

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

MICRSEM-138

M.Sc. (Ist Semester) Examination Dec., 2022

MICROBIOLOGY

Paper -MB-101

(General Microbiology and Bacteriology)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all *ten* questions. Answer should not exceed **50** words. Each question carries **1** mark.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer *five* questions by selecting at least *one* question from each Unit. Answer should not exceed **200** words. Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer *three* questions by selecting at least *one* question from each Unit. Answer should not exceed **500** words. Each question carries **5** marks.

Section-A

1. (i) What is Polyphasic Classification ?
- (ii) Write difference between monophyletic, paraphyletic and polyphyletic taxa.

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- (iii) Define Numerical Taxonomy.
- (iv) Give example of any *four* antimicrobial agents.
- (v) What are the *four* stages of microbial growth curve ?
- (vi) Write any *four* ways to prevent microbial growth.
- (vii) What is the main difference between selective media and non-selective media ?
- (viii) What disease is caused by Treponema ?
- (ix) What is the characteristic appearance of Staphylococcus in Culture ?
- (x) Give an example of photosynthetic bacteria.

Section-B

Unit-I

- 2. Write brief note on scope of Microbiology.
- 3. Describe the basis for classifying Prokaryotes in Bergey's Manual of systematic bacteriology.
- 4. Why is phylogenetic classification more acceptable ?

Unit-II

- 5. Write a note on the various types of culture media for bacteria.
- 6. Describe the methods used for evaluation of effectiveness of antimicrobial agents.
- 7. Describe the role sterilization in control of microorganism growth.

Unit-III

- 8. Write a note on causes, symptoms and diagnosis of tuberculosis.
- 9. Describe the general characters of genus Bacillus.
- 10. Write importance of nitrogen fixing bacteria.

Section–C

Unit–I

11. Describe the ultra structure, chemistry and function of Prokaryotic cells.
12. Write a note on principle, merits and demerits of numerical taxonomy. Also explain its applications.

Unit–II

13. Classify the bacteria on the basis of nutrition and oxygen requirement.
14. Describe the methods of synchronous growth of bacteria.

Unit–III

15. Describe the general characters of salmonella bacteria, its diagnosis, symptoms and disease treatment.
16. Describe the characteristics, types and importance of Archaeobacteria.