REV-01 BMB/27/32

## **B.Sc. MICROBIOLOGY** FIRST SEMESTER FUNDAMENTALS OF MICROBIOLOGY BMB-101

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Objective )

Time: 30 mins.

Choose the correct answer from the following:

b. Incubation d. None of the above

a. Sub culturing c. Inoculation

The name of the technique where microbial cultures are stored in liquid nitrogen is:

Transfer of pure culture periodically into fresh medium in called:

a. Lyophilisation b. Freezing

c. Cryopreservation

d. Sublimation

The zone directly adjacent to root surface is known as:

a. Ectorhizosphere

b. Rhizoplane

c. Endorhizosphere

d. Nonrhizosphere

Rhizosphere ratio (RS ratio=1) indicates:

a. No rhizosphere effect

b. Selective stimulation

c. Inhibition

d. None of the above

If a symbiont host more than one organism the relationship is termed as:

a. Mutualism

b. Consortium

c. Cooperation

d. Amensalism

Cooperation is a .....relationship.

a. Positive

b. Positive and obligatory

c. Positive and non-obligatory

d. Negative

7. Nitrification is an example of:

a. Mutualism

b. Commensalism d. Competition

c. Cooperation

8. Virus is a good example of:

a. Ammensalism

b. Parasitism

c. Mutualism

d. None of the above

TSE is caused by:

a. Bacteria

b. Virus

c. Virusoid

d. Prions

10. Storage food in fungi is:

a. Starch c. Proteins b. Glycogen and fat

d. None of the above

USTM/COE/R-01

2023/12

SET

B

Marks: 20 1×20=20

Full Marks: 70

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11. Who first described the different structural types of bacteria? b. Louis Pasteur a. Robert Koch d. Leuwenhoek c. Alexander Flaming 12. Sour taste in wine is due to: b. Sedimentation a. Saccharification d. None of the above c. Fermentation 13. Who termed virus as "contagiumvivumfluidum"? b. Martinus Beijerinck a. Louis Pasteur d. Leuwenhoek c. Robert Koch 14. The author of "Philosophia Botanica" was: b. Linnaeus a. Leuwenhoek d. Carl Woese c. Beijerinck 15. Monera consists of: b. Nucleoid a. Cell wall d. None of the above c. Both a and b 16. The first edition of Bergey's Manual of Systematic Bacteriology was published in: b. 1984 a. 1923 d. 1992 c. 1921 17. Histone proteins are present in: b. Plantae a. Bacteria d. Both b and c c. Animalia 18. Grape-like cluster is seen in: b. Streptococci a. Sarcina d. Tetrad c. Staphylococci 19. Who is the father of microscopy? b. Lister a. Leuwenhoek d. None of the above c. Beijerinck 20. Sub-Surface colonies are also observed in case of: b. Streak plate technique a. Spread plate techniques d. Both a and b c. Pour plate technique

## **Descriptive**

Time: 2 hr. 30 mins.

[ Answer question no.1 & any four (4) from the rest ] 1. Who introduced the binomial system of nomenclature? Describe the 1+6+3=10 rules of binomial nomenclature system. Write the demerits of five kingdom classification. 2. Define fluorescent substances with an example. Describe the 2+8=10 principle of fluorescent microscopy with a neat labelled diagram. Write short notes on: 5+5=10 a) Kingdom protista b) Viroids Write short notes on: 5+5=10 a) Louis Pasteur b) Robert Koch Briefly describe microbial interactions. With an example explain the 3+7=10 Predation. What do you mean by preservation of microbial culture? How we can 2+8=10 preserve microorganisms by Cryopreservation and Lyophilisation? Define rhizosphere effect. How rhizosphere microorganisms help in 2+5+3=10 the growth of a plant? Discuss insect-microbes-plants mutualism. Discuss the physical methods of sterilization. 10

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Marks: 50