



# BRAINWARE UNIVERSITY

**Term End Examination 2023**  
**Programme – M.Sc.(MB)-2022**  
**Course Name – Food Microbiology**  
**Course Code - MMBE206**  
**( Semester II )**

**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) Plate count of bacteria in foods generally done the plating medium consisting of
- |   |   |
|---|---|
| a) peptone, yeast extract, glucose, sodium chloride, agar and distilled water | b) peptone, yeast extract, glucose, sodium chloride, agar and distilled water |
| c) peptone, glucose, sodium chloride, agar and distilled water                | d) peptone, yeast extract, glucose, sodium chloride and distilled water       |
- (ii) Trace that the milk streptococci form acetoin that gets spontaneously oxidized producing a flavorings agent (responsible for aroma of butter) that one is
- |                 |               |
|-----------------|---------------|
| a) acetone      | b) acetyl coA |
| c) butyric acid | d) diacetyl   |
- (iii) Consider,Statement 1: Botulism is more dangerous than Staphylococcus. Statement 2: Botulism is encountered by humans only if they've eaten the toxin. The organism in itself is no harm. Staphylococcus needs air and grows on warm food only.
- |                 |                |
|-----------------|----------------|
| a) True, False  | b) True, True  |
| c) False, False | d) False, True |
- (iv) Select the microorganism that produce Aflatoxin
- |             |             |
|-------------|-------------|
| a) Bacteria | b) Virus    |
| c) Fungi    | d) Nematode |
- (v) Tell Statement 1: Generation of lactose fermenting enzymes can occur in a few minutes. Statement 2: Microorganisms first attack
- |                        |                    |
|------------------------|--------------------|
| a) True, carbohydrates | b) True, fats      |
| c) False, proteins     | d) False, vitamins |
- (vi) Write the uropathogen which is a target for Lactobacillus vurvatus
- |                     |                     |
|---------------------|---------------------|
| a) Escherichia coli | b) Candida albicans |
|---------------------|---------------------|

- c) *Pseudomonas aeruginosa*    d) *Staphylococcus aureus*  
 (vii) The microbiological examination of coliform bacteria in foods usually use  
 a) MacConkey broth    b) violet Red Bile agar  
 c) eosine Methylene blue agar    d) all of these  
 (viii) Bacterial cell grown on hydrocarbon wastes from the petroleum industry are a source of  
 a) carbohydrates    b) proteins  
 c) vitamins    d) fats  
 (ix) Name the key microorganism for yogurt is  
 a) *Streptococcus thermophilus*    b) *Leuconostoc citrovorum*  
 c) *Lactobacillus acidophilus*    d) *Streptococcus lactis*  
 (x) Choose that responsible factor for food infection  
 a) Salmonellosis    b) Botulism  
 c) Staphylococcal intoxication    d) None of these  
 (xi) The botulism intoxication inferred by  
 a) an enterotoxin    b) neurotoxin  
 c) mycotoxin    d) all of these  
 (xii) Staphylococcal intoxication is deduced by the  
 a) *Staphylococcus aureus*    b) *S. cerevisiae*  
 c) *S. thermophilus*    d) none of these  
 (xiii) Name the organism where *Penicillium camemberti* is used for ripening of  
 a) roqueforti cheese    b) camembert cheese  
 c) all cheese    d) fruits  
 (xiv) The successful method for the treatment of botulism prior to appearance of botulism symptoms involve direction of  
 a) antibiotic    b) analgesic  
 c) antitoxin    d) antipyretic  
 (xv) Classify that the microorganism having high vitamin content is  
 a) bacteria    b) yeast  
 c) algae    d) protozoa

**Group-B**

(Short Answer Type Questions)

3 x 5=15

2. Define rancidity. Name a microorganism responsible for rancidity. (3)
3. Name 3 properties of *L.delbruckii bulgaricus* in yoghurt fermentation. (3)
4. Cite three identifying properties of salmonellae (3)
5. Analyze the role of LAB in Kefir formation (3)
6. Judge Probiotics as reducer of GI diseases (3)

**OR**

Consider two examples of non-nutritive sweeteners used in yoghurt

(3)

**Group-C**

(Long Answer Type Questions)

5 x 6=30

7. Describe the major sources of microbial contamination of food. (5)
8. What is the basis of host cell adhesion of *C. jejuni* (5)
9. Food borne intoxication usually take lesser time to initiate disease symptoms than food borne infections- Write with reason. (5)

- 10. What are the measures of typical CCP (5)
- 11. Consider the method of aseptic packaging. (5)
- 12. Explain the role of probiotics in cardiac diseases (5)

**OR**

Deduce the difference between yoghurt & buttermilk (5)

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