7) Name any dye used as antimicrobial agent.
  - (8) Define : Microbiostatic
  - (9) Define : Sterilization.
  - (10) Which bacterial structure is disrupted by polymyxin B ?
  - (11) Name the antibiotic which inhibits protein synthesis.
  - (12) Define : Antibiotic
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