

PARUL UNIVERSITY
FACULTY OF AGRICULTURE
B. Tech. (Dairy Technology) Winter 2019 - 20 Examination

Semester: 3
Subject Code: 20104203
Subject Name: Market Milk

Date: 25/11/2019
Time: 10:30am to 12:30pm
Total Marks: 50

Instructions

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1**A) Fill in the blanks (Each of 0.5 marks) (05)**

- i) Boric acid is added to milk as
- ii) As per FSSAI rules, minimum solids not fat content (%) in double toned milk is
- iii) The titratable acidity of milk is expressed as.....
- iv) Cow milk fat appears yellow due to the presence of.....
- v) In HTST pasteurizer, plates are corrugated to get
- vi) Activation of LP system from the time of milking should be carried out within.....
- vii) In India, the refrigerated pasteurized milk usually gets spoiled due to the growth of.....
- viii) The pump used in milk homogenizer is
- ix) The alcohol test of raw milk is very useful as suitability for product manufacturing of
- x) The principal whey protein present in buffalo milk is

B) Multiple Choice Questions (Each of 0.5 Mark) (10)

- i) Milkoscan is based on principle
 A. Refraction B. Absorption C. Radiation D. Adsorption
- ii) Calculate price of milk per liter: milk having 8 % Fat and 9% SNF...(F-Rs 500/Kg, SNF-200)
 A. 48 B. 58 C. 68 D. 78
- iii) In CF separator, Disc interspaces
 A. 0.1mm B. 0.5mm C. 0.9mm D. 1.5mm
- iv) The curd tension of human milk is.....
 A. 0 B.1 C.3 D.4
- v) The following test is used for checking the efficiency of sterilization of milk.
 A. RR Test B. Turbidity Test C. MBRT D. Alkaline phosphates
- vi) When milk is offered for sale without indication of any class, standards applied are that of
 A. Cow milk B. Buffalo milk C. Standardized milk D. mixed milk
- vii) Isoelectric point pH of casein is
 A. 5.6 B. 6.6 C. 4.6 D. 6
- viii) Cold milk separators operate at milk temperature of about
 A 4-5°C B. 20-25°C C. 30-35°C D. 0-1°C
- ix) Sterilization of packaging film used for containing UHT cream can be done by use of:
 A. Hydrogen cyanide B. Hypochlorite solution
 C. Potassium permanganate D. Hydrogen peroxide
- x) UHT processing of cream is usually carried out at following conditions:
 A. 90-95°C/15 sec B. 145°C/3 sec
 C. 90-95°C/30 sec. D. 118°C/15 min
- xi) The following ingredient cannot be used for recombination purpose:
 A. Skim milk powder B. Table butter
 C. Anhydrous milk fat D. White butter
- xii) India's milk production increases at the rate of _____ % annually
 A. 2 B.4. C.6 D.8
- xiii) The time in minutes necessary at a specific temperature to reduce the number of organisms to 1/10 of the original value
 A. F-value B. D-value C. Z-value D. None of the above
- xiv) Following materials can be used for both cleaning as well as sanitization of dairy plant

- A. Chlorine compound B. Iodophore C. SHMP D. Washing soda
- xv) Q-fever is caused by
 A. *Listeria monocytogenes* B. *Pseudomonas* sp
 C. *Coxiella burnetti* D. *Salmonella* sp.
- xvi) The minimum legal standards for fat and SNF percentage of recombined milk in India is
 A. 2 and 8 B. 4.5 and 8.5 C. 3 and 8.5 D. 4 and 8.5
- xvii) The rate of separation of milk fat is determined by
 A. Boyle's law B. Stoke's law
 C. Reynolds's number D. None of the above
- xviii) The rpm of disc bowl in a cream separator is
 A. 5500 – 6000 B. 6000 – 7000
 C. 7000 – 8000 D. 10000 – 12000
- xix) The purpose of using Tri-purpose cream separator is
 A. Separation of milk B. Clarification of milk
 C. Standardization of milk D. All the above
- xx) Sterilization by milk into steam is called
 A. Injection B. Conduction C. Infusion D. Induction

Q.2 Define the following (Any five out of seven questions) (05)

- A) (1) Bactofugation
 (2) Clarification
 (3) Aseptic packaging
 (4) Reconstituted milk
 (5) Standardization
 (6) Q_{10} value
 (7) Thermization

B) Answer the following (Any five out of seven questions) (05)

- (1) Write a mechanism action of lactoferrin against bacterial count.
 (2) Why double axis method is more preferred?
 (3) What is the objective of platform test?
 (4) Give the formula for calculation of skimming efficiency of cream separator.
 (5) Enlist the five part of cream separator.
 (6) Enlist the material used for homogenizer valve.
 (7) What is rancid flavour defect of milk?

Q.3 Writes short notes (Any five out of six questions) (10)

- (1) What are the problems of milk procurement system?
 (2) What is the importance of chilling of milk?
 (3) Write the classification of UHT plant.
 (4) Give FSSAI standard for A. Skim milk B. Full cream milk
 (5) Differentiate bactofugate and clarifier.
 (6) State type of pricing system available for milk.

Q.4 Long Question ((Any three out of four questions) (15)

- (1) Discuss present status of Indian Dairy industry in India.
 (2) Define pasteurization, write its purpose & explain in detail pasteurization of milk (HTST) with flow diagram.
 (3) Write a notes on natural antimicrobial substance in milk.
 (4) Define homogenization & explain in detail various theories of homogenization.