

**NGM COLLEGE (AUTONOMOUS) POLLACHI
END-OF-SEMESTER EXAMINATIONS: MAY-2023**

B. Sc-ZOOLOGY**MAXIMUM MARKS: 70****VI SEMESTER****TIME: 3 HOURS****PART III****MICROBIOLOGY AND IMMUNOLOGY****SECTION – A (10 X1 = 10 MARKS)****ANSWER THE FOLLOWING QUESTIONS****MULTIPLE CHOICE QUESTIONS****(K1)**

1. Who is the father of “Microbiology” ?

a. Robert Hooke	b. Antonie Van Leeuwenhoek
c. Edward Jenner	d. Carolus Linnaeus
2. The most common stains used in gram staining are?

a. crystal violet and methylene blue	b. crystal violet and safranin
c. crystal violet and carbol fuchsin	d. safranin and methylene blue
3. The biofertilizer present in the roots of legumes is known as _____

a. Anabaena	b. Rhizobium	c. Azospirillum	d. All of the above
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4. Which one of the following includes neutrophils, basophil type of immunity?

a. physical barrier	b. physiological barriers
c. active immunity	d. cellular barriers
5. What is the name of MHC in humans?

a. HLA	b. H2	c. Adjuvants	d. Haplotype
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ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES**(K2)**

6. Define positive gram staining with example.
7. Mention the uses of bacteria in daily life.
8. What are the symptoms of botulism? (any two)
9. Which immunoglobulin passes from mother to baby through placenta?
10. Differentiate between a malignant and benign tumor.

SECTION – B (5 X 4 = 20 MARKS)**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Differentiate between gram positive and gram negative bacteria with suitable example.
(OR)
b) Explain the different steps involved in bacterial culture media preparation?
Explain.

(CONTD....2)

12. a) What are the general characteristic features of virus?/ Explain the biology of Virus.
(OR)
b) Illustrate the structure of bacteriophage with a clear diagram.

13. a) How can you detect the biochemical changes in food spoilage due to microbes? Explain.
(OR)
b) Give a brief note on bacterial diseases in human.

14. a) Define innate Immunity. What are the physical and chemical barriers of innate immunity?
(OR)
b) Illustrate the structure of thymus with clear labeled diagram.

15. a) What are the properties of immunoglobulin?
(OR)
b) What are the techniques involved in detection and treating of tumor cells?

SECTION – C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS.

(16TH QUESTION IS COMPULSORY AND ANSWER ANY THREE

QUESTIONS FROM Q.NO: 17 TO 21)

(K4) OR (K5)

16. Write a detailed account of Major Histocompatibility Complex (MHC) types and function.

17. Give a detailed account of the branches of applied microbiology and their scopes in current scenario.

18. Explain the various methods of isolation and pure culture techniques used in microbial culture.

19. Write an account of the general characteristic features, structure and types of bacteria.

20. Write an essay on bio-fertilizer and their uses in agriculture field.

21. Describe the humoral and cell mediated immunity with suitable example .

ETHICAL PAPER