

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

**AK-107**

April -2018

**B.Sc., Sem.-II**

**CC-3, Paper-103 : Microbiology**

**(Basic Bacteriology)**

**Time : 3 Hours]**

**[Max. Marks : 70**

- Instructions :**
- (1) Attempt **all** questions.
  - (2) Mention correct question number against the answer.
  - (3) Draw neat diagram whenever necessary.

1. Answer the following : (any **two**) **14**
  - (a) Describe different systems of bacterial classification.
  - (b) What is nomenclature ? Describe principles of binomial systems of nomenclature.
  - (c) Explain in detail the stages in bacterial sporulation process.
  - (d) Describe morphological features of bacteria.
  
2. Answer the following : (any **two**) **14**
  - (a) Describe structure , chemical composition and functions of capsule.
  - (b) Differentiate between the cell wall of gram negative and gram positive bacteria.
  - (c) Write short note on:
    - (1) Pilli
    - (2) Prosthecae and stalks
  - (d) Describe cellular reserve food material.
  
3. Answer the following : (any **two**) **14**
  - (a) Describe nutritional types of bacteria based on their sources of energy.
  - (b) Explain various nutritional requirements of bacteria.
  - (c) Enlist different types of media and describe differential media.
  - (d) Write a brief note on cultivation methods of bacteria.

4. Answer the following : (any **two**)

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- (a) Describe different mechanisms of action of an antimicrobial agent.
- (b) Describe microbial control by osmotic pressure and filtration.
- (c) Discuss mode of action of halogens as antimicrobial agents.
- (d) Explain phenol and phenolic compounds as agents for microbial control.

5. Answer the following in **one** or **two** sentences :

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- (1) Define the term classification.
  - (2) Who developed the five kingdom classification system ?
  - (3) What is a cyst ?
  - (4) Name the major components of bacterial flagella.
  - (5) What is plasmid ?
  - (6) What is spheroplast ?
  - (7) What are barophiles ?
  - (8) Name any two carbon sources used in bacteriological media.
  - (9) Who suggested the use of agar as a solidifying agent for microbiological media ?
  - (10) What is the use of yeast extract in culture media ?
  - (11) How moist heat kills micro-organisms ?
  - (12) What are dimers ?
  - (13) What is thermal death time ?
  - (14) Name two surfactants used for microbial control.
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