

Salahaddin University – Erbil

College of Agricultural Engineering Sciences

Department of Food Technology



Sub: - Dairy Microbiology

Stage: Third

Time: 2 hour

Final Examination / 1<sup>st</sup> Semester (2022- 2023)

**Q1- Numerate the following: (25 Marks)**

1. Environmental factors that influence microbial growth. (4 Marks)
2. Microorganisms have been categorized according to their optimal temperature for growth. (3 Marks)
3. Antimicrobial systems in milk. (6 Marks)
4. Methods for inhibition of psychrotrophs in milk. (9 Marks)
5. Metabolisms performed by starter culture. (6 Marks)

**Q2- Write the following: (25 Marks)**

1. The bacteria that are implicated in mastitis. (4 Marks)
2. Three mechanisms that spore forming bacteria affected on food safety and product quality. (6 Marks)
3. Desirable properties of Lactic Cultures. (6 Marks)
4. Classification of starter culture used in the dairy industry. (6 Marks)
5. Define Colostrum. (3 Marks)

**Q3- Completes the following: - (30 Marks)**

1. A number of molds have been associated with spoiled butter, including ....., ....., and.....
2. Ripened cream butter has traditionally been made by inoculating the ..... with pure or mixed .....

3. Churning involves agitation of the cream at low temperature, which..... from the aqueous phase of the cream to leave buttermilk.
4. Evaporated milk is sterilized in a three phase continuous system consisting of .....,..... and .....
5. .... process where the milk is initially preheated to 70 °C and subsequently heated to 140 °C for 0.54 seconds

**Q4- Answer the flowing: - (20 Marks)**

1. Define the Bacteriocin? (5 Marks)
2. Enumerate the processing steps of Cream? (5 Marks)
3. Enumerate the potential benefits of probiotics to be discussed will focus on those applicable to human health? (5 Marks)
4. What is the benefit of adding sugar to Sweetened condensed milk? (5 Marks)

*Signature*

**Assist.Prof.Dr. Khanzad K. Jarjees**

*Signature*

**Assist.Prof. Dr. Payman A. Kareem**