



**Please answer the following:-**

**I- First question (6 marks) (ILOs: a4,a6,a7, a9,b1 to b4)**

**Give reason(s) of the following:-**

- 1- The air cell of eggs enlarged during aging. (0.5 mark)
- 2- In freshly laid eggs the yolk occupies a central position. (0.5 mark)
- 3- During processing of processed cheeses emulsifier should be added. (0.5 mark)
- 4- We use heat treated milk for manufacturing hard cheeses. (1 mark)
- 5- Egg yolk is more nutritious than egg white. (1 mark)
- 6- Table eggs should be not washed? (0.5 mark)
- 7- Some peoples feel headaches, nausea, cardiac palpitations, and increased or decreased blood pressure after eating hard cheeses. (0.5 mark)
- 8- Starters are used for manufacturing some types of cheeses. (1 mark)
- 9- Ripened cheeses are more palatable and nutritious than fresh cheeses. (0.5 mark)

**II- Second question (6.5 marks) (ILOs:a4,a5,a6,a7,b1to b4)**

**1- What will happen if:** (3 marks/ 0.5 mark each)

- a-Slow cooling after condensation during condensed milk manufacturing.
- b- Using raw milk with high lipase enzyme in the manufacturing of evaporated milk and milk powder.
- c-Using raw milk with abnormal high albumin and globulin content in manufacturing of evaporated milk.
- d- Inefficient pasteurization of milk used for manufacturing of milk powder.
- e-Milk powder not subjected to agglomeration during manufacturing.
- f-Consumption of contaminated food with bacteria produced toxin whilst they are growing and multiplying in food.

**2- Enumerate** (CCP1) during manufacturing of milk powder and evaporated milk products. (1 mark)

**3- Differentiate (in a table)** between *S. aureus* and *C. botulinum* food poisoning cases. (2.5 marks)

**III- Third question (6.5 marks) (ILOs: a4,a6,a7,a8,b1to b4)**

**A)- Write brief account on the following:-** (4 marks/one mark each)

1. Sandiness of ice cream.
2. High effective probiotics supplement.
3. Reichert Meissel number and Polenske number differentiate between butter fat and coconut oil.
4. Impacts of mastitis on cheese manufacture.



**B) Choose the correct answer:-**

**(2.5 marks/0.5 mark each)**

- 1- .....improve whipping quality of ice cream mix & produce smooth dry texture.  
a) Stabilizers                      b) Emulsifiers                      c) milk solid not fat
- 2- Acid value and acid degree measure ..... present in fat or oil.  
a) free fatty acids                      b) saturated fatty acids                      c) volatile fatty acids
- 3- CMT gives 3 positive results when somatic cells count in milk is...../ml or more.  
a)  $5 \times 10^3$                       b)  $5 \times 10^4$                       c)  $5 \times 10^5$                       d)  $5 \times 10^6$
- 4- In 'short-set' method for yoghurt manufacture, the starter culture is added to..... (v/v) to milk.  
a) 0.2%                      b) 2%                      c) 5%                      d) 0.5%
- 5- Kostler number should be less than ..... in normal milk.  
a) 2                      b) 3                      c) 32                      d) non of previous answer

**IV- Fourth question (6 marks) (ILOs:a4,a6,a7,b1 to b4)**

**A- In table compare between**

**(4 marks, 2 marks each)**

- 1- Flash pasteurization and indirect UHT treatments (regarding aim, time/temp. applied, method of applying heat and survivor M.Os).
- 2- Butter, ghee and margarine (regarding definition, composition and factors affecting shelf life).

**B-Write the following statements after correcting the underlined word(s):**

**(2 marks, 0.5 mark each)**

- 1-Packaging is important to keep contaminants below dangerous levels.
- 2-Bitty cream (sweet curdling) is due to contamination by yeast.
- 3-Butter milk is water free milk fat used for manufacture of evaporated milk, ice cream, chocolate ....etc.
- 4-Permanent water hardness caused by Ca or Mg bicarbonate and can be precipitated by heat.

*With best wishes*

*Staff members of food control department*

*Head of department*

*Prof. Dr. Azza M.M. Deeb*