(6 pages) **Reg. No. :** .....

Code No. : 10399 E **Sub. Code : EFMI 11/ FFMI 11**

B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2025.

First Semester

Microbiology

Foundation Course — BASIC MICROBIOLOGY

(For those who joined in July 2023 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The organelle meant for food storage in bacterial cells are ————.
   (a) Inclusion bodies
   (b) Cytoplasm
   (c) Periplasm
   (d) Mitochondria

2. Which of the following is eukaryote?
   (a) Fungi (b) Bacteria
   (c) Virus (d) Archea

3. Which of the following bacteria involved in curd formation?
   (a) Propinibacterium
   (b) Clostridium
   (c) Lactobacillus
   (d) Vibrio

4. Lactic acid bacteria are ————.
   (a) autotroph (b) auxotrophs
   (c) fastidious (d) mixotrophs

5. Which genus contains spore forming bacteria?
   (a) Clostridium and Bacillus
   (b) Azotobacter and Bacillus
   (c) Chromatium and Azotobacter
   (d) Cyanobacteria and Bacillus

6. Who discovered penicillin antibiotic?

(a) Waksman

(b) Beijerinck

(c) Alexandar Fleming

(d) Windogradsky

7. A population of cells arising from a single cell is known as ————.

(a) pure culture (b) mixed culture

(c) single culture (d) mono culture

8. Which of the following technique is utilized for isolation and culturing of sample containing small number of microorganisms?

(a) Enrichment culture method

(b) Diluted culture method

(c) Power plate technique

(d) Spread plate method

9. The component which is responsible for the production of earthy smell by streptomyces is ————.

(a) Geo jasmine (b) Geosmin

(c) Streptomycin (d) Erythocin

10. Agriculturally important actiomycetes is ————.

(a) Actino allomutus

(b) Frankia

(c) Penicillium

(d) Allo Streptomyces

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) What is prokaryotes and write down its characters?

Or

(b) What are the structure and staining properties of gram positive bacteria?

12. (a) What is microbiology and its scope?

Or

(b) Narrate about the role of microbes in soil fertility.

13. (a) State about the principles of taxonomy in microbiology.

Or

(b) What are the basic taxonomic groups in microbial taxonomy?

14. (a) Discuss about the serial dilution methods of microorganisms isolation.

Or

(b) How is gram staining used to identify microorganisms?

15. (a) Focus on the importance of soil microorganisms.

Or

(b) List out the beneficial bacteria in food.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Discuss in detail about cell division of bacteria.

Or

(b) Explain about the unique characteristics of eukaryotic cells.

17. (a) Discuss about the benefits of microorganisms.

Or

(b) What are the microorganisms used in Medicine?

18. (a) Discuss about the general purpose of Bergey's manual of systemic bacteriology.

Or

(b) Focus on bacterial classification based on its nutritional requirement.

19. (a) Describe in detail about simple staining procedure.

Or

(b) Discuss about spore staining principle and protocol for spore identification.

20. (a) What are the important microorganisms in water contamination?

Or

(b) Discuss about diseases spreaded through air.
