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University of Choice

MASINDE MULIROUNIVERSITY OF

SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

MAIN EXAMINATION

FIRSTYEAR SECONDSEMESTER EXAMINATIONS

FOR THE DEGREE OF

MSC. PUBLIC HEALTH NUTRITION

COURSE CODE: PHN 870

COURSE TITLE: ADVANCED HUMAN NUTRITION

DATE: 29TH APRIL 2022 **TIME: 2.00PM- 5.00PM**

INSTRUCTIONS TO CANDIDATES

There are three sections in the paper, answer questions in **ALL** the three sections.

1. **QUESTION PAPER** comprises of 7 essay type questions. Answer **ONLY FIVE**

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating.

This Paper Consists of 5 Printed Pages. Please Turn Over

THERE ARE SEVEN QUESTIONS. ANSWER ANY FIVETOTAL100MARKS

1

a)

i) Explain the structural differences of the essential fatty acids. (4 marks)

ii) Outline their roles in the body that makes them essential? (4 marks)

iii) State the main food sources of these nutrients. (4 marks)

b) Which is the most common type of phospholipids? State main functions of this lipid (8 marks)

2. Select four of the minerals of public health concern and explain their importance in terms of:

a) Main functions (4 marks)

b) Main deficiencies, their possible causes and consequences. (4 marks)

c) Who are the most vulnerable groups (4 marks)

3. Select four of the vitamins of public health concern and explain their importance in terms of:

a) Main functions (5 marks)

b) Main deficiencies (5marks)

c) Risk factors and consequences. (5 marks)

d) whoare the most vulnerable groups (5 marks)

5. Describe clinical implications of the following on human nutrition and health

a. Glycaemic index of food 5 marks
b. Glycemic Load of food 5marks
c. Satiety index of food 5 marks
d. Polyols in food 5 marks

6.The biggest challenge of mineral and vitamins metabolism is their bioavailability. Discuss on how this can be addressed to enhance their bioavailability during digestion, absorption and transportation. (20 marks)

7. Demonstrate the relation between nutrition and disease prevention and management focusing on proteins and trace minerals and electrolytes (20 marks)