

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMEISTER END THEORY EXAMINATION, B.TECH. (D.T.) Degree Course 2017-18**

Semester	: II (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DT-201	Course Title	: Market Milk
Credits	: 3+1=4	Total Marks	: 50
Day & Date	: Wednesday, 13.06.2018	Time	: 11.00 to 13.00 Hrs.

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

**SECTION - 'A'**

- Q. 1 A) Choose the most appropriate answer from the options given below. (05)
- i) The CIP circuit for cleaning of milk stone from heating equipments consists of:.....
    - a) Hot water – Alkali – Rinse
    - b) Hot water – Alkali - Rinse - Acid – Rinse
    - c) Hot water – Acid - Rinse - Alkali – Rinse
    - d) Rinse – Alkali - Acid – Rinse
  - ii) D-value refers to the time required in minutes to attain one log cycle reduction at a specified temperature in the .....
    - a) Total microbial count
    - b) Spores of vegetative cells
    - c) Enzymes
    - d) Vitamins
  - iii) Bactofugation permits .....
    - a) More than 99% reduction of spores
    - b) Less than 95% reduction
    - c) Less than 75% reduction
    - d) No reduction at all
  - iv) Which of the following need to be added to milk to activate LP system .....
    - a) Lactoperoxidase enzyme
    - b) Thiocyanate
    - c) Hydrogen peroxide
    - d) Hydrogen peroxide & Thiocyanate
  - v) Which of the following components is not responsible for typical flavor of fresh milk?
    - a) Casein
    - b) Acetaldehyde
    - c) Acetone
    - d) Formaldehyde
- B) Answer in one line. (05)
- i). Why viscosity of milk increases on homogenization?
  - ii) Name three factors to be considered in choice in equipment for cooling of milk.
  - iii) Enlist requirements of milk to be employed for sterilization.
  - iv) Enlist five theories of homogenization.
  - v) Factors to be considered in selection of transportation system of raw milk.
- Q. 2 A) Define the following. (05)
- i) Standardization
  - ii) Q10 value
  - iii) UHT
  - iv) Clarification
  - v) MBRT

(P.T.O.)

B) State "True or False", If False, rewrite the statement after making necessary corrections in the underlined word(s). (05)

- i) Toned milk is a Brain Child of Dr. V. Kurian.
- ii) About 50% of milk is utilized as fluid milk in India.
- iii) Viscosity of skim milk is not practically changed on homogenization.
- iv) Anand pattern is based on five tires system.
- v) In centrifugal separator cream is thrown towards the axis of rotation.

### SECTION – 'B'

- Q. 3 Describe the working of HTST pasteurizer. (06)
- Q. 4 Which method you would recommend for India, direct or indirect UHT? Why? (06)
- Q. 5 What is the status of market milk industry in India? (06)
- Q. 6
  - a) Write about the pre-processing steps of milk in dairy plant. (02)
  - b) Describe method of cleaning milk tanker. (02)
  - c) Platform test (02)
- Q. 7
  - a) Explain the seven principles of HACCP. (03)
  - b) Discuss the defects in UHT milk. (03)
- Q. 8 Discuss the manufacturing of following milk.
  - a) Flavoured milk (02)
  - b) Sterilized milk (02)
  - c) Recombined milk (02)
- Q. 9
  - a) Write down the advantages and disadvantages of homogenized milk. (02)
  - b) Explain the factors affecting homogenization efficiency. (04)

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