

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE AWARD OF
CERTIFICATE IN ANIMAL HEALTH SCIENCE**

DATM 00241: DAIRY TECHNOLOGY & MANAGEMENT

STREAMS: CERT. AGHE

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 18/04/2018

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- **Answer all questions in section A and any other two in section B.**

SECTION A (40 MARKS)

Question one

- (a) Explain the following terms as commonly used in dairy technology. (5 marks)
- (i) Standardization (1 mark)
 - (ii) Pasteurization (1 mark)
 - (iii) Fractionation (1 mark)
 - (iv) Fouling (1 mark)
 - (v) Solid non fat solids (1 mark)
- (b) Describe the effects of heating the milk using a heat exchanger pasteurizer. (5 marks)

Question two

- (a) Briefly describe milk composition and its applicability in dairy industry. (5 marks)
- (b) State SIX characteristics of a starter culture. (3 marks)
- (c) Explain the key differences between butter and ghee. (2 marks)

Question three

- (a) Explain any FOUR factors that affect milk compositing. (4 marks)
- (b) Outline different types of cheese that are produced in the dairy industry. (4 marks)
- (c) Explain reasons why farmer should be advised to cool milk immediately after milking. (2 marks)

Question four

- (a) Briefly describe the production process of ghee. (5 marks)
- (b) How do you ensure that the milk produced at farm level has high quality? (5 marks)

SECTION B (30 MARKS)

Question five (15 marks)

- (a) Describe briefly how you can produce whole milk powder. (7 marks)
- (b) Describe the differences between condensed and evaporated milk. (8 marks)

Question six (15 marks)

- (a) Describe the production of cheddar cheese in a dairy industry. (7 marks)
- (b) Discuss the process production of vanilla yoghurt. (8 marks)

Question seven (15 marks)

- (a) Discuss the various wastes generated in the dairy industry and how they can be treated. (6 marks)
 - (b) Explain the application of HACCP in any dairy industry. (9 marks)
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