



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2024/2025

FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTERS IN FOOD SCIENCE AND TECHNOLOGY

AFT 5100: FOOD AND HEALTH

DATE: DECEMBER 2024

TIME: 3 HOURS

INSTRUCTIONS:

- *Answer All Questions*

QUESTION ONE (20 MARKS)

- Explain the six basic diet-planning principles that are essential in planning a healthy diet (12 marks).
- Safety in food production, preparation and storage is an important aspect to protect human health. Discuss this statement (8 marks).

QUESTION TWO (20 MARKS)

- Explain the main factors that increase the risk of developing osteoporosis (8 marks).
- Identify the major diet-related risk factors associated with the following:
 - Cardiovascular disease (2 marks)
 - Diabetes (2 marks)
- Propose four methods that can be employed in determining nutritional status of a population (8 marks).

QUESTION THREE (20 MARKS)

- Illustrate the use of glycemic index and glycemic load concepts in the management of diabetes mellitus (8 marks).

- b) Discuss how nutrition influences fertility and conception (4 marks).
- c) Explain any four methods that can be adopted in nutrition surveillance (8 marks).

QUESTION FOUR (20 MARKS)

- a) Explain five benefits of dietary fiber to humans (10 marks).
- b) Propose five strategies that an overweight person can adopt in order to lose weight (5 marks).
- c) Outline five dietary guidelines for healthy living (5 marks).

QUESTION FIVE (20 MARKS)

- a) Describe three types of epidemiological research (6 marks).
- b) Compute the total energy available from bean stew prepared with coconut cream (the stew has 60 grams' carbohydrate, 20 grams' protein, and 10 grams' fat) clearly indicating the percentage of calories from each of the energy nutrients (4 marks).
- c) Discuss the components of energy expenditure (10 marks).