

19. (a) Write brief account on immune cells in humans?

Or

- (b) Describe in detailed note on cytokines.
20. (a) Explain the structure and functions of antibodies.

Or

- (b) Discuss in detail about the classification of vaccines.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

21. Write a detailed account on Whittaker five kingdom classification.
22. Explain in detail about the characteristics and structure of Archebacteria?
23. Describe in detail on types of microbial growth media.
24. Write an essay about Innate and acquired immunity?
25. Engineering of antibodies — Explain in detail.

S.No. 6186

P 22 BOCC 1 B

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Botany— Core Choice Course

MICROBIOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL questions

- I. (A) Choose the correct answer : ($5 \times 1 = 5$)
1. From which structure is a mesosome derived from?
(a) Plasmid (b) Cell wall
(c) Ribosome (d) Cell membrane
2. What are the subunits of prokaryotic ribosomes?
(a) 50S, 30S (b) 60S, 40S
(c) 70S, 30S (d) 60S, 30S
3. Which of these statements is not true regarding inclusion bodies in prokaryotes?
(a) Reserve material is stored in these structures
(b) They are bound by a single membrane
(c) Gas vacuoles are found in blue-green bacteria
(d) They lie free in the cytoplasm

4. Which of the following has a complex symmetry?
 (a) T4 phage (b) Adenovirus
 (c) Influenza virus (d) All of the above
5. In naming viruses, the family name ends with _____ and genus name ends with _____
 (a) *-virus*; *-viridae*
 (b) *-viridae*; *-virus*
 (c) *-virion*; *virus*
 (d) *-virus*; *virion*
- (B) Fill in the blanks : (5 × 1 = 5)
6. A fully formed infectious viral particle is called _____
7. Viral genome inserted to the bacterial DNA is termed as _____
8. Antibodies involved in type I hypersensitivities are of the _____ class.
9. A secondary immunodeficiency is _____ rather than genetic.
10. The thyroid-stimulating immunoglobulin that acts like thyroid-stimulating hormone and causes Graves disease is an antibody to the _____

- II. Write brief note on the following topics: (5 × 2 = 10)
11. Characteristics of virus.
12. Cyanobacteria?
13. Staining
14. Innate immunity.
15. Antibodies.

SECTION B — (5 × 5 = 25)

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

16. (a) Write short note on structure of Mycoplasma?

Or

- (b) Discuss in detail on the general features of virus.

17. (a) Explain in brief account on the growth curve of bacteria.

Or

- (b) Describe about the general features of cyanobacteria.

18. (a) Write the detail on the chemical methods of sterilization.

Or

- (b) Explain in brief about spread plate technique of microbial culture.