



**MERU UNIVERSITY OF SCIENCE & TECHNOLOGY**

*Foundation of innovations*

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examination 2016/2017**

**THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY AND BACHELOR OF SCIENCE IN FOOD SCIENCE AND MANAGEMENT**

**AFT 3355: DAIRY TECHNOLOGY**

**DATE: JUNE 2017**

**TIME: 2 HOURS**

**INSTRUCTIONS:** Answer question **one** and any other **two** questions.

**QUESTION ONE (30 MARKS)**

- a) Define the following terms commonly used in dairy technology. (5 Marks)
- i) Adulteration
  - ii) Creaming
  - iii) Starter culture
  - iv) Fouling
  - v) Homogenization
- b) Briefly explain factors that affect the rate of fouling in milk during pasteurization. (5 Marks)
- c)
- i) Briefly describe the precautions that should be put into considerations when processing milk powder. (2 Marks)
  - ii) State eight characteristics of starter culture. (4 Marks)
  - iii) Explain the key difference between yoghurt and ‘mala’. (4 Marks)
- d)
- i) List any four intergradient in the manufacturing of ice cream and their roles. (2Marks)

- ii) Briefly describe the principle behind cheese production. (2 Marks)
- iii) Explain the differences between condensed milk and evaporated milk. (3 Marks)
- iv) Explain four importance of milk packaging in dairy industry. Justify with examples. (3 Marks)

**QUESTION TWO (20 MARKS)**

- a) Discuss different ways which whey can be processed to produce various products in cheese industry. (12 Marks)
- b) Assume you are interested in production of chocolate ice-cream; briefly explain how you can go about it in its production. (8 Marks)

**QUESTION THREE (20 MARKS)**

- a) Discuss in detail the production of cheddar cheese in a dairy industry. (10 Marks)
- b) Explain the common ingredients used in production of vanilla yoghurt and their roles. (10 Marks)

**QUESTION FOUR (20 MARKS)**

Write short notes of the following (4 Marks each)

- a) Condensed milk production
- b) Dairy affluent
- c) Lactose
- d) Skim milk powder production
- e) Ghee production