



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN FOOD TECHNOLOGY AND QUALITY

ASSURANCE

ANH 4101: PRINCIPLES OF HUMAN NUTRITION

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other **TWO** questions.

Do not write on the question paper.

Question ONE

(a) Define the following term with example(s) where necessary

(i) Anti-nutrients (1 mark)

(ii) Recommended dietary allowance (DRA) (1 mark)

(iii) Lactose Intolerance (1 mark)

(b) Briefly describe at least 5 major nutrients in Human Nutrition (5 marks)

(c) Describe and show the partitioning of gross energy (5 marks)

(d) Briefly state the physiological role and deficiency syndrome for

(i) Vitamin K (2 marks)

(ii) Vitamin E (2 marks)

- (e) State the causes, features, and management of steatorrhea (3 marks)
- (f) Name the benefits/effects of food processing on human nutrition. (4 marks)
- (g) (i) Outline the main themes of the 2015–2020 Dietary Guidelines (3 marks)
 - (ii) State the purpose and use of Dietary Guidelines (3 marks)

Question TWO

Discuss the biochemical roles and deficiency syndromes of each of the following minerals

- (a) Copper (4 marks)
- (b) Chromium (4 marks)
- (c) Cobalt (4 marks)
- (d) Manganese (4 marks)
- (e) Selenium (4 marks)

Question THREE

- (a) Describe the following conditions which are classified as "lifestyle disease"
 - (i) Obesity (6 marks)
 - (ii) Alcoholism (6 marks)
- (b) Discuss the role of vitamin A, including its effects due to avitaminosis and hypervitaminosis. (8 marks)

Question FOUR

Define nutritional deficiencies, and discuss the symptoms, causes and treatment of mal-absorption. (20 marks)

Question FIVE

- (a) Outline functional foods and their role(s) in promoting good health (10 marks)
- (b) With appropriate examples, outline the benefits of fortified foods in the human body. (10 marks)