

M.Sc. MICROBIOLOGY
FIRST SEMESTER
GENERAL MICROBIOLOGY & BACTERIOLOGY
MMB-101

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

1 × 20 = 20

Choose the correct answer from the following:

1. Monera consists of:
 - a. Cell wall
 - b. Nucleoid
 - c. Both a and b
 - d. None of the above
2. Histone proteins are present in:
 - a. Bacteria
 - b. Plantae
 - c. Animalia
 - d. Both b and c
3. Grape-like cluster is seen in:
 - a. Sarcina
 - b. Streptococci
 - c. Staphylococci
 - d. Tetrad
4. Who is the father of microscopy?
 - a. Leuwenhoek
 - b. Lister
 - c. Beijerinck
 - d. None of the above
5. TSE is caused by:
 - a. Viroids
 - b. Virusoids
 - c. Prions
 - d. Bacteria
6. Storage food in fungi is:
 - a. Starch
 - b. Glycogen and fat
 - c. Proteins
 - d. None of the above
7. Swan-neck experiment was related to:
 - a. Louis Pasteur
 - b. Spallanzani
 - c. Needham
 - d. Aristotle
8. Helper virus is essential for:
 - a. Influenza virus
 - b. Viroids
 - c. Virusoid
 - d. Prions
9. Scrapie was found in:
 - a. Human
 - b. Cow
 - c. Deer
 - d. Sheep
10. Lichen is a symbiotic association between:
 - a. Algae and fungi
 - b. Fungi and roots of higher plants
 - c. Algae and roots
 - d. Bacteria and fungi

11. Which of the following group of bacteria is considered as link between bacteria and virus?
 - a. Rickettsia
 - b. Spirochetes
 - c. Actinomycetes
 - d. Archaeobacteria
12. EMB agar media can be used as selective media for:
 - a. Gram positive bacteria
 - b. Gram positive pathogenic bacteria
 - c. Gram negative bacteria
 - d. Gram negative pathogenic bacteria
13. Which of the following is the nutritional characterization of *Staphylococcus aureus*?
 - a. Chemotrophic
 - b. Organotrophic
 - c. Autotrophic
 - d. Both a & b
14. Which ingredient of Nutrient agar contributes the carbohydrates, vitamins and nitrogen compounds?
 - a. Peptone
 - b. Beef extract
 - c. NaCl
 - d. None of these
15. Which microorganism(s) among the following perform photosynthesis by utilizing light?
 - a. Cyanobacteria
 - b. Cyanobacteria, Fungi and Viruses
 - c. Viruses
 - d. Fungi
16. Which of these is not a type of cyanobacteria that makes biofertilizers?
 - a. Nostoc
 - b. Anabaena
 - c. Clostridium
 - d. Both a & b
17. Bacteria is a very diverse as a group that are responsible for:
 - a. Nitrogen oxidation
 - b. Nitrogen fixation
 - c. Nitrogen reduction
 - d. All of these
18. The characteristic color of the Red Sea is associated with heavy blooms of.....
 - a. Diatoms
 - b. Blue green algae
 - c. Red planktons
 - d. Dinoflagellates
19. IMViC test includes:
 - a. Voges Proskaur test
 - b. Citrate test
 - c. Indole and Methyl Red test
 - d. All of these
20. Which of the following layer is composed of soft mud or ooze?
 - a. Benthic zone
 - b. Limnetic zone
 - c. Photic zone
 - d. Fundal zone

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. Differentiate between Light microscope and electron microscope. Describe the principle of fluorescent microscopy with a neat labelled diagram. | 3+7=10 |
| 2. Discuss Spontaneous generation vs Biogenesis. Add necessary diagrams. | 10 |
| 3. Who introduced the binomial system of nomenclature? Describe the rules of binomial nomenclature system. Write the demerits of five kingdom classification. | 1+6+3=10 |
| 4. Write short notes on:
a) Bacteria
b) Three domain system of classification | 5+5=10 |
| 5. Write short notes: (any two)
a) Chemical agents used for microbial control
b) Aero-microbiology
c) Rhizosphere and microbes
d) Microbial culture media | 5+5=10 |
| 6. Brief about microbial culture media and its importance. Give significance and example of the following culture media- Enrich media, Enrichment media, Selective media, Indicator media and Differential media. | 5+5=10 |
| 7. What is soil microflora? Write about the various microbial interactions with proper examples. | 10 |
| 8. Write a detailed note on diversity of microflora of freshwater and marine habitat. | 10 |

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