

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

First Semester

Microbiology – Core

FUNDAMENTALS OF MICROBIOLOGY AND
MICROBIAL DIVERSITY

(For those who joined in July 2021-2022 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. An Italian physician who demonstrated that maggots arise from fly eggs and not rotten meats was _____.
(a) Louis Pastuer
(b) Robert Koch
(c) Redi
(d) Edward Jenner

2. Living organisms arising from non-living substances can be called _____.
(a) spontaneous generation
(b) germ theory and cell theory
(c) univocal generation
(d) abiogenesis
3. The total magnification of a microscope with the low power lens (10X) and ocular lens (15X) in position would be _____.
(a) 25 (b) 15
(c) 150 (d) 1500
4. A major difference between the SEM and the TEM is that the SEM _____.
(a) can resolve objects smaller than 20 nanometer
(b) requires less of a vacuum system than the TEM
(c) can create three dimensional images
(d) does not require the use of any metal coating of the specimen

5. All of the following structures of bacteria are made of protein except _____.
(a) plasmids (b) ribosomes
(c) pilli (d) cell membrane
6. Any substances containing polysaccharides found external to the cell wall is known the _____.
(a) lipid (b) protein
(c) glycocalyx (d) peptidoglycon
7. _____ are very small, multi-shaped bacteria lacking a true cell.
(a) Rickettsias (b) Actinomycetes
(c) Spirochetes (d) Mycoplasmas
8. Which kingdom would an organism with the following characteristics most likely belong: true nucleus, multicellular, photosynthetic, chloroplasts within cytoplasmic matrix?
(a) Chromista (b) Eubacteria
(c) Protozoa (d) Plantae

9. Which of the following structures would not be associated with fungi?
(a) Mitochondria
(b) Cell walls
(c) Chloroplasts
(d) Spores
10. Which of the following microbes is generally small?
(a) bacteria (b) protozoa
(c) fungi (d) viruses

PART B — (5 × 5 = 25 marks)

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

Answer should not exceed 250 words.

11. (a) Describe Germ theory of Diseases.
Or
(b) Report the findings of Jenner.
12. (a) Categorize the different temperature of Pasteurization.
Or
(b) Explain about the enrichment media.

13. (a) Describe about Capsule.
Or
(b) Classify the structure of bacterial cell wall.
14. (a) Explain the futures of Streptomyces.
Or
(b) Interpret about the appendaged bacteria.
15. (a) Explain the general characteristic of Algae.
Or
(b) Illustrate the structure with suitable example for helical capsid.

PART C — (5 × 8 = 40 marks)

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

16. (a) Interpret the contributions of Antony Van Leewenhoek in the field of microbiology.
Or
(b) Analyze the Spontaneous generation theory Vs Biogenesis.
17. (a) Describe about the Electron microscopy and its applications.
Or
(b) Illustrate and explain about Autoclave.

Page 5 Code No. : 30545 E

18. (a) Write a detail notes on Staphylococcus.
Or
(b) Describe about the plasmids and classify their types.
19. (a) Discriminate the Bacteria with mycoplasma.
Or
(b) Describe about the Budding of Bacteria.
20. (a) Order phylum of the subkingdom protozoa and describe the type of study of Amoeba.
Or
(b) Illustrate the Structure and summarize the general Characteristics of Rabies.

Page 6 Code No. : 30545 E

