



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE  
AND TECHNOLOGY**

**UNIVERSITY EXAMINATION 2012/2013**

**1<sup>ST</sup> YEAR 1<sup>ST</sup> SEMESTER EXAMINATION FOR THE  
DEGREE OF MSC IN IT SECURITY FORENSIC AND AUDIT**

**MAIN**

**COURSE CODE: IIT 3112**

**TITLE: INTRODUCTION TO PROGRAMMING**

**DATE: 16/4/2013**

**TIME: 9.00-12.00NOON**

**DURATION: 3 HOURS**

**INSTRUCTIONS**

- 1. This paper contains FIVE (5) questions**
- 2. Answer question 1 (Compulsory) and ANY other 2 Questions**
- 3. Write all answers in the booklet provided**

### QUESTION ONE

- a) Define the following terms as used in programming
- (i.) Structured programming
  - (ii.) Algorithm
  - (iii.) Pseudocode
  - (iv.) variable
  - (v.) constant
- (5 marks)**
- b) Describe the stages of program development **(6 marks)**
- c) List the six steps of desk checking process **(6 marks)**
- d) Define the term control structure **(3 marks)**

### QUESTION TWO

- a) Using examples, explain the differences between a while loop and a do.. while loop **(8 marks)**
- b) A program is required to compute the sum of even numbers and the product of odd numbers from 1 to 50 ( inclusive) using a loop control structure
- i. draw a flowchart for the solution **(6 marks)**
  - ii. write a C program that implements the flow chart **(6 marks)**

### QUESTION THREE

- a. Differentiate between the following sets of terms
- (i.) Actual parameters and formal parameters
  - (ii.) Global variables and local variables **(10 marks)**
- b. Data structure is the structural representation of logical relationships between elements of data. Explain **(10 marks)**

### QUESTION FOUR

- a. Discuss the different steps in the development of an algorithm **(10 marks)**
- b. Distinguish between primitive and non-primitive data structures. Explain how integer data are mapped to storage. **(10 marks)**

### QUESTION FIVE

- a. What are the features of structured programming methodologies? Explain. **(10marks)**
- b. Instead of using a compiler, which translates the program all at once, you can use an interpreter. Discuss and state their differences **(10 marks)**