

2023/21

**B.Sc. MICROBIOLOGY**  
**FIRST SEMESTER**  
**FUNDAMENTALS OF MICROBIOLOGY**  
**BMB-101 (IDMj)**  
[USE OMR FOR OBJECTIVE PART]

**SET**  
**B**

Duration: 3 hrs.

Full Marks: 70

( Objective )

Time: 30 mins.

Marks: 20

*Choose the correct answer from the following:*

*1 × 20 = 20*

1. Transmissible spongiform encephalopathy (TSE) is caused by:
  - a. Virus
  - b. Viroids
  - c. Virusoid
  - d. Prions
2. Dual mode of nutrition is observed in which kingdom?
  - a. Protista
  - b. Monera
  - c. Fungi
  - d. Algae
3. Exciter filter present in:
  - a. Bright field microscope
  - b. Darkfield microscope
  - c. Fluorescent microscope
  - d. SEM
4. Name the ionizing radiation from below.
  - a. UV
  - b. X-rays and gamma rays
  - c. Halogens
  - d. Ethylene oxide
5. Leaf surface means:
  - a. Rhizoplane
  - b. Rhizosphere
  - c. Phyllosphere
  - d. Phylloplane
6. Which one is unidirectional type of relationship?
  - a. Commensalism
  - b. Ammensalism
  - c. Both a and b
  - d. Mutualism
7. The principle of autoclave is/are:
  - a. Dry heat sterilisation
  - b. Moist heat sterilisation
  - c. Steam under pressure
  - d. Both b and c
8. Rhizopus oligosporus is an starter culture for:
  - a. Soy sauce
  - b. Tempeh
  - c. Cheese
  - d. Curd
9. Cold pack system is a type of:
  - a. Pasteurization
  - b. Canning
  - c. Freezing
  - d. Chilling
10. Which is one of a primary source in food spoilage?
  - a. Air
  - b. Temperature
  - c. PH
  - d. Moisture content

11. Network of hyphae is called?
  - a. Hyphas
  - b. Fruiting bodies
  - c. Thallus
  - d. Mycelium
12. Domain archea have..... in their membrane.
  - a. Isoprenoid glycerol diether
  - b. Diacyl glycerol disaster
  - c. Glycerol fatty acyl disaster
  - d. None of the above
13. Magnification is:
  - a. Smallest distances between two points
  - b. Measurement of size
  - c. Clarity
  - d. None of the above
14. Heat sterilization at temperature 100°C is called:
  - a. Pasteurization
  - b. Tyndallisation
  - c. Pascalization
  - d. Autoclaving
15. RS ratio<1 indicates:
  - a. No rhizosphere effect
  - b. Inhibition of activity in the rhizosphere
  - c. Selective stimulation
  - d. None of the above
16. Which is not an obligatory type of relationship?
  - a. Mutualism
  - b. Cooperation
  - c. Commensalism
  - d. Both b and c
17. Buttermilk like flavor in citrus juices is produced by:
  - a. *Lactobacilli*
  - b. *Colletotrichum*
  - c. *Serratia*
  - d. *Chromobacterium*
18. In which preservation technique microbes are preserved on liquid nitrogen?
  - a. Lyophilisation
  - b. Chilling
  - c. Cryopreservation
  - d. Paraffin method
19. Pasteurization of milk at 137.8°C for 2 seconds is called:
  - a. Ultra-pasteurization
  - b. HTST
  - c. LTH
  - d. Vat pasteurization
20. At PH 4, the microorganisms in food spoilage are known as:
  - a. Barophile
  - b. Acidophile
  - c. Alkaliphile
  - d. Neutrophile

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**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

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

1. Differentiate between Light microscope and Electron microscope. Discuss the principle of Fluorescent microscopy with Schematic diagram. 5+5=10
2. Write a short note on the following: 5+5=10
  - a) Robert Koch
  - b) Fungi
3. Who proposed the Binomial system of classification? Discuss the rules of Binomial system of classification. Write a note on three domain system of classification. 1+5+4=10
4. Write short notes on: 5+5=10
  - a) Lyophilization
  - b) Rhizosphere
5. Discuss the microbial interactions in the soil. 10
6. Write short notes on: 5+5=10
  - a) Bergey's manual
  - b) Sauerkraut
7. Write short notes on: 5+5=10
  - a) Gram's staining
  - b) Pour plate method
8. Write short note on: 5+5=10
  - a) Primary sources of food deterioration
  - b) Canning

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