JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION 2012/2013

1ST YEAR 1ST SEMESTER EXAMINATION FOR THE DEGREE OF MSC IN IT SECURITY FORENSIC AND AUDIT

(REGULAR)

COURSE CODE: IIT 3112

TITLE: INTRODUCTION TO PROGRAMMING

DATE: 29/4/2013 **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) List down three approaches of solving a programming problem (3 Marks)
b) From the three approaches listed above, describe how each works using a clear example in each approach to illustrate your answer (9 Marks)
c) How do you create an algorithmic solution to a problem (4 Marks)
d) Using examples, illustrate the fundamental principles guiding the use of variables and constants (4 Marks)

QUESTION TWO

a) Explain what is a data type in programming and give examples (6 Marks)
b) Functions typically differ from language to language and are typically listed in a programming reference guide. List and explain the typically available functions. (10 Marks)
c) State two main reasons why comments are used in programming (4 Marks)

QUESTION THREE

a) using an example, define array as used in C (3 Marks)
b) There are several types of operators: List and describe them (8 Marks)
c) explain why the following identifiers are invalid
   i. &marks
   ii. ()cost
   iii. Total marks
   iv. 11students
   v. Int (5 Marks)
d) Different types of module can be identified by their purpose. Outline some examples (4 Marks)

QUESTION FOUR

a) Outline the stages of developing a working program (8 Marks)
b) What are the importance of compiling and linking a program (4 Marks)
c) List four types of errors encountered while programming in C and in each case indicate what the cause of the error is and a possible way of overcoming it. (4 Marks)
d) Outline the difference between local and global variables (4 Marks)

QUESTION FIVE

a) Illustrate the general format for declaring a function (2 marks)
b) To produce a program based on a solution to a problem, the programmer must first analyze the requirements of the problem. One way to do this is to split the problem into four parts. List and describe these parts (10 Marks)

c) Discuss the main types of program control structures, in each case give an example of how is control structure is used (8 Marks)