

REV-01
MMB/04/09

2023/06

**M.Sc. MICROBIOLOGY
FOURTH SEMESTER
FOOD MICROBIOLOGY & FERMENTATION TECHNOLOGY
MMB-402 C**

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

(Objective)

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- Water belongs to..... of contamination.
 - Secondary source
 - Primary source
 - Tertiary source
 - None of the above
- Rhizoplane is the surface related to:
 - Leaf
 - Stem
 - Root
 - Plant
- Which chemical is used to inhibit mold growth in bread?
 - Benzoic acid
 - Sorbic acid
 - Nitrates
 - Lactic acid
- Temperature and time required for Vat pasteurization is:
 - 62.8 °C for 30 minutes
 - 62.8 °C for 2 minutes
 - 52.8 °C for 30 minutes
 - 71.7 °C for 30 minutes
- Clostridium botulinum is:
 - gram +ve, rods
 - gram -ve, rods
 - gram +ve, cocci
 - gram +ve, aerobic
- Emetic syndrome includes:
 - Diarrhea
 - Vomiting
 - Bloody urine
 - None of the above
- Downy mildew is caused by:
 - Erwinia
 - Phytophthora
 - Bacillus
 - Xanthomonas
- The maximum limit for moisture content for growth of microbes is almost:
 - 0
 - <1
 - >1
 - None of the above
- An example of Non-ionizing radiation is:
 - UV ray
 - X ray
 - Γ ray
 - Both b and c
- B. Stearothermophilus is related to:
 - Flat sour spoilage
 - Sulfide spoilage
 - Putrefactive anaerobic spoilage
 - TA spoilage

11. Buttermilk like flavor in citrus fruits is caused by:
 - a. E.coli
 - b. Aspergillus
 - c. Lactobacilli and Leuconostoc
 - d. None of the above
12. Which of the following factor of food is considered as intrinsic factor from food safety point of view?
 - a. Water activity (a_w)
 - b. Relative humidity
 - c. Temperature
 - d. Vapour pressure
13. Drying can be done through:
 - a. Evaporation of water from the food
 - b. Lowering A_w value
 - c. Addition of salt and sugar
 - d. All of the above
14. Which of the following is a factor that affects the storage stability of food?
 - a. Type of raw material used
 - b. Quality of raw material used
 - c. Method/effectiveness of packaging
 - d. All of the above
15. Which one of the following is not a chemical preservative found in food?
 - a. Sulphur dioxide
 - b. Sorbic acid
 - c. Sodium nitrate
 - d. Carbon dioxide
16. Production of..... occurs in the fermentation of grains.
 - a. Must
 - b. Brine
 - c. Lactic acid
 - d. Carbon dioxide
17. The Primary Milk carbohydrate is:
 - a. Lactose
 - b. Sucrose
 - c. Arginin
 - d. Leucine
18. Agar-agar is used as:
 - a. Antibiotic
 - b. Stabilizer and thickener
 - c. Colouring agent
 - d. Nutrient supplement
19. Of the listed below products, which contains no dairy ingredients?
 - a. Casein
 - b. Whey
 - c. Custard
 - d. Sorbet
20. Acetic acid and lactic acid are used for.....
 - a. Curing meats
 - b. Preservation of color
 - c. Preservation of pickles
 - d. Inhibiting mold growth

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

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

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|----------------------------------------------------------------------------------------------------------|--------|
| 1. Define fermentation and explain its advantage in food preservation. | 10 |
| 2. Explain various intrinsic and extrinsic factors that affect growth and survival of microbes in foods. | 10 |
| 3. Write a short note on:
a) Frozen storage of foods
b) Canning | 5+5=10 |
| 4. Discuss the physical methods for preservation of foods. | 10 |
| 5. Write a note on botulism, its symptoms, treatment and preventive measures. | 10 |
| 6. Describe briefly the microbial spoilage of meat and meat products. | 10 |
| 7. Write a short note on Single cell protein. | 10 |
| 8. Describe the biochemical pathway in the production of ethanol. | 10 |

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