# 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. Write the classification of cream? 3

2. Write formula for percentage SNF in cream? 2

3. Write formula for percentage of titratable acidity of cream? 2

4. Write Stocke’s law for gravity methods and centrifugal separation milk fat globules? ( 2+2 )

5. How different factors influence fat percentage of cream? 5

6. How different factors affect for fat loss in skim milk? 5

7. What is skimming efficiency? 2

8. What is separator slime? 2

9. Define neutralization of cream? Write it’s objective? (1+2)

10. How neutralization of cream is done? 5

11. Write on pasteurization of cream? 5

12. Write causes and prevention following defect of cream- 5

 highly acid, oxidized, rancid, feathering in hot coffee, bitter, cheesy, coarse acid, fruity.

**BUTTER**

**Questions:**

1. Write objects of salting during butter making. 2
2. Write method of salting. 3
3. Write purpose working procedure. (2+2)
4. Write packaging of butter and it’s storage. (3+3)
5. Define overrun of butter. 2
6. Write Fisher and Hookers phase reversal theory, Rahn’s foam theory and King’s modern theories of churning. (3+3+3+)
7. 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. Write the factors infulencing keeping quality of butteroil. (3)
2. What is the permitted level of BHA in ghee/butter and WMP/partly SMP? (2)
3. 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. From which plant vanilla flavour is obtained? (1)
2. Who invented vanilla? (1)
3. What is the principle flavouring matter in vanilla? (1)
4. rom which plant chocolate is obtained? (1)
5. Who invented chocolate flavour? (1)
6. Which flavour rank first and second most used in ice cream manufacture? (1)
7. What is the time and temperature combination for batch and HTST method pasteurization in icecream? (2)
8. Write a short note on - a. cooling and ageing b. freezing and mixing c. hardening

 d. Overrun related to ice cream manufacture. (3 for each)

**UNIT-3**

**CONDENSED MILK**

**Questions:**

1. Write sugar ratio of condensed milk. (2)
2. Describe the process of milk condensing during condensed milk preparation . (5)
3. Describe different types of evaporator with figure. (8)
4. Write cooling and crystallization process in condensed milk preparation. (5)
5. Write seeding during condensed milk preparation. (5)

**DRIED MILK**

**Questions:**

1. What is the name of knife which removes milk powder from drum dryer? (1)
2. Write flow diagram of drum drying system. (2)
3. ﻿ Write principle of spray drying system. (2)
4. Write advantages of spray drying system. (2)
5. Write disadvantages of spray drying system. (2)
6. Write classification of spray driers. (3)
7. Write different methods for milk automizing system. (6)
8. What is the pressure used in pressure spray atomizing? (1)
9. What is the diameter orifice in pressure spray atomizing? (1)
10. In which revolution speed the atomizing device rotate? (1)
11. What is the inlet and outlet temperature of air in spray drying system? (2)
12. What is the relative humidity of drying air in spray drying system? (1)
13. Mention air velocity, air residence time and active evaporation time in spray drying system. (3)
14. What is the thickness of insulation in spray drier? (1)
15. How milk dust is recovered in spray drying system? (6)
16. What is the powder particle size in spray drying system? (1)
17. Write short note on cyclone separator. (3)
18. Write flow diagram of spray drying system. (2)
19. Write flow diagram for method of manufacture by spray process of WMP and SMP. (3+3)

**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. How moisture can be controlled in cheddar cheese making? 3
2. Define curing/ripening of cheese. 2
3. Write difference between cold curing and warm curing. 2
4. Write changes during ripening of cheddar cheese. 3
5. How ripening can be measured? 3
6. Which factors affect the rate of cheese ripening? 3
7. Write role of lactic acid in cheese making and ripening. 2
8. What is the freezing point of cheddar cheese? 1
9. What is the fat percentage of cottage cheese? 1
10. Write flow diagram of cottage cheese manufacture, with mentioning all technical specification. 4
11. Differentiate process cheese, process food, process cheese spread. 2
12. What is the advantage of processed cheese? 3
13. How processed cheese is prepared? 5
14. What is the role of emulsifier during process cheese manufacture? 2
15. Why process cheese spread is popular in India? 2
16. Write method of manufacture for Swiss cheese and mozzarella cheese. 5+5

**UNIT-5**

**Questions:**

1. 14. Write method of preparation for Srikhand. (4)
2. 15.. What should be the weight and temperature of coagulation of milk for desirable body and texture in Chhana? (2)

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

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

Flavor-Smoky, Sour, Rancid, Stale.

Body and texture-hard body, coarse texture.

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

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

1. Define saponification number, Iodine number, Reichert meissl number, polenske number (two each)
2. Write method of manufacture of ghee making by

Creamery butter method

Direct cream method

Pre- stratification method (three each)

**UNIT-6**

**Questions:**

1. Write defects in casein, their causes and prevention. [3]
2. Write uses of casein.[3]
3. Write Indian standard specification for edible casein. [2]
4. Write short note on Butter milk. [3]
5. 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]
6. What are the temperatures used to precipitate skim milk by lactic, sulfuric and hydrochloric acid? [2]

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