

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

Semester	: IV (V Dean)	Academic Year	: 2018-2019
Course No.	: DC-405	Course Title	: Chemistry of Dairy Products
Credits	2+1=3	Total Marks	: 50
Day & Date	: Friday, 28.06.2019	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) Answer in one word / line. (05)

- i) TBA value is a measure of
- ii) Auto-oxidation is based on which mechanism?
- iii) Phase reversal theory of cream churning was given by which scientist?
- iv) RM value of *Ghee* is
- v) Name the compound responsible for fishiness defect in butter.

B) Choose the most appropriate answer from the options given below. (05)

- i) B.R reading of *Ghee* is
 - a) 40-43
 - b) 42-44
 - c) 41.5-45.0
 - d) 40-44
- ii) The ultimate brown product formed in browning reactions
 - a) Caramel
 - b) Melanoidin
 - c) HMF
 - d) Furosine
- iii) BHA in ghee is permitted at
 - a) 0.1%
 - b) 0.02%
 - c) 0.05%
 - d) 0.2%
- iv) Polenske value for *Ghee* is
 - a) 0.5-1
 - b) 2-3
 - c) 1-2
 - d) 3-4
- v) Physico-chemical constant of *Ghee* is
 - a) Rancidity
 - b) B.R reading
 - c) Colour
 - d) Viscosity

Q. 2 A) State True or False, If false rewrite the statement after making necessary corrections. (05)

- i) Fat is good for health.
- ii) Milk powder has very long shelf life.
- iii) B.R reading indicates adulteration.
- iv) Cotton tract *Ghee* is similar to normal *Ghee*.
- v) Homogenization is crucial for processing.

B) Define the following. (05)

- i) RM value
- ii) Bixin
- iii) Wettability
- iv) Microbial rennet
- v) Stokes law

SECTION –‘B’

- Q. 3 A) Define *Ghee*. Discuss the deteriorative changes in *Ghee*. (05)
 B) Enlist and discuss the major changes that occur during manufacture of *Dahi*. (05)
- Q. 4. A) Write down the FSSAI standards for ice cream. Discuss the role of stabilizer and emulsifier in ice-cream. (05)
 B) Enlist the physico-chemical and functional properties of dried milk. Discuss any two properties in details. (05)
- Q. 5 A) Describe the various physico-chemical changes in milk constituents during manufacturing of *Channa*. (03)
 B) Explain the mechanism of churning of butter. (03)
 C) Define cream. Discuss the factors affecting creaming efficiency. (04)
- Q. 6 A) Write a short note on structure of butter. (03)
 B) Describe the term age thickening and heat stability. (03)
 C) What is auto-oxidation? Discuss its mechanisms. (0)
- Q. 7 What are the various physico-chemical changes occurring during manufacturing and ripening of cheese. (10)
