# ASSIGNMENT SET - I

**Department of Nutrition**

**Mugberia Gangadhar Mahavidyalaya**



# Subject- B.Voc. in Food Processing

# Semester-I

# Paper Code: BVFPS201T: DAIRY PRODUCTS PROCESSING TECHNOLOGY

# (Theory)

**Answer all the questions**

**UNIT-1**

**Cream**

**Questions**:

1. 8. What is separator slime? 2
2. 9. Define neutralization of cream? Write it’s objective? (1+2)
3. 10. How neutralization of cream is done? 5
4. 11. Write on pasteurization of cream? 5
5. 12. Write causes and prevention following defect of cream- 5
6. highly acid, oxidized, rancid, feathering in hot coffee, bitter, cheesy, coarse acid, fruity.

**BUTTER**

**Questions:**

1. 14.Write packaging of butter and it’s storage. (3+3)
2. 15. Define overrun of butter. 2
3. 16. Write Fisher and Hookers phase reversal theory, Rahn’s foam theory and King’s modern theories of churning. (3+3+3+)
4. 17. Write causes and prevention of following defects- fishy flavor, rancid, oxidized, stale, yeasty, crumbly, Greasy, gummy, leaky, mealy, sticky, gritty?

**Butter oil and ghee**

**Questions:**

1. Define butter oil. (2)
2. Write chemical composition of butter oil. (2)
3. Write following method of manufacture of butter oil a) Direct evaporation b) Decantation c) Centrifugal seperation followed by vacuum drying d) Directly from cream by de-emulsification and centrifugal separation (each 3)
4. Write the factors infulencing keeping quality of butteroil. (3)
5. What is the permitted level of BHA in ghee/butter and WMP/partly SMP? (2)
6. Write causes and prevention of following defects - Brownish colour, coarse texture, rancid flavour, oxidized/oily/ metalic/ tallowy flavour.

Question for ghee - follow in unit 5

**UNIT-2**

**Questions:**

1. What is the principle flavouring matter in vanilla? (1)
2. From which plant chocolate is obtained? (1)
3. Who invented chocolate flavour? (1)
4. Which flavour rank first and second most used in ice cream manufacture? (1)
5. What is the time and temperature combination for batch and HTST method pasteurization in icecream? (2)
6. Write a short note on - a. cooling and ageing b. freezing and mixing c. hardening
   * + 1. d. Overrun related to ice cream manufacture. (3 for each)
7. What is the temperature of hardening of ice cream? (1)
8. Write a short note on softy. (3)

**UNIT-3**

**CONDENSED MILK**

**Questions:**

1. Write various platform tests for intake milk. (4)
2. Write sugar ratio of condensed milk. (2)
3. Describe the process of milk condensing during condensed milk preparation . (5)
4. Describe different types of evaporator with figure. (8)
5. Write cooling and crystallization process in condensed milk preparation. (5)
6. Write seeding during condensed milk preparation. (5)
7. Write method to prepare evaporated milk. (8)
8. Write short note on Pilot sterilization test. (4)
9. Write purpose of Pilot sterilization test . (2)

**DRIED MILK**

**Questions:**

1. 35. What is the thickness of insulation in spray drier? (1)
2. 36. How milk dust is recovered in spray drying system? (6)
3. 37. What is the powder particle size in spray drying system? (1)
4. 38. Write short note on cyclone separator. (3)
5. 39. Write flow diagram of spray drying system. (2)
6. 40. Write flow diagram for method of manufacture by spray process of WMP and SMP. (3+3)
7. 41. Define instantization / agglomeration. (2)
8. 42.Write purpose of instantization / agglomeration. (2)
9. 43. Write factor influencing instantization. (2)
10. 44. Write the basic method for instantization (success factors). (3)
11. 45. Write major system /process for instantization (mention only name). (2)
12. 46. Write comparison of physico-chemical properties of drum dried and spray dried milk. (3)
13. 47. Classify density on the basis of dried milk. (3)
14. 48. Mention the bulk density of skim milk powder. (1)
15. 49. Write name of two free- flowing agent and its used percent. (2)
16. 50. Write short note on reconstitutability of milk powder. (6)
17. 51. Write various factors influence the rate of oxidation. (3)
18. 52. Write causes and prevention of following defects of dried milk -----
    1. Stale /Old flavour

b) Oxidized/Tallowy

c) Rancid

d) Burnt (each 2 marks)

e) Lumpy

f) Caked

g) Browning

**DRIED MILK PRODUCTS**

**Questions:**

1. Write PFA standard of malted milk food. (2)

2. Write malted milk foods method of manufacture. (4)

3. Write Indian standard specifications for infant milk food. (3)

4. Write method of manufacture of infant milk foods. (6)

UNIT-4

**Questions:**

1. Write cause and prevention of following defects in cheddar cheese:
   1. Acid cut
   2. Mottled
   3. Seamy
   4. Wavy
   5. Lopside
   6. Cracked rind
   7. Rind rot
   8. Mouldy surface
   9. Huffed
   10. Corky
   11. Crumbly
   12. Rubbery
   13. Greasy
   14. Mealy
   15. Pasty
   16. Weak
   17. Fish eyes/Yeast holes
   18. Pin holes/Gassy
   19. Mechanical holes
   20. Swiss holes/Short holes
   21. Bitter
   22. Mouldy

**UNIT-5**

**Questions:**

1. What should be the strength of coagulating solution for Chhana making? (1)

2. Write the cause and prevention for following defects in Chhana-

a. Flavor-Smoky, Sour, Rancid, Stale.

b. Body and texture-hard body, coarse texture.

c. Color and appearance- dry surface, visible dirt, mouldy surface. (Two each)

3. What do you mean by makkhan? (2)

4. Define saponification number, Iodine number, Reichert meissl number, polenske number (two each)

5. Write method of manufacture of ghee making by

a. Creamery butter method

b. Direct cream method

c. Pre- stratification method (three each)

5. Compare different methods of ghee making. (5)

6. Write short note on cooling and crystallization of ghee? (3)

7. What should be the storage temperature of ghee? (1)

8. What should be the permitted BHA lavel in ghee? (1)

9. How adulteration of ghee can be detected? (2)

10. Write full from of AGMARK. (1)

11. Write AGMARK standard for ghee. (3)

12. Write method manufacture of lassi making. (3)

13. How recovery of ghee can be done from ghee residue? (2)

14. Write uses of ghee residue. (2)

15. What do you mean by makkhan? (2)

**UNIT-6**

**Questions:**

1. Write short note on Butter milk. [3]
2. Write short note on whevit, yeast whey, plain condensed whey, sweetened condensed whey, whey protein concentrates and whey paste.[3+3+3+3+3+3]
3. What are the temperatures used to precipitate skim milk by lactic, sulfuric and hydrochloric acid? [2]
4. What is the maximum fat percentage in edible casein on dry basis? [1]
5. What is the lactose percentage in crude lactose? [1]
6. How lactose is prepared in industry? [4]
7. Write short note on ricotta cheese, mysost, Gjetost and Primost cheese. [3]
8. Write manufacturing process of Lassi. [4]
9. What is Ghee-residue? Write its uses. [2+5]
10. Write short note on casein hydrolysates, co-precipitate, sodium and calcium caseinates. [3+3+3+3]

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