

Roll No. _____

2019
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M.Tech. Food Technology
III Semester Examination 2019
Course Code: MFTC-303
Course Title: Technology of milk and milk products

Time: 3 hours

Max Marks: 75

Attempt all the questions. Marks are mentioned against each question

Q1. Briefly answer the following

(1x15)

- (a) Mention reagents used in phosphatase test.
- (b) Write FSSAI standards for toned milk.
- (c) Write any two advantages of Tetrapak.
- (d) Name the dairy products for which grade standards have been notified by AGMARK.
- (e) Is CMC an emulsifier or stabilizer? Mention respective function.
- (f) What is viscolised milk?
- (g) Define Pasta filata.
- (h) What is the use of Baume's hydrometer?
- (i) Processed cheese contains _____% fat content.
- (j) Feathering in hot coffee/tea, is caused due to _____.
- (k) Western counterpart of curd is called _____.
- (l) Sliminess in milk is caused by the organism _____.
- (m) _____ and _____ are naturally occurring antimicrobial substances in milk.
- (n) _____ can be defined as a heat treatment process which ensures the destruction of most heat resistance pathogen namely "*Mycobacterium tuberculosis*" without markedly affecting the physical and chemical properties of the milk.
- (o) Two axis pricing policy of milk is calculated by fixing predetermined rate for _____ and _____.

Q2. Answer any three of the following

(5x3)

- (a) What is the time-temperature combination for batch pasteurization? Draw the continuous milk pasteurizer and identify its various components.
- (b) Give flow diagram for preparation of sweetened condensed milk. What happens when condensed milk is stored at 0°C or below?
- (c) Explain various cleaning agents and methods used in a dairy plant.
- (d) Name the physical, chemical and microbiological tests performed in the laboratory to assess the quality of raw milk.
- (e) State Stoke's law and its relevance to cream separation.

Q3. Answer any three of the following:

(5X3)

- (a) Explain manufacturing of Cheddar cheese.

- (b) Describe the organoleptic, physico-chemical and reconstititional properties of dried milks.
- (c) Give the flow diagram for the manufacture of evaporated milk. Write in short, chemical/physical defects in evaporated milk.
- (d) Write the steps involved in manufacture of ghee by creamery butter method. Give its advantages and disadvantages.
- (e) Discuss various physico-chemical properties of milk.

Q4. Answer any three of the following (5x3)

- (a) Write in short traditional method for the preparation of chhana. Enlist 3 factors affecting quality of chhana.
- (b) Explain principles of butter making. Name important body and texture defects observed in butter.
- (c) Enlist properties of a good quality starter culture. Give the flow chart of manufacture of set Yoghurt.
- (d) Define Khoa as per FSSAI rules. Classify according to their fat/moisture content. State the reasons for burnt and oxidized flavour in khoa and khoa based sweets.
- (e) What do you understand by Instantization? Give main features of the process.

Q5. Write short notes on any three of the following: (5x3)

- (a) Different methods of atomization
 - (b) Neutralization of cream
 - (c) Weaning food
 - (d) Softy ice cream
 - (e) Homogenization of milk
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