



MERU UNIVERSITY OF SCIENCE & TECHNOLOGY
Foundation of innovations

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O Box 972-60200 –Meru-Kenya.

Tel: 020-2069349, 061-2309217, 064-30320 Cell phone: +254 712524293, +254 789151411

Fax: 064-30321

Website: www.must.ac.ke Email: info@must.ac.ke

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 3351: CEREAL TECHNOLOGY

DATE: JUNE 2017

TIME: 2 HOURS

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

QUESTION ONE (30 MARKS)

- a) Differentiate between bread making flour and biscuit making flour. (2 marks)
- b) Explain the aim of bleaching wheat flour and list at least four chemicals used in flour bleaching. (5 marks)
- c) Explain the changes that occur in cakes during the baking process. (3 marks)
- d) Define staling as used in the baking industry and explain how it can be retarded. (4 marks)
- e) Explain the straight dough method used in bread manufacturing. (3 marks)
- f) List four major ingredients in bread baking and explain their functions (8 marks)
- g) Semolina for pasta products manufacture is closely graded into large number of fractions each with a narrow particle size range, explain this statement. (5 marks)

QUESTION TWO (20 MARKS)

- a) Brabender Farinograph curves determines the flour mixing /processing condition. Using a graph explain the statement. (10 marks)
- b) Discuss the changes/reactions occurring in the proofed dough during the baking process. (10 marks)

QUESTION THREE (20 MARKS)

- a) Briefly discuss the main anti-nutritive factor found in cereal grains and explain how it can be eliminated. (4 marks)
- b) Describe the enzymatic hydrolysis of starch in the manufacturing of sweeteners clearly explaining the roles of various enzymes. (16 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the instrumental method that can be used to monitor the alpha-amylase activity in wheat flour, explain the principles of this technique and how it relates to bread making operations. (15 marks)
- b) Steam injections is essential during the initial stages of baking. Explain (5 marks)