

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. Dairy Technology 2018-19

Semester	: IV (New Syllabus)	Academic Year	: 2018-2019
Course No.	: DT-406	Course Title	: Condensed and Dried Milks
Credits	: 3+2=5	Total Marks	: 50
Day & Date	: Saturday, 29.06.2019	Time	: 15.00 to 17.00 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 wherever necessary.

SECTION - 'A'

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) The test which determines the heat stability as well as the pH of milk
 - a) Alcohol index test
 - b) Alcohol - Alizarin test
 - c) Alcohol test
 - d) Acidity test
- ii) The steam required by triple effect evaporator to evaporate 1 kg. of water from milk
 - a) 1.2 kg
 - b) 0.6 kg
 - c) 0.3 kg
 - d) 0.4 kg
- iii) Percentage usage of seed lactose in condensed milk is
 - a) 1.0-3.0 %
 - b) 0.01-0.03
 - c) 0.1-0.3
 - d) None of the above
- iv) Whey protein nitrogen content per gram of low heat skim milk powder should be
 - a) 6 mg.
 - b) 60 mg.
 - c) 0.6 mg
 - d) 0.06 mg.
- v) According to FSSR-2011, infant milk foods should contain moisture not more than
 - a) 4.5 %
 - b) 4 %
 - c) 5 %
 - d) 6 %

B) Do as directed. (05)

- i) Define Instantization.
- ii) Classify the drying system
- iii) Write the causes for Age-thickening defect in condensed and evaporated milk.
- iv) Elaborate ADML.
- v) Who is the father of milk condensing?

Q. 2 A) Answer the following in one sentence. (05)

- i) Write the formula for True density.
- ii) Write the formula for % SNF in cream.
- iii) Mention the types of evaporator based on position of heating tubes.
- iv) What is seeding?
- v) Write the objective of atomization.

(P.T.O.)

- B) Rewrite the statement after making necessary correction in underlined words, if necessary. (05)
- i) Age thickening in milk powders is due to absorption of moisture
 - ii) The seed lactose should be added to the batch in powdered form.
 - iii) Calcium sulfate is added to provide iron for blood formation in the preparation of infant food.
 - iv) Higher the pH, lower the heat stability of milk.
 - v) Inversion of the evaporated milk cans during storage will minimize fat separation.

SECTION – 'B'

- Q. 3 Explain the history and developments of dried milks. (06)
- Q. 4. With the help of flow diagram explain the manufacture of evaporated milk. (06)
- Q. 5 What is pilot sterilization test with respect to evaporated milk? Explain it in detail. (06)
- Q. 6
- A) Give heat classification of milk powders. (02)
 - B) Write a note on membrane concentration. (02)
 - C) What is mean by freeze drying? (02)
- Q. 7
- A) Explain the salt balance theory of heat stability of milk. (03)
 - B) Discuss the physico-chemical changes takes place during manufacture of condensed milk. (03)
- Q. 8 Write a short note on.
- A) Microbial quality of dried milks. (02)
 - B) Physical properties of dried milks. (02)
 - C) Infant foods (02)
- Q. 9
- A) Enlist the defect encountered in sweetened condensed milk. (02)
 - B) Write in detail procedure of malted food making. (04)
