

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B. Tech. (D.T.)

Semester	: III (V Dean)	Academic Year	: 2021-2022
Course No.	: DT - 304	Course Title	: Condensed and Dried Milks
Credits	: (3+1=4)	Total Marks	: 50
Day & Date	: Friday, 08/04/2022	Time	: 02 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) The fat percent in unsweetened condensed skim milk is
 - a) Not less than 5
 - b) Not more than 8
 - c) Not less than 9
 - d) Not more than 0.5
- ii) The cane sugar content in sweetened condensed skim milk is
 - a) Not less than 40
 - b) Not less than 15
 - c) Not more than 26
 - d) Not more than 40
- iii) The constituent plays an important role in successful control of texture of sweetened condensed milk is
 - a) Minerals
 - b) Milk sugar
 - c) Milk Fat
 - d) Milk proteins
- iv) During manufacture of SCM, the standardization of milk was done with respect to
 - a) Fat: casein
 - b) Citrate: phosphate
 - c) Fat: SNF
 - d) Casein: fat
- v) The place where the heat exchange will be takes place during the concentration of milk in single effect evaporator is
 - a) Vacuum pump
 - b) Calendria
 - c) Evaporator
 - d) Condenser

B) Define the following. (05)

- i) Baume hydrometer
- ii) Age thickening
- iii) Permeate
- iv) Atomizer
- v) Micro filtration

Q. 2 A) Match the following. (05)

Coloumn - 'A'

- i) Lecithination
- ii) Heat Sterilization
- iii) Roller dryer
- iv) Stabilizers
- v) Cyclone separator

Coloumn - 'B'

- a) John b. Meyenberg
- b) Fines
- c) Pilot Sterilization test
- d) Whole milk powder
- e) Thin film

- B) State whether True or False. If false, rewrite the statement after making necessary corrections in the underlined words. (05)
- i) Instantization refers to the process by which dried milk and milk products are made insoluble.
 - ii) Milk salts play an important part in influencing the physical state and physical stability of milk proteins.
 - iii) Copper oxidation in milk powders will not cause undesirable flavour in the final products.
 - iv) Heat stability test is must for milk during the manufacture of evaporated milk.
 - v) Ultra filtration process permeates only water from the milk.

SECTION –‘B’

- Q. 3 A) What do you understand by heat stability of milk? Briefly explain various factors which affect heat stability of condensed milk. (05)
- B) Briefly explain the manufacture of whole milk powder. (05)
- Q. 4 A) Write down the defects of dried milk along with its causes and prevention. (05)
- B) Briefly explain the manufacture of Infant milk food. (05)
- Q. 5 A) According to FSSR 2011, state the definition and composition of sweetened condensed milk and evaporated milk. (03)
- B) Briefly explain the status of condensed and dried milk industry in India and abroad. (03)
- C) Write in detail rewet process for the manufacturing of instant powder. (04)
- Q. 6 A) Write in detail the manufacturing process for sweetened condensed milk. (03)
- B) Explain the membrane process used in condensing process with advantages. (03)
- C) Enlist the FSSAI and BIS standards for infant milk food. (04)
- Q. 7 Explain in detail two stage drying system with neat diagram and state its advantages and disadvantages over single stage drying system. (10)
