



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURE & FOOD SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
FOOD SECURITY**

FIRST YEAR FIRST SEMESTER 2017/2018 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: AFB 3112

COURSE TITLE: PRINCIPLES OF HUMAN NUTRITION

EXAM VENUE: LR 2

STREAM: BSc. Food Security

DATE: 14/12/17

EXAM SESSION: 2.00 – 4.00PM

TIME: 2.00 HOURS

Instructions:

- 1. Answer all questions in Section A and any other 2 questions in Section B**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A (30 MARKS)

1. Give any TWO functions of each of the following nutrients
 - (a) Zinc
 - (b) Vitamin A
 - (c) Iodine
 - (d) Iron
 - (e) Proteins (10 marks)
2. Describe any THREE eating disorders (6 marks)
3. Briefly explain the following carbohydrates, giving appropriate examples in each case
 - (a) Monosaccharides
 - (b) Disaccharides
 - (c) Oligosaccharides
 - (d) Polysaccharides (10 marks)
4. Differentiate between dextrorotatory and levorotatory substances (4 marks)

SECTION B (40 MARKS)

5. Describe the metabolic pathway of carbohydrates in the gut (20 marks)
6. (a) Describe the Quetelet's Index classification of obesity. Indicating clearly the risk of co-morbidity (10 marks)
(b) Using an appropriate diagram, illustrate the malnutrition-infection cycle (10 marks)
7. Discuss in details the causes of malnutrition (20 marks)
8. James is a male shopkeeper and weighs 80.1 kg and is 169cm tall. Considering that he consumes 2630 Kcal of energy per day and that he has a moderate activity lifestyle.
 - (a) Compute his energy expenditure for the day
 - (b) Comment on the answer above (20 marks)