



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2024/2025

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN EDUCATION ARTS

EHS 3103: INTRODUCTION TO FOOD AND NUTRITION

DATE: JANUARY 2025

TIME: 2 HOURS

INSTRUCTIONS:

- Answer Question one and any other two Questions

QUESTION ONE (30 MARKS)

- Assuming you are the Meru County nutritionist, advice your people on the merits/demerits (any four) of consuming whole grains (4 marks)
- Carbohydrates exert a protein-saving action. Explain the statement (2 marks)
- Jane is 5.4 ft. tall, and has a BMI of 18.5. Find her weight, describe her nutritional status and advise her on her diet requirements (4 marks)
- In Africa, most U5s are either stunted or wasted, describe the two terms and explain the occurrence of these conditions (4 marks)
- Define the term prebiotics and explain their hypocholesterolemic effects (5 marks)
- Currently it is estimated that the protein requirement is 55 g per day for an adult man and 45 g a for woman. Explain this disparity (2 marks)
- Differentiate between the following terms as used in human nutrition
 - Nutrition and nutrient (1 mark)
 - Taboo and food fad (1 mark)
 - Colitis and thrombus (1 mark)
 - HDL and LDL (1 mark)
 - Marasmus and kwashiorkor (1 mark)
- Carbohydrates are pertinent to the detoxication pathway. Explain this statement (4 marks)

QUESTION TWO (20 MARKS)

- a) During lunch Karen consumes a plate of French fries and a quarter a chicken. If the fat content of the food was 10 and 21 g for the fries and the chicken respectively;
- Calculate the total energy supplied by the plate of food (3 marks)
 - If the total saturated fatty acid content of the food was 5 g, advise Karen accordingly, in terms of lipid health (3 marks)
- b) Describe biotin with emphasis on;
- Human requirement (1 mark)
 - Functions (1 mark)
 - Sources (1 mark)
 - Causes of deficiency (1 mark)
 - Deficiency symptoms (1 mark)
- c) Weight control is a matter of balancing the energy value of food eaten with the energy needs of the body. Describe how you would use behavior therapy strategy on your younger sibling for weight loss and maintenance (8 marks)

QUESTION THREE (20 MARKS)

- a) Njogu, an alcoholic displayed the following symptoms on visiting a nutritionist; altered nervous, muscular, GI and CVS systems, loss of appetite, constipation, fatigue, irritability, neuritis and headaches. Describe the ailment he is likely to be suffering from and the possible diet that might be prescribed to him. (4 marks)
- b) Describe any five factors influencing the amount of vitamin D production in the human body (5 Marks)
- c) Describe any five strategies for improving food security in Kenya and beyond (5 marks)
- d) Mercy's daily diet is adequate in iodine. However, on visiting a physician, she was diagnosed with goiter. Describe the possible reason for the development of the deficiency and how she would control future deficiency (6 marks)

QUESTION FOUR (20 MARKS)

- a) Mentioning the enzymes and processes involved, describe the metabolism of carbohydrates (8 marks)

- b) Describe any two current cases of foodborne disease reported in the country mentioning the etiological factors and possible remedy (6 marks)
- c) Describe and give four examples of complex lipids stating the building blocks of each (6 Marks)