



FACULTY	AGRICULTURE , ENGINEERING AND NATURAL SCIENCES		
SCHOOL	AGRICULTURE AND FISHERIES SCIENCES		
DEPARTMENT	FOOD SCIENCE AND SYSTEMS		
SUBJECT	DAIRY SCIENCE AND TECHNOLOGY		
SUBJECT CODE	AFST 3881		
DATE	JUNE 2024		
DURATION	3 HOURS	MARKS	100

SECOND OPPORTUNITY EXAMINATION

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This question paper consists of **two (2)** pages excluding this front page

Instructions

- Answer all **four (4)** questions
- Calculators are allowed

QUESTION 1

Briefly discuss or outline the following:

- a) Platform tests for rejecting or accepting milk. [5]
- b) The composition of milk proteins. [5]
- c) Inhibition of milk let-down. [5]
- d) The effect of heat on lactose. [5]
- e) The Lactoperoxidase system. [5]
- f) Hygienic milk production. [5]

QUESTION 2

- a) Discuss how the internal anatomy of the udder aids in milk synthesis to secretion. [10]
- b) With the aid of well labelled graph, briefly discuss the changes in the milk components during the different stages of lactation. [10]
- c) Describe five (5) hygienic tests carried out on milk. [10]

QUESTION 3

- a) Describe the composition and functions of the different cleaning detergents used the CIP method for a dairy processing facility. [6]
- b) Briefly explain how UHT milk is processed by direct method and compare it to pasteurised milk. [13]
- c) Briefly discuss three (3) types of sources of pathogenic microorganisms of concern in milk and milk products. For each source state a specific pathogen. [6]

QUESTION 4

- a) Calculate the amounts of whole milk with 5% fat and skimmed milk with 0.02% fat content needed to produce 2500 kg of standardised milk with 3.2% fat. [5]
- b) Standardised cream (700 kg) testing 30% BF from high acid cream (0.35% lactic acid) needs to be neutralised by NaHCO_3 to 0.1% lactic acid. Calculate the

amount of NaHCO_3 required to neutralise the acid to 0.1%.

[5]

c) Discuss the function of any two (2) additives used in cheese making.

[5]

END OF EXAMINATION