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**University Examinations 2015/2016**

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY, BACHELOR OF SCIENCE IN FOOD SCIENCE AND NUTRITION AND BACHELOR OF SCIENCE IN FOOD SCIENCE AND MANAGEMENT

**AFN 3202: PRINCIPLES OF HUMAN NUTRITION**

**DATE: NOVEMBER 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. (i) State three reasons why foods containing fat are important in the diet. (3 Marks)

(ii) Explain the health risks of a high fat diet. (3 Marks)

(iii) Suggest four ways in which to reduce the amount of fat in the diet. (4 Marks)

(iv) State four foods which contain saturated fatty acids. (2 Marks)

(v) Explain the difference between saturated and poly-unsaturated fatty acids. Give examples of saturated and poly-unsaturated fatty acids. (6 Marks)

1. The table 1 below shows the nutritional content of bread

Type of bread Protein (g) Calcium (mg) Iron (mg) Dietary fibre, NSP(g)

White 8.4 110 1.6 3.8

Brown 8.5 100 2.2 5.9

Wholemeal 9.2 54 2.7 7.4

1. Explain why white bread contain more calcium than brown or wholemeal bread. (2 Marks)
2. State the vitamin that helps the body to absorb calcium. (2 Marks)
3. Select one type of bread from the table above to use to make a sandwich for a packed lunch

Type of bread:\_\_\_\_\_\_\_\_\_

Discuss the nutritional value of this bread for a teenager. (4 Marks)

1. Define the following terms:
2. Nutrition transition. (2 Marks)
3. Double burden of malnutrition. (2 Marks)

**QUESTION TWO (20 MARKS)**

1. Read the following paragraph and then analyse the causes of micronutrient malnutrition by applying the UNICEF Conceptual Framework. Do so by listing the possible immediate. Underlying and basic causes of Thando’s Iron Deficiency Anaemia. (10 Marks)

“Thando is a 17 year old girl living with her grandmother in a traditional village in a rural area where very few families have livestock. Her younger brother and sister also live with them. Grandmother receives an old age pension every month and also grows some maize for household use. Thando walks to school every weekday and it takes her about an hour to get there. She is currently two months pregnant. There is a mobile clinic that is supposed to come around once every two months and parks at the school. Thando visited the clinic a month ago, because ‘she did not feel well’. The health worker told Thando after questioning, a urine test and a finger prick, that she is about two months pregnant and that she also suffers from possible iron deficiency anemia. The clinic has no iron supplements in stock, because they were not available at the hospital from which the mobile clinic operates. This is because there is a shortage from which the mobile clinic operates. This is because there is a shortage from the supplier as well as delivery problems”.

1. Consider the causes you have identified in (a) above. Using the UNICEF Framework strategy, explain the range of possible micronutrient intervention strategies to address the immediate and underlying causes of Thando’s malnutrition. (10 Marks)

**QUESTION THREE (20 MARKS)**

In a community with Vitamin A deficiency in children under five:

1. Using Triple A cycle, explain the information that should be assessed. (10 Marks)
2. Explain possible interventions for the likely immediate, underlying and basic causes (use the triple A cycle approach) (10 Marks)

**QUESTION FOUR (20 MARKS)**

1. (i) State two reasons why water is an important part of a healthy diet. (2 Marks)

(ii) Explain why fluoride is added to drinking water (1 Mark)

(iii) Giving examples, briefly describe why some people need more nutrients than others. (2 Marks)

1. Discuss the various policy and program responses or strategies that are used for the control of micro-nutrient malnutrition in Kenya. (15 Marks)