



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A constituent of JKUAT)

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN FOOD TECHNOLOGY & QUALITY ASSURANCE

AFS 4201: PRINCIPLES OF HUMAN NUTRITION

SPECIAL/SUPPLEMENTARY EXAMINATION

FEBRUARY 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

Question ONE

- a) (i) Differentiate between over nutrition and under nutrition. **(2marks)**
- (ii) Explain the term balance diet **(2marks)**
- (iii) Discuss the relationship between obesity and diabetes in carbohydrate intake. **(4marks)**
- b) (i) State the classification of vitamins **(1mark)**
- (ii) Identify the vitamin not found in plant foods and give its main function in the body. **(2marks)**
- (iii) Give the condition associated with excess and deficiency of glucose in blood **(3marks)**
- c) Iron intake is essential in the body:
- (i) Give ONE major function **(1mark)**
- (ii) State FOUR food sources and the nutrient associated with its absorption **(2marks)**
- (iii) Explain the term “sparing effect” in relation to body proteins **(2marks)**
- d) Calculate the percentage (%) calories contributed by each nutrient in a diet containing 400 grams carbohydrates 70grams proteins and 30grams fat **(4marks)**

- e) The diet in older age should be rich in proteins and low in calories. Explain **(4marks)**
- f) (i) Identify the antihaemorrhage vitamin **(1mark)**
- (ii) State the TWO main sources **(1mark)**
- (iii) Give two deficiency symptoms **(1mark)**

Question TWO

- a) Highlight FOUR manifestations of the following disorders
 - (i) Anaemia **(4marks)**
 - (ii) Beriberi **(4marks)**
- b) Describe FOUR nutritional disorders associated with old age **(8marks)**
- c) State FOUR guidelines in introducing weaning foods to an infant **(4marks)**

Question THREE

Discuss protein energy malnutrition under the following:

- a) Meaning of PEM **(1mark)**
- b) Symptoms associated with the condition **(7marks)**
- c) Prevention measures on a nutritional level **(4marks)**
- d) Government action in reducing PEM **(8marks)**

Question FOUR

- a) State FIVE functions of lipids in the body **(5marks)**
- b) Explain the health concern over lipids **(2marks)**
- c) Highlight the role of water in the body **(5marks)**
- d) Discuss the contribution of breast feeding to an infant health **(8marks)**

Question FIVE

- a) Pre-schools are poor eaters. Give a dietary guideline to ensure adequate nutrients intake **(12marks)**
- b) Identify FOUR functions and FOUR deficiency symptoms of the following nutrients;
 - (i) Niacin **(4marks)**

(ii) Zinc

(4marks)