

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMESTER END THEORY EXAMINATION, B. Tech. Dairy Technology 2019-20**

Semester	: III (V Dean)	Academic Year	: 2019-2020
Course No.	: DT - 303	Course Title	: Fat Rich Dairy Products
Credits	: 2+1	Total Marks	: 50
Day & Date	: Thursday, 09.01.2020	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) Choose the most appropriate answer from the options given below. (05)
- Plastic cream contains ..... % fat.
    - 15%
    - 18%
    - 45%
    - 80%
  - Principal component of lime neutralizers is .....
    - Calcium
    - Sodium
    - Carbonate
    - Bicarbonate
  - The main object of cream ripening is to produce butter with higher ..... content.
    - Diacetyl
    - Lactic acid
    - Acetic acid
    - Soft fat
  - Churning is a process of conversion of emulsion from .....
    - Water-in-oil to oil-in-water
    - Oil-in-water to water-in-oil
    - Oil-in-fat to fat-in-oil
    - Water-in-serum to Serum-in-water
  - Ghee is also called as .....
    - Hydrogenated Fat
    - Fractionated Fat
    - Clarified fat
    - Unhydrogenated Fat
- B) Define the following. (05)
- Whipped cream
  - Cream screw IN
  - Ripening of cream
  - Table cream
  - Renovation Butter
- Q. 2 A) Match the following. (05)

**Column - 'A'**

- Butter
- Fat Hydrolysis
- Skim milk
- Pasteurization
- Salts

**Column - 'B'**

- Rancidity
- Complete neutralization
- Heat Stability
- 0.2% fat
- Crumbly

DT303 (2+1) V Dean

..2..

- B) State whether True or False. If false, rewrite the statement after making necessary corrections in the underlined words. (05)
- Homogenization of cream reduces the size of the fat globules by increasing in number.
  - Butter may contain minimum 20% fat.
  - Bacteriological quality of cream from gravity method is superior.
  - The lower the speed of the bowl, the higher the fat loss in skim milk.
  - Salting of butter is done before washing.

## SECTION –‘B’

- Q. 3. A) Briefly, explain the status of Fat Rich Dairy Products and write the FSSAI definition of cream. (05)
- B) Explain the principle of centrifugal cream separation and differentiate between gravity and centrifugal method of separation? (05)
- Q. 4. A) Explain neutralization of cream and describe the factors affecting fat percentage in cream. (05)
- B) Write in detail about manufacture of UHT cream along with flowchart. (05)
- Q. 5. A) Define butter and explain the manufacturing of butter along with flow chart. (03)
- B) Write in brief about theories of churning and defects in butter causes and prevention. (03)
- C) Define Butter oil. Write about packaging and storage of butter oil. (04)
- Q. 6. A) Define ghee and explain the term granulation in Ghee. (03)
- B) Explain the method of manufacture of ghee by creamery butter and pre-stratification method. (03)
- C) Explain in detail continuous butter making machine? (04)
- Q. 7. Classify the fat spreads. Explain the manufacture of margarine. (10)

\*\*\*\*\*