MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY
P.O. Box 972-60200 Meru - Kenya. Tel: 020-2092048, 020 2069349
Fax: 020-8027449

University Examinations 2012/2013

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

AFS 2206: FOOD QUALITY ASSURANCE

DATE: DECEMBER 2012 **TIME: 2 HOURS**

INSTRUCTIONS: *Answer question **ONE** and any other **TWO** questions*

QUESTION ONE – 30 MARKS

(a) Explain the role of food quality assurance in a food processing industry. (4Marks)
(b) Discuss finished product inspection and point out how it is affected by having a process quality control policy in place. (5Marks)
(c) What is the goal of statistical process control in the food industry? (5Marks)
(d) Outline factors that influence the sample size obtained from a lot of raw materials, in-process items or finished food products. (3Marks)
(e) X bar and R charts are the most commonly used type of variable control charts in monitoring quality. Explain the information derived from each and why it is necessary to use them together. (5Marks)
(f) Your desire is to set up a cottage fermented milk production unit after graduating. Discuss four pieces of Kenyan legislation that will affect your business. (8Marks)

QUESTION TWO – 20 MARKS

(a) Discuss the problems encountered when establishing a quality assurance program in a food industry. (10Marks)
(b) Discuss the most important uses of control chart (10Marks)

QUESTION THREE – 20 MARKS

(a) You are a quality assurance officer in canned beans manufacturing firm and the seaming stage is one of the most important operation. For optimal seams, the cans should be 150mm $\pm$ 0.5mm in

height. As a routine you usually take 1 sample size of 5cans every 30min to monitor the height of cans being supplied from the warehouse. The data is then plotted on X bar and range charts. On this particular day your charts appear as shown on the figure below (attached).

(i) What conclusions can you draw from the charts below? (3Marks)

(ii) What are your recommendations? (3Marks)

(b) Briefly discuss each of the seven principles of HACCP (Hazard Analysis and Critical Control Points) as applied in food processing. (14Marks)

QUESTION FOUR – 20 MARKS

(a) Discuss the biological, chemical and physical hazards associated with processing, distribution and marketing of food products. (15Marks)

(b) Explain the role of the Codex Alirnentarius Commission and how its activities affect our food processing industry in Kenya. (5Marks)

QUESTION FIVE – 20 MARKS

(a) What are GMPs (Good Manufacturing Practices) and how do they ensure consumers safety? (5Marks)

(b) Summarize the most important GMPs in a food manufacturing concern (10Marks)

(c) Discuss the use of attribute control charts. (5Marks)