



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF HOSPITALITY AND TOURISM MANAGEMENT

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR, DIPLOMA IN
FOOD SCIENCE TECHNOLOGY**

DFT 057 – FOOD ANALYSIS I

DURATION: 2 HOURS

DATE:

TIME:

Instructions to candidates:

1. Answer question One and Any Other Two questions
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

- a) State three reasons why foods are analyzed (3 marks)
- b) Explain two criteria used in selecting an appropriate technique for food analysis (4 marks)
- c) Define a laboratory sample (2 marks)
- d) Describe changes that may occur in a food sample before analysis and how they can be prevented (6 marks)
- e) Explain three common sources of error in any analytical technique (3 marks)
- f) Distinguish between the following (6 marks)
 - i. Precision
 - ii. Accuracy
 - iii. Reproducibility
- g) Differentiate between water soluble and water insoluble ash (2 marks)
- h) Describe three different types of water found in foods (3 marks)
- i) Explain the meaning of the following (6 marks)
 - i. Smoke point
 - ii. Flash point
 - iii. Fire point

SECTION B - ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

- a) Differentiate between moisture content on “wet weight basis” and “dry weight basis” (4 marks)
- b) Using a 20g initial sample weight, explain how a drying oven works and show how you would determine the moisture content of the food sample after it is dried to 12.5g. state your answer in “wet weight basis” (9 marks)
- c) State two advantages and one disadvantage of the drying method of moisture determination (3 marks)
- d) Describe the method of ash determination by dry ashing (4 marks)

QUESTION THREE (20 MARKS)

- a) State four measures you could take to protect lipid samples from oxidation (4 marks)
- b) Using an illustration, explain the determination of lipids in foods using the soxhlet apparatus (10 marks)
- c) Outline the Gerber method of lipid analysis (6 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the process of protein determination using the Kjeldhal apparatus (12 marks)
- b) Explain the principles of fibre determination in foods (5 marks)
- c) Discuss three roles of KEBS in food analysis (3 marks)