

(6 pages)

Reg. No. :

Code No. : 30500 E Sub. Code : CMMI 11

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Microbiology – Core

FUNDAMENTALS OF MICROBIOLOGY AND
MICROBIAL DIVERSITY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A Dutch clothes merchant and amateur lens grinder who observed the first microorganisms was _____.

- (a) Hooke (b) Koch
(c) Pasteur (d) Leeuwenhoek.

2. "Swan-Necked" flasks used to refute spontaneous generation were made by _____.

- (a) Louis Pasteur (b) Robert Koch
(c) Redi (d) Edward Jenner

3. The principle behind the sterilization using autoclave is _____.

- (a) High pressure
(b) High steam
(c) Hot vapours
(d) Steam under pressure

4. In which type of microscopy the microorganisms are likely to show varying degrees of darkness within the cell?

- (a) Dark-field microscopy
(b) Phase contrast microscopy
(c) Bright field microscopy
(d) Electron microscopy

5. Flagella distributed all over the surface of bacteria are called _____.

- (a) Peritrichous (b) Monotrichous
(c) Atrichous (d) Amphitrichous

6. Spirochaete may possess a series of internal filaments used for motion, known as _____.
- (a) Stalk (b) Tail
(c) Axial filaments (d) Biaxial filaments
7. Since penicillin prevents peptidoglycan synthesis, it is more effective on _____ cells.
- (a) Gram positive (b) Gram negative
(c) Mycoplasma (d) Acid-fast
8. Flagella and pili are made up of _____.
- (a) Lipids (b) Carbohydrates
(c) Nucleic acids (d) Protein
9. Which among the following is the characteristic feature of fungi?
- (a) Are photosynthetic
(b) Have cell walls of peptidoglycan
(c) Prokaryotic cells
(d) Secrete extracellular enzymes to breakdown nutrients
10. Protozoa feed on
- (a) Tiny algae (b) Bacteria
(c) Virus (d) Fungus

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Interpret the Spontaneous Generation experiment.
- Or
- (b) Justify the Koch's Postulates.
12. (a) Differentiate the methods of Pour Plate and Streak Plate.
- Or
- (b) Describe about the moisture heat sterilization.
13. (a) Write about flagella and classify flagella with examples.
- Or
- (b) Interpret the structure and functions of Peptidoglycan.
14. (a) Interpret some common habitats in which archaea reside.
- Or
- (b) Describe the features of Mycoplasma.

15. (a) Explain briefly about icosahedral capsid.

Or

(b) Summarize the characteristics of Dimorphic fungi.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the details about recent contributor of Microbiology.

Or

(b) List out the contributions of Louis Pasteur.

17. (a) Explain the details about the principles and methods of Moisture heat sterilization.

Or

(b) Classify the types of Microscopes.

18. (a) Describe and label the organs and structure of Bacterial cell.

Or

(b) Differentiate Gram Positive and Gram-Negative bacterial Cell Wall.

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19. (a) Illustrate and analyze the two forms of Gliding Motility in Mycoplasmas.

Or

(b) Evaluate the futures of Phylum Spirochaetes.

20. (a) Summarize the general properties of viruses.

Or

(b) Describe the morphology and reproduction of *fungi*.

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