

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B. TECH. (D.T.) DEGREE COURSE 2018-19

Semester	: III (New Syllabus)	Academic Year	: 2018-2019
Course No.	: DT-303	Course Title	: Fat Rich Dairy Products
Credits	: 3+1=4	Total Marks	: 50
Day & Date	: Monday, 07/01/219	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 optimum temperature for separation of cream
 - a) 30°C
 - b) 35°C
 - c) 45°C
 - d) 55°C
- ii) The maximum moisture content allowed in the Ghee as per FSSA is,
 - a) 0.1%
 - b) Not Allowed
 - c) 0.5%
 - d) 0.3%
- iii) As per FSSA, cream sold without any indication about milk fat content shall be treated as
 - a) Skim milk
 - b) High fat cream
 - c) Table cream
 - d) Sour cream
- iv) Tri-sodium phosphate is added @ 0.2% as a stabilizer in cream
 - a) Canned
 - b) Frozen
 - c) Whipped
 - d) Plastic
- v) The phase reversal theory of churning was proposed by
 - a) Fischer and Hooker
 - b) Rahn
 - c) King
 - d) Louis Pasteur

B) Explain or define the following. (05)

- i) Synthetic Cream
- ii) Overrun in Butter
- iii) Coffee Cream
- iv) Rotating Churns
- v) Granulation in ghee

Q. 2 A) Give reasons for the following. (05)

- i) Sour cream must be neutralized to make butter of good keeping quality.
- ii) Washing of butter grains is an important step in butter making.
- iii) Even though the cream is pasteurized, microorganisms are still carried over to the butter.
- iv) Pre-stratification method of ghee making is advantageous as compared to other methods.
- v) In a cream separator disc, the separation holes are provided towards the axis of rotation.

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Whipped cream is the fluid cream, reconstituted cream and/or recombined cream that is intended for whipping.
 - ii) Bacteriological quality of cream or skim milk separated by gravity method is low.
 - iii) The butter obtained by traditional process of churning dahi or malai as practiced at domestic levels is called Desi butter.
 - iv) As per BIS, the butter scoring 59 or less in a score card can be graded as good.
 - v) According to FSSR, fat spread may contain not more than 60% fat and less than 40% fat by weight.

SECTION –‘B’

- Q. 3. Describe in brief, the method of fat spread manufacturing with technical specification. (06)
- Q. 4. Discuss various method of fractionation of butter. (06)
- Q. 5. Explain theories of churning. (06)
- Q. 6. A) Write FSSA standards for Ghee. (02)
B) Margarine (02)
C) Granulation in ghee (02)
- Q. 7. A) Describe any three factors influencing the fat percentage of cream. (03)
B) Preservation of ghee (03)
- Q. 8. A) Describe the precautions to be taken care of for efficient working of open bowl separator. (02)
B) Differentiate centrifugal and gravity separation. (02)
C) Write causes of fat losses in butter milk. (02)
- Q. 9. A) Write a short note on "Cream separation by gravity method". (02)
B) Explain the merits and demerits of Margarine. (04)
