

(6 pages)

Reg. No. : .....

Code No. : 10583 E Sub. Code : CMZO 52

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2024.

Fifth Semester

Zoology — Core

MICROBIOLOGY AND IMMUNOLOGY

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

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Who is known as the father of microbiology?

- (a) Edwin John Butler
- (b) Ferdinand Cohn
- (c) Robert Koch
- (d) Antoni Van Leeuwenhoek

2. Bacteriophages with tail are

- (a) Motile in water
- (b) Motile on plant leaves
- (c) Non-motile
- (d) Motile on bacterial surface

3. Common food poisoning microbes are

- (a) Clostridium and Salmonella
- (b) Clostridium and E. coli
- (c) E. coli and Salmonella
- (d) Clostridium and Streptococcus

4. The temperature used for canning foods ranges from \_\_\_\_\_

- (a) 0 – 20°C
- (b) 20 – 60°C
- (c) 60 – 100°C
- (d) 100 – 121°C

5. Which of the following is a rich source of B – Vitamins?

- (a) Yeast extract
- (b) Beef extract
- (c) Peptone
- (d) Agar

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6. Which of the following instrument is used for sterilizing the media after it has been prepared?
- (a) Incubator
  - (b) Inoculum Needle
  - (c) Laminar air flow chamber
  - (d) Autoclave
7. Which of the following cells are involved in cell mediated immunity?
- (a) Leukaemia      (b) T-cells
  - (c) Mast cells      (d) Thrombocytes
8. Which of the following conveys the lasting immunity to an infections agent?
- (a) Active immunity
  - (b) Passive immunity
  - (c) Both (a) and (b)
  - (d) None of the above
9. Which of the following is not an example of type I hypersensitivity reaction?
- (a) Asthma
  - (b) Allergic Rhinitis
  - (c) Systemic Lupus Erythematosus
  - (d) Atopic Dermatitis

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10. Type IV hypersensitivity is also called as
- (a) Immediate hypersensitivity
  - (b) Delayed hypersensitivity
  - (c) Cytotoxic hypersensitivity
  - (d) Immune complex hypersensitivity

PART B — (5 × 5 = 25 marks)

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

11. (a) Enumerate the scope of microbiology.  
Or  
(b) Describe the structure of T<sub>4</sub> phage.
12. (a) Discuss the features of growth curve of Bacteria.  
Or  
(b) List the factors influencing bacterial growth.
13. (a) Write notes on microbial nitrogen fixation.  
Or  
(b) Write causes, symptoms and treatment of candidiasis.

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14. (a) Describe the structure of Ig G.

Or

- (b) Comment on Haptens.

15. (a) Explain active immunization.

Or

- (b) Explain any two attenuated vaccines.

PART C — ( $5 \times 8 = 40$  marks)

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

16. (a) Explain the structure of yeast.

Or

- (b) Write a detailed note on classification of microbes.

17. (a) Write an essay on culture medium.

Or

- (b) Explain Biofermenters.

18. (a) Discuss the role of microbes in food spoilage.

Or

- (b) Describe the production of penicillin.

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19. (a) Explain different types of immunity in detail.

Or

- (b) Enumerate the basic properties and functions of cytokines.

20. (a) Summarize the production of monoclonal antibodies.

Or

- (b) Explain type I hypersensitivity with one example.

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