

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMESTER END THEORY EXAMINATION, B. Tech. (DT)**

Semester	: 2 <sup>nd</sup> (VI Dean)	Academic Year	: 2024-2025
Course No.	: DM-1202	Course Title	: Microbiology of Fluid Milk
Credits	: 1+1=2	Total Marks	: 40
Day & Date	: Tuesday; 05/08/2025	Time	: 2.00 hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
  - 2) Solve **Any Five** questions from **Section 'B'**.
  - 3) Draw neat and well labeled diagram wherever necessary.

**SECTION –‘A’**

Q. 1 Match the pairs (05)

**Column 'A'**

- i) Inflammation
- ii) Lysozyme
- iii) LPS
- iv) *Lactobacillus*
- v) Sweet Curdling

**Column 'B'**

- a) Enzyme
- b) Gram Positive
- c) Gram Negative
- d) *A. viscolactis*
- e) Mastitis

Q. 2 State whether True or False. If false, rewrite the statement after making necessary corrections in the underlined word(s) only, if necessary. (05)

- i) The time required to destroy 90% of viable organisms at specific temperature is called D value/decimal reduction time.
- ii) Summer mastitis is caused by *Streptococcus thermophiles*.
- iii) The growth of bacteria, yeast, and molds mainly causes food spoilage.
- iv) Spoilage bacteria produce a bad smell/taste and a poor look at the product.
- v) Ropiness, Gassiness, Sweet Curdling, and discoloration are examples of desirable/ normal fermentation.

Q. 3 Choose the most appropriate answer from the options given below. (05)

- i) An example of Pathogenic Bacteria?
  - a) *Listeria spp.*
  - b) *Lactobacillus spp.*
  - c) *Leuconostoc spp.*
  - d) *Lactococcus spp.*
- ii) The microorganisms that can survive pasteurization temperature are called .....
  - a) Mesophilic
  - b) Thermoduric
  - c) Psychrotrophs
  - d) Acidophiles
- iii) The sources of contamination in milk are .....
  - a) Udders
  - b) Milk handlers
  - c) Utensils
  - d) All of the above
- iv) The constituents increases during mastitis is .....
  - a) Lactose
  - b) Potassium
  - c) Fat
  - d) Sodium
- v) Iron-binding protein present in milk .....
  - a) Lactoglobulin
  - b) Globulin
  - c) Lactoferrin
  - d) Lactoperoxidase

(P.T.O.)

**SECTION –‘B’**

- Q. 4 What are the microbiological changes occurred in bulk refrigerated raw milk? (05)
- Q. 5 What is clean milk production? Write down the steps involved in clean milk production. (05)
- Q. 6 Write short notes on.
- A) Significance of psychrotrophs in milk. (2.5)
  - B) LP System (2.5)
- Q. 7
- A) Discuss in detail Zoonotic diseases. (2.5)
  - B) Add note on natural antimicrobial system in milk. (2.5)
- Q. 8
- A) Write the importance of non-thermal (pulsed-field) processing of milk. (02)
  - B) Differentiate between Food Infection and Food Intoxication. (02)
  - C) What is mean by Souring? (01)
- Q. 9 Define Mastitis. Write down the different types of mastitis based on symptoms. (05)
- Q. 10 Discuss in detail the microbiological aspect of UHT milk. (05)

\*\*\*\*\*