

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMESTER END THEORY EXAMINATION, B.TECH. (D.T.) DEGREE COURSE 2017-18**

Semester	: III (V Dean)	Academic Year	: 2017-2018
Course No.	: DT-301	Course Title	: Market Milk
Credits	: 3+1=4	Total Marks	: 50
Day & Date	: Tuesday, 09.01.2018	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) In milk production, which state of India rank first .....
  - a) Gujarat
  - b) Uttar Pradesh
  - c) Rajasthan
  - d) Bihar
- ii) At present per capita availability of milk (g/day) in our country is .....
  - a) 337
  - b) 320
  - c) 180
  - d) 290
- iii) The ideal temperature for efficient cream separation of milk is .....
  - a) 40 to 45 °C
  - b) 45 to 55 °C
  - c) about 30 °C
  - d) 50 to 60 °C
- iv) The casein to whey protein ratio in cow milk is .....
  - a) 50:50
  - b) 60:40
  - c) 80:20
  - d) 20:80
- v) According to FSSR, Fat and SNF contents of recombined milk are ..... respectively.
  - a) 3.0, 8.5
  - b) 3.0, 9.0
  - c) 4.5, 8.5
  - d) 1.5, 9.0

B) Explain the following terms. (05)

- i) UHT
- ii) Sterilized milk
- iii) Detergent
- iv) Sanitization
- v) CIP

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

- i) Aluminium cans shall not be cleaned with NaOH based cleaning solutions.
- ii) Alcohol test must be done before sterilization of milk.
- iii) Alkaline Phosphatase test is carried out for the pasteurized milk.
- iv) Homogenization of milk shall be done above 60°C.
- v) The colour of cow milk is yellow, while that of buffalo milk is white.

(P.T.O.)



- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) The specific gravity of milk decreases with the separation of cream from it.
  - ii) Tri-process separator machine is designed to clarify, separate and standardize the milk in a single unit.
  - iii) Rancid flavor in milk is occurred due to oxidation of calcium.
  - iv) The milk appears turbid and opaque owing to light scattered by lactose and minerals present in milk.
  - v) Full form of UHT is Uniform Heat Treatment.

**SECTION –‘B’**

- Q. 3. A) Enlighten in brief about HTST pasteurization of milk. (05)  
B) Write short note on Z value and Q10 value. (05)
- Q. 4 A) Differentiate the following.  
i) Recombined milk and reconstituted milk. (2.5)  
ii) Centrifugal separation and clarification. (2.5)  
B) Discuss procedure for preparation of sterilized flavored milk with all processing parameters. (05)
- Q. 5 A) Write in brief about different methods for pasteurization of milk. (03)  
B) Explain defects in UHT milk. (03)  
C) What is vacuum pasteurization and uperization. (04)
- Q. 6 Write a note on the following.  
A) Raw milk reception dock. (03)  
B) Bactofugation (03)  
C) Natural inhibitory substances present in milk. (04)
- Q. 7 Write a short note on different types of UHT processing units used in dairy. (10)

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