

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. (Dairy Technology)

Semester	: III (V Dean)	Academic Year	: 2023-2024
Course No.	: DT-303	Course Title	: Fat Rich Dairy Products
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Thursday, 16/05/2024	Time	: 2.00 hrs.

- Note :** 1) All questions from **Section 'A'** are compulsory.
2) Solve **Any Three** questions from **Section 'B'**.
3) Draw neat and well-labelled diagrams wherever necessary.

SECTION – 'A'

- Q. 1 A) Define the following. (05)
- Polenske Number
 - Saponification Number
 - Clotted cream
 - Working of butter
 - White Butter
- B) Answer in one line. (05)
- Tri-process cream separator
 - Enlist types of cream according to FSSAI.
 - What is whipped cream?
 - Give the formula for Overrun of Butter.
 - Write the uses of Ghee residue.
- Q. 2 A) State whether True or False. If false, rewrite the statement after making necessary corrections in the underlined word. (05)
- The uniform distribution of salt and water, expel butter milk, make up water, to develop compactness of butter grains is called as standardization.
 - The feathering defect occurs in Clotted cream.
 - Addition of salt increases overrun in butter.
 - Fresh cream has lower acidity percentage than milk.
 - The higher the acidity of milk, the higher the efficiency of separation.
- B) Choose the most appropriate answer from the options given below. (05)
- For better granulation, ghee should be cool to °C
 - 10
 - 5
 - 28
 - 45
 - As per FSSR, Vitamin A content in Margarine is NLT per gram.
 - 30 IU
 - 25IU
 - 20IU
 - 35IU
 - According to AGMARK, FFA content in Special and General grade of ghee is and respectively.
 - Not more than 1.4% and Not more than 2.5%
 - 2.5 and 1.4%
 - 1.0 and 3.0%
 - None of these

(P.T.O.)

- iv) The permitted colour in butter is
- | | |
|-------------|-----------------|
| a) Annatto | b) Riboflavin |
| c) Diacetyl | d) All of these |
- v) Rancid flavor in butter is due to
- | | |
|-----------------------|-------------------|
| a) Protein hydrolysis | b) Fat hydrolysis |
| c) Lactose hydrolysis | d) None of these |

SECTION –‘B’

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|------|--|------|
| Q. 3 | A) Discuss the factors affecting on fat losses in skim milk. | (05) |
| | B) Discuss in details about the vacuum pasteurization. | (05) |
| Q. 4 | A) List out different types of butter. Describes the manufacturing process of table butter with all technical details. | (05) |
| | B) What are the factors responsible for undesirable changes in fat during storage? | (05) |
| Q. 5 | A) Describe in brief about the granulation and cooling of ghee. | (03) |
| | B) Describe the flavour defects encountered in ghee and give its causes and prevention. | (03) |
| | C) Give the Industrial production method of butter oil from cream with all technical details. | (04) |
| Q. 6 | A) Explain the whipping process of cream. | (03) |
| | B) Define butter as per FSSR and state the legal requirements for butter. | (03) |
| | C) Write a short note on packaging of ghee. | (04) |
| Q. 7 | Explain in details about the Continuous Butter Making process. | (10) |
