

Seat No. : _____

MH-211

May-2025 (NEP 2020)

B.Sc., Sem-II

DSC-C-MIC-121T : Microbiology

(Vedic Microbiology & Basic Bacteriology)

Time : 2:00 Hours]

[Max. Marks : 50

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

1. Elaborate on the microbial diversity based on various physicochemical environmental conditions as described in Vedic texts. **10**

OR

1. (A) Write a short note on the contributions of Rishi Kanva in the field of Vedic Microbiology. **5**
(B) Based on Vedic texts, describe the occurrence of krimis in milk and food. **5**

2. Explain the structural properties of bacterial endospore. Also, describe the mechanism of sporogenesis and germination in bacteria. **10**

OR

2. (A) Elaborate on the structural features of bacterial capsule layer. **5**
(B) Describe the structural organisation of bacterial flagellum Flagella. **5**

3. Describe the nutritional diversity among bacteria based on the source of energy and carbon. **10**

OR

3. (A) Explain the nutritional significance of nitrogen and phosphorus for the growth of bacteria. **5**
(B) Write a short note on the cultivation of anaerobic bacteria. **5**

4. Write a descriptive note on various approaches for selective isolation of desired organisms in pure culture. **10**

OR

4. (A) Enlist and explain different colony characteristics of a bacterial cell. **5**
(B) Write a note on preservation of pure cultures. **5**

5. Write short and specific answers in **1-2** lines only (any **ten** of the following) : **10**

- (1) Write any one contribution of Rishi Sushruta.
 - (2) Define mesophilic bacteria.
 - (3) Who is known as the Father of Vedic Microbiology ?
 - (4) Write one function of pilli.
 - (5) What are mesosomes ?
 - (6) Define : plasmid.
 - (7) What are lithotrophs ?
 - (8) Write any one fat soluble vitamin.
 - (9) What is the significance of meat extract in general cultivation medium ?
 - (10) Write full form of ATCC.
 - (11) Which isolation technique you will use for enumeration of bacteria from soil sample ?
 - (12) What kind of growth is exhibited by facultatively anaerobic bacteria in broth culture ?
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