



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF HEALTH SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (FOODS, NUTRITION AND DIETETICS)

HPH 312: OCCUPATIONAL HEALTH & SAFETY

HFN 241: HUMAN NUTRITION

DATE:

TIME:

INSTRUCTIONS:

This paper consists of two sections A and B

SECTION A

Specific Instructions

- This section has one question
- The question is compulsory
- The question is 30 marks

QUESTION ONE (30 MARKS)

- Outline the main classification of lipids. (3 marks)
- Explain the digestion of carbohydrates in the small intestines. (3 marks)
- Explain the concept of food exchange lists. (3 marks)
- Highlight the components of energy balance. (3 marks)
- State factors that influence vitamin D metabolism. (3 marks)
- Outline the limitations in use of recommended dietary allowances. (3 marks)
- State considerations in the use of "Myplate" in meal planning. (3 marks)

- h) Explain the factors that affect zinc absorption. (3 marks)
- i) State the high-risk segments of population with reference to nutrient-drug interaction. (3 marks)
- j) In a refugee situation, the prime aim is to provide enough energy. Usually a flour mixture with pulses and oil is provided to the population. An average of 2140 kcal is distributed irrespective of sex and age. State the nutritional problems you can predict if this rations are given over a long period of time. (3 marks)

SECTION B:

Specific Instructions

- **This section has four (4) questions**
- **Answer any two (2) questions**
- **Each question is 20 marks**

QUESTION TWO (20 marks)

- a) Peter a Nutritionist at Machakos Hospital, is in the process of developing a diet plan for patient X who has been diagnosed with hypertension and respiratory infections. Peter decides to examine the medication regimens of the patient. Explain why this is necessary. (10 marks)
- b) Describe consideration into the inclusion of a specific food into food composition data tables. (10 marks)

QUESTION THREE (20 MARKS)

- a) Discuss the digestion and metabolism of proteins. (10 marks)
- b) You are preparing a seminar presentation on the importance of meal planning. Describe the content of your presentation. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Undernutrition remains a major challenge in developing countries especially in under-five children. Describe strategies that can be put in place to address this. (10 marks)
- b) John has always enjoyed his food. Over the past few months he has noticed that every time he eats food, he experiences pain and discomfort throughout his digestive system. He makes an appointment with his nutritionist in an effort to figure out the problem. Explain the possible causes for Johns problem. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Dietary goals and guidelines were introduced to deal with nutritional problems of affluent countries. Explain why these dietary goals and guidelines still have a role in developing countries. (10 marks)
- b) Explain significance of physical activity in human nutrition and health (10 marks)