



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – M.Sc.(MB)-2024

Course Name – Food Microbiology

Course Code - MMB10201

(Semester I)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) State the name of the product that is produced by partial fermentation of green tea
 - a) Yogurt
 - b) Sauerkraut
 - c) Kombucha
 - d) Kefir
- (ii) Select the microbe which is applied for the blue cheese production
 - a) Streptococcus thermophilus
 - b) Lactobacillus bulgaricus
 - c) Penicillium roqueforti
 - d) Rhizopus stolonifer
- (iii) Choose the correct statement with respect to Fermentation
 - a) A process involving the mass culture of micro-organisms
 - b) It is a fast process
 - c) Fermented food products are always healthy
 - d) Oxygen is produced during fermentation
- (iv) Write the name of bacteria which is responsible for the fermentation of milk to form cheese is
 - a) Saccharomyces spp.
 - b) Lactobacillus spp.
 - c) Aspergillus spp.
 - d) Penicillium spp.
- (v) Write the statement that Bacteria and yeast can _____
 - a) Grow with or without air
 - b) Need humid/warm conditions to grow
 - c) Need more moisture than molds
 - d) All the mentioned statements can be used to fill the blanks
- (vi) Write a bacterial group which occurs in milk
 - a) Lactic acid bacteria
 - b) Coliform bacteria
 - c) Putrefaction bacteria
 - d) Carboxylic acid bacteria
- (vii) Select the Intrinsic factors for the microbial growth
 - a) pH
 - b) Moisture
 - c) Oxidation-Reduction Potential
 - d) All of these

(viii) Select a desired characteristic of the organism not to be used for industrial application?

- | | |
|--|--------------------------------|
| a) should produce less amount of product | b) should be readily available |
| c) should grow rapidly | d) should be nonpathogenic |

(ix) Choose the name that is the ideal cleaning material for removing milk stone from milking equipment surfaces is

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|---------------------|--------------|
| a) Acidic detergent | b) Phosphate |
| c) Surfactant | d) Chelate |

(x) Write the correct one which is true about fermentation involving gas production

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|---|--|
| a) The disadvantage of gas is less efficient energy wise as they've no preserving power in concentrations found in comparison with lactic acid. | b) Sugar molecules are altered to form acids, alcohols and carbon dioxide. |
| c) Sodium chloride is added as a substrate as a controlling influence. | d) All of the mentioned |

(xi) Select the method where microorganisms do not grow on the surface of the media

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|------------------------|-------------------------|
| a) Spread plate | b) Pour plate |
| c) Membrane filtration | d) Surface fermentation |

(xii) Conclude the correct one that will have higher bacteriostatic effect at a given pH

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|----------------|------------------|
| a) Acetic acid | b) Tartaric acid |
| c) Citric acid | d) Maleic acid |

(xiii) Sodium chloride plays as

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|---|--|
| a) antagonist at optimal concentrations | b) synergistically if added in excess of optimum level |
| c) Both the options | d) None of these |

(xiv) Bacterial cell grown on hydrocarbon wastes from the petroleum industry are a source of

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|------------------|-------------|
| a) carbohydrates | b) proteins |
| c) vitamins | d) fats |

(xv) Evaluate the method which is not used in isolation and screening of desired microorganisms

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|----------------------------|----------------------------|
| a) Crowded plate technique | b) Auxanographic technique |
| c) Auxanographic technique | d) Hanging Drop technique |

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Cereal is considered as good microbial substrate, Justify. (3)
3. Consider how does desiccation sterilize food? Select a food preserved by desiccation. (3)
4. Interpret the role of O₃ & H₂O₂ as sanitiser to prevent food borne infection. (3)
5. Explain the terms: a) Hazard analysis; b) Critical Control Point. (3)
6. Illustrate the term food intoxication. (3)

OR

Deduce the 3 types of spoilage seen in canned foods. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the major sources of microbial contamination of food. (5)
8. Summarize pickling preparation. Mention its uses. (5)
9. Explain the process of homogenization in dairy processing. Describe its significance in the production of milk and dairy products, and provide an example of a product that benefits from this process. (5)

10. Plan an overview of preventive measures for water-borne infections, focusing on sanitation (5)
and water treatment methods.
 11. Deduce the difference between yoghurt & buttermilk (5)
 12. Discuss about the role of Two antibiotics used in food preservation, Justify. (5)
- OR
- Write the drawback of antibiotics that used in food preservation, Justify. (5)

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