



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)  
MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**1<sup>ST</sup> YEAR 2<sup>ND</sup> SEMESTER MAIN EXAMINATIONS  
FOR THE DEGREE**

**OF**

**PH.D. PUBLIC HEALTH NUTRITION**

**COURSE CODE: PHN 906**

**COURSE TITLE: PUBLIC HEALTH NUTRITION AND INNOVATIONS**

**DATE: 22/04/2022**

**TIME: 2.00pm - 5.00pm**

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**INSTRUCTIONS TO CANDIDATES**

- This examination contains 5 questions.
- Question 1 is compulsory. Choose any other 3 questions.
- Write all answers in the answer booklet provided.
- Write the University registration number on each paper used.

**TIME: 3Hours**

**MMUST observes ZERO tolerance to examination cheating**

**This Paper Consists of 2 Printed Pages. Please Turn Over.**

### Instruction to Candidate

Answer 4 (Four) questions. Question 1 (One) is compulsory.

#### Question 1 (Compulsory)

- a) Explain the concept of the New Product Development process and how a marketer uses it for a successful product launch. (10 Marks)
- b) What factors should you consider when building a New Product Innovation development team? (5 Marks).
- c) Give 5 reasons why new products fail (5 Marks)

#### Choose ANY three Questions

#### Question 2

You work as a food company CEO dealing with natural healthy foods.

- a) Identify eight (8) innovation possibilities for your company, two under each of the following areas:
  - (i) Food system changes
  - (ii) Technological changes.
  - (iii) Society Changes.
  - (iv) Political Changes. (8 Marks)
- b) What do you see as your company's barriers to innovation? (2 Marks)

#### Question 3

- a) A bakery company is considering the incorporation of omega 3 fatty acids from the fish oil from the ocean into some of its products and you are the product development manager given the responsibility to investigate the feasibility. Prepare a "To do" list of items you would need to consider in preparing your report back to management. (8 Marks)
- b) What is the best way to think creatively? (2 Marks)

#### Question 4

- a) What are the three roles of food packaging? (6 Marks)
- b) Describe the packaging of your new food product in terms of primary, secondary, and tertiary packaging. (4 Marks)

#### Question 5

You are in charge of a project to develop a nutritious snack for school-going children in your County.

- a) Identify all the requirements for this new food product. (4 Marks)
- b) What are the three important questions you must ask the customers/consumers? (3 Marks)
- c) What ingredients do you need assuming you will have functional food. ? (3 Marks)