

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. Dairy Technology 2018-19

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| Semester | : II (V Dean) | Academic Year | : 2018-2019 |
| Course No. | : DM-202 | Course Title | : Microbiology of Fluid Milk |
| Credits | : 1+1=2 | Total Marks | : 50 |
| Day & Date | : Tuesday, 25.06.2019 | Time | : 11.00 to 13.00 Hrs |

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

SECTION - 'A'

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) Bactofugation removes mainly microflora producing
 - a) Spores
 - b) Capsules
 - c) Clumps
 - d) Chains
- ii) In order to assess the hygienic quality of larger equipments the method used is
 - a) Vacuum method
 - b) Rinse method
 - c) Adhesive agar method
 - d) Swab method
- iii) Aflatoxin B1 present in cattle feed if ingested by cattle is excreted in milk as
 - a) B2
 - b) G1
 - c) M1
 - d) G2
- iv) The proteinases of lactic acid bacteria are
 - a) Cell wall bound
 - b) Extra-cellular
 - c) Intra-cellular
 - d) Absent
- v) According to BIS, the MBRT for very good quality raw milk is
 - a) 5 and above
 - b) 3 and 4
 - c) 1 and 2
 - d) $\frac{1}{2}$ and below

B) Define the following. (05)

- i) Passive immunity
- ii) Clean milk production
- iii) Zoonotic disease
- iv) Phagocytosis
- v) Probiotics

Q. 2. A) Give reasons for the following. (05)

- i) Bacterial count of milk during pumping of raw milk.
- ii) Repasteurization of returned pasteurized milk (market milk) enriches the product with counts of thermodurics and thermophilics.
- iii) For enumeration of yeast and mold count, lactic acid is added to PDA to decrease the pH.
- iv) Dye reduction tests like MBRT and RRT are called indirect tests.
- v) COB test is considered as platform test for assessing the raw milk quality.

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) The first indicator bacteria considered for pasteurization of milk is *Coxiella burnetii*.
 - ii) According to FSSAI the *Listeria monocytogenes* count for pasteurized milk should be max. 10/ml.
 - iii) The ingredient used as solidifying agent in media is agar.
 - iv) Colostrum rich in immunoglobulin is fed to calf to induce active immunity.
 - v) The efficiency of pasteurization can be checked by alkaline phosphates test.

SECTION - 'B'

- Q. 3 A) Write the guidelines for clean milk production. (05)
B) Define mastitis milk. Give the overall classification of mastitis and its control measures. (05)
- Q. 4 A) Give the classification of naturally occurring antimicrobial substances present in milk. Explain any three of it. (05)
B) Write a note on the quality of water used for the milk production. (05)
- Q. 5 Write about the spoilages associated with milk. (05)
A) Souring (03)
B) Gelation in UHT milk (03)
C) Gassiness (04)
- Q. 6 A) Explain the sources of contamination that occur through the animal. (03)
B) Write the principle and procedure for MBRT test. (03)
C) Explain the detail microbiological aspects of thermal treatment of milk. (04)
- Q. 7 Enlist the direct and indirect methods of enumeration of different microorganisms in milk and briefly explain the procedure for any three of them. (10)
