

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

FOST 221: PRINCIPLES OF HUMAN NUTRITION

STREAMS: BSC (FOST)

TIME: 2 HOURS

DAY/DATE: MONDAY 03/12/2018

8.30 AM – 10.30 AM

INSTRUCTIONS:

- **Answer ALL Questions in Section A and any Two Questions in Section B**
- **Do not write anything on the question paper**
- **Switch off your mobile phones**

Section A: Answer ALL Questions in this Section (40 marks)

1. Define the following terms, giving examples, as applied to the principles of human nutrition:
 - (a) Essential nutrients [2 marks]
 - (b) Over-nutrition [2 marks]
 - (c) Essential fatty acid [2 marks]
 - (d) Limiting amino acid [2 marks]
2. Discuss 5 commonly used diet planning principles. [5 marks]
3. Give 4 uses of RDA (Recommended dietary allowance) and 2 limitations to the use of RDA. [6 marks]
4. Give 4 dietary sources and 4 deficiency symptoms of vitamin D. [4 marks]
5. Show your understanding of heartburn, constipation and morning sickness as some of the nutritional related problems during pregnancy by highlighting the cause of each problem and at least one way to alleviate the problem. [6 marks]

6. Briefly explain 4 factors that influence when to introduce solid foods into an infant's diet. [4 marks]
7. Discuss the nutrient needs of the elderly under the following subheadings.
- (a) Energy [4 marks]
 - (b) Water [3 marks]

Section B: Answer any Two Questions in this Section (30 Marks)

8. (a) What are the functions of carbohydrates in the body. [7 marks]
- (b) Differentiate soluble fibers from insoluble fibers. [4 marks]
9. (a) Differentiate micro-minerals from macro-minerals, and give examples. [2 marks]
- (b) Discuss the factors that favours absorption of calcium by the human body. [10 marks]
- (c) Give 3 uses of zinc in the body [3 marks]
10. (a) Differentiate indispensable amino acids and dispensable amino acids and give an example of each. [3 marks]
- (b) Discuss the digestion and absorption of proteins by humans. [12 marks]
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