2024

M.Sc. 2nd Semester Examination

MICROBIOLOGY

PAPER : MCB-204(CBCS)

(Microbial World)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Illustrate the answers wherever necessary.

Answer from both the Units.

UNIT—A [204.1]

GROUP—A

Answer *any* **four** of the following questions

2×2=4

1. Mention the name of two scientists who proved non-spontaneous generation. 2

2. What is Germ theory of disease? Who proposed that? (1+1)

3. Write the principle of HEPA filter. 2

4. What is resolving power? Mention the resolving power of human eye. (1+1)

GROUP—B

Answer *any* **two** of the following questions :

4×2=8

5. Define Paul Ehrlich's Magic Bullets. Write the difference between Bacteriological and BOD incubator. (2+2)

6. Draw and label each part of a prokaryotic cell. 4

7. Write the general characteristics of Archea. 4

8. Write a short note in Winogradsky Column. 4

20. Write the different direct and indirect methods to measure the bacterial growth with their advantage and disadvantage. 4+4=8

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GROUP—C

Answer *any* **one** of the following questions :

8×1=8

9. Write down the contribution of Robert Koch in microbiology. Write down the applications of Hot Air Oven. (5+3)

10. Briefly describe the Pasteurization Methods. Mention the mode of action of heavy metals as microbial control agent. Give two examples of algal food reserve materials. What is steam sterilizer? (3+2+1+2)

UNIT— B [204.2]

GROUP—A

Answer *any* **two** of the following questions :

2×2=4

11. What are natural and artificial media?

12. Write about enriched and enrichment media.

13. What are dilution and dilution factor?

14. Define facultative anaerobes with example.

GROUP—B

Answer *any* **two** of the following questions :

4×2=8

15. Classify bacteria with oxygen requirement and define each type. 4

16. Write the process of pour plate technique. How does it differ from spread plate technique? (3+1)

17. Why oxygen is more toxic to anaerobic bacteria? 4

18. What are mixotroph and prototroph? Give example. 4

GROUP—C

Answer *any* **one** of the following questions :

8×1=8

19. Write the anaerobic culture technique. Write the importance of microbes for the growth of plant. What are microbiomes? 4+2+2=8