



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN FOOD TECHNOLOGY AND QUALITY ASSURANCE

AFS 2310: DAIRY TECHNOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2 HOURS

DATE: Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a) Define the following terms
 - i. Milk skimming (2 marks)
 - ii. Milk homogenization (2 marks)
- b) Explain how milking process affects milk composition (2 marks)
- c) State **Five** reasons why quality control tests should be carried out on fluid milk (5 marks)
- d) Describe the nutritional importance of milk lipids (5 marks)
- e) Describe how the following milk tests are conducted
 - i. Lactometer test (3marks)
 - ii. Phosphatase test (3marks)
- f) Differentiate between Holders process pasteurization and Flash pasteurization (4marks)
- g) Given 1000kg of milk with 5% butterfat content and cream with 30% butterfat content, you are required to produce yoghurt at 2% butterfat content. Calculate weight of the cream required to adjust the butterfat content. (4marks)

Question TWO

Describe the nutritional importance of milk under the following

- i. Milk proteins (6marks)
- ii. Lactose (4marks)
- iii. Milk vitamins (5marks)

Question THREE

- a) State the objectives of milk pasteurization (4marks)
- b) State **One** primary aim for milk homogenization (1mark)
- c) Explain the **Two** methods for manufacture of dried milk (10marks)

Question FOUR

Describe the processing stages of butter manufacture (15marks)

Question FIVE

- a) List the starter culture used in sour cream manufacture (2marks)
- b) Explain the process of sour cream manufacture (6marks)
- c) State **Six** types of cheese (4marks)
- d) Briefly describe **ANY Three** methods that can be used to adjust milk with a high butterfat content during milk standardization (3marks)