

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.TECH. (D.T.) DEGREE COURSE 2018-19

Semester	: III (V Dean)	Academic Year	: 2018-2019
Course No.	: DT-301	Course Title	: Market Milk
Credits	: 3+1=4	Total Marks	: 50
Day & Date	: Saturday, 05/01/2019	Time	: 15.00 to 17.00 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) Which physical property of milk is used to detect adulteration of water in milk?
a) Boiling point of milk b) Melting point of milk
c) Freezing point of milk d) None of the above
- ii) As per FSSAI Buffalo milk in Maharashtra should contain % Fat and SNF.
a) 6.5/8.5 b) 6.0/9.0
c) 6.0/8.5 d) 6.5/9.0
- iii) In which form fat is present in milk?
a) True solution b) Colloidal
c) Emulsion d) None of the above
- iv) In bottle sterilization process, milk is usually sterilized at
a) 110 to 118 °C for 15-25 min b) 110 to 118 °C for 15-25 sec
c) 110 to 118 °F for 30 min d) 135 °C for 10 min
- v) Strength of iodophor solution as a sanitizing agent used to sanitize dairy equipment is
a) 5 ppm b) 10 ppm
c) 25 ppm d) 150 ppm

B) Explain the following terms. (05)

- i) Pasteurization
- ii) Difference between separator and clarifier.
- iii) D value
- iv) Q_{10} value
- v) Thermal death time

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

- i) PHE is advantageous over batch pasteurizer for pasteurization of milk.
- ii) Alkaline Phosphatase test is carried out for the pasteurized milk.
- iii) Milk freezes at temperatures slightly lower than water.
- iv) Copper and its alloys are not used for milk processing.
- v) Bactofugation removes 99% of bacterial but still there is need to pasteurize the milk.

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections in underline words. (05)
- i) Presence of mastitis milk is determined by Alizarin alcohol test.
 - ii) The specific gravity of skim milk is decreasing with the addition of cream in it.
 - iii) The milk appears turbid and opaque owing to light scattered by fat globules and casein micelles present in milk.
 - iv) The lactoperoxidase system can be used to preserve the milk.
 - v) Detergents are used to sanitize the milk processing plant.

SECTION – 'B'

- Q. 3. A) Discuss market milk industry in India. (05)
B) Explain the collection and transportation of milk. (05)
- Q. 4. A) What is lactoperoxidase system? (05)
B) Write down procedure for preparation of flavored milk with flow diagram. (05)
- Q. 5. A) State the importance of homogenization of milk. (05)
B) Write about different methods of thermal processing. (05)
- Q. 6. A) Write advantages of bactofugation. (03)
B) Write the different methods of milk chilling. (03)
C) Define sterilization and UHT. (04)
- Q. 7 Explain in detail aseptic packaging of milk. (10)
