



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN FOOD TECHNOLOGY AND QUALITY ASSURANCE

BSFQ 12S

AFS 4307: DAIRY TECHNOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

MARCH 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **FIVE** questions

Answer question **ONE** (compulsory) and any other **THREE** questions

Question ONE

- State the important of phosphates enzyme in milk processing (2marks)
- State the advantages of homogenization on the physical structure of milk (4marks)
- List the problems caused by dispersed air in milk (5marks)
- Discuss the importance of starter culture in cheese manufacture (6marks)
- Describe UHT as a thermal treatment of milk (6marks)
- Determine the efficiency of a centrifugal separator for milk given
· Particle diameter = 3mm

- Particle density = 0.98g/cm^3
- Density of continuous phase = 1.028g/cm^3
- Viscosity of continuous phase = $1.42 \times 10^{-3}\text{Kg/mls}$.
- Gravitational attraction = 9.81mls^2
- Rotating velocity = 5400 rpm
- Radius = 0.2m

(7marks)

Question TWO

- a) Define the term ‘Starter culture’ **(2marks)**
- b) Outline the process for production of starter culture for fermented dairy products

(18marks)

Question THREE

- a) Explain how microbiological quality of cheese milk is improved **(5marks)**
- b) Describe the following classes of cheese
- (i) Soft cheese **(5marks)**
- (ii) Hard cheese **(10marks)**

Question FOUR

Describe the following types of milk drying processes.

- (i) Spray drying
(12marks)
- (ii) Roller drying
(8marks)

Question FIVE

With the aid of a block diagram, illustrate the processing steps for set type; stirred type; and

drink type yoghurt

(20marks)