

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

Course No. : DT - 303

Course Title : **Fat Rich Dairy Products**

Total Marks : 50

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)

- i) Plastic cream contains % fat.
 - a) 15%
 - b) 18%
 - c) 45%
 - d) 80%
- ii) Principal component of lime neutralizers is
 - a) Calcium
 - b) Sodium
 - c) Carbonate
 - d) Bicarbonate
- iii) The main object of cream ripening is to produce butter with higher content.
 - a) Diacetyl
 - b) Lactic acid
 - c) Acetic acid
 - d) Soft fat
- iv) Churning is a process of conversion of emulsion from
 - a) Water-in-oil to oil-in-water
 - b) Oil-in-water to water-in-oil
 - c) Oil-in-fat to fat-in-oil
 - d) Water-in-serum to Serum-in-water
- v) Ghee is also called as
 - a) Hydrogenated Fat
 - b) Fractionated Fat
 - c) Clarified fat
 - d) Unhydrogenated Fat

B) Define the following. (05)

- i) Whipped cream
- ii) Cream screw IN
- iii) Ripening of cream
- iv) Table cream
- v) Renovation Butter

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

Column - 'A'

Column - 'B'

- | | |
|--------------------|----------------------------|
| i) Butter | a) Rancidity |
| ii) Fat Hydrolysis | b) Complete neutralization |
| iii) Skim milk | c) Heat Stability |
| iv) Pasteurization | d) 0.2% fat |
| v) Salts | e) Crumbly |

(P.T.O.)

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