

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

**EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

FOST 324: FOOD ANALYSIS

STREAMS: BSC (FOST)

TIME: 2 HOURS

DAY/DATE: TUESDAY 17/11/2020

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS: Answer ALL Questions in section A and Two Questions in section B
SECTION A

- 1) Explain the importance of moisture content determination of a food. (3 marks)
- 2) List five advantages of Kjeldah method of protein determination. (5 marks)
- 3) Discuss what influences the choice and validity of sampling methods (6 marks)
- 4) Outline the procedure in analysis of wheat for crude ash (7 marks)
- 5) (i) Explain role of food analysis in the food industry (4 marks)
(ii) Given the following gravimetric results: Weight of dried pan = 1.0376g, Weight of pan and liquid sample = 4.627g and Weight of the pan and dried sample = 1.7321g. Determine the moisture content and the percent solids. (5 marks)

SECTION B

6. (a) Describe three sampling methods. (10 marks)
(b) Outline the advantages and disadvantages of Biuret method of protein determination. (10 marks)
7. (a) Discuss the types of risks associated with sampling and the acceptable levels. (6 marks)
(b) State the major difficulties and sources of error in the Karl Fischer titration method. (6 marks)

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- (c) Enumerate the advantages and disadvantages of Biuret method of protein determination. (8 marks)
8. a) Given the following gravimetric results: Weight of dried pan = 2.0376g, Weight of pan and liquid sample = 5.627g and Weight of the pan and dried sample = 2.7321g. Determine the moisture content and the percent solids. (5 marks)
- b) A grain was found to contain 13.0% moisture. A 5.2146g sample was placed into a crucible 28.5053g tare. The ashed crucible weighed 28.6939g. Calculate the percentage ash on;
- (i) As is-received basis (2 marks)
- (ii) A dry matter basis (3marks)
- c) Give the steps followed in the Soxhlet procedure. (6 marks)
- d) To determine the fat content of a semi-moist food by the Soxhlet method, the food was first vacuum oven dried. The moisture content of the product was 25%. The fat in the dried food was 13.5%; calculate the fat content of the original semi-moist food. (4 marks)
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