



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 AND FOOD SCIENCE AND
NUTRITION

AFS 2203: FOOD ANALYSIS

DATE: DECEMBER 2012

TIME: 2 HOURS

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

QUESTION ONE – 30 MARKS

- (a) What are the four main reasons for analysing food? Briefly explain. (6Marks)
- (b) List three roles of protein in food. (3Marks)
- (c) What is affective testing in sensory analysis of food? (5Marks)
- (d) Why is water an important food component to a food analyst? Give and explain four reasons. (6Marks)
- (e) In ash analysis, wet ashing is preferred over dry ashing. Explain why? (6Marks)
- (f) Mention four methods of carbohydrate analysis. (4Marks)

QUESTION TWO – 20 MARKS

- (a) Protein is an important food component; explain its three roles in food. (5Marks)
- (b) Kjeldahl is a standard protein quantification method; explain its important steps and principles. (10 Marks)
- (c) How can you measure protein content spectrophotometrically? (5Marks)

QUESTION THREE – 20 MARKS

- (a) List four roles of lipids in foods. (4Marks)
- (b) How do you determine the lipid content in roasted groundnuts (step by step procedure and principle)? (10Marks)
- (c) Why is defatting of samples for carbohydrate analysis being done? (2Marks)
- (d) In lipid analysis, what is Iodine value and what is its significance? (4Marks)

QUESTION FOUR – 20 MARKS

- (a) In our diets, fibre is important, state four roles played by fibre in the body. (4Marks)
- (b) How do you determine fibre content of a food sample? (10Marks)
- (c) Name three components of fibre (3Marks)
- (d) When is dry ashing ideal in food analysis? (3Marks)

QUESTION FIVE – 20 MARKS

- (a) Name the three main classes of carbohydrates. (3Marks)
- (b) How do you use enzymatic method to measure simple carbohydrate concentration? (8Marks)
- (c) In foods carbohydrates play critical roles. Explain four such roles. (9Marks)