



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

UNIVERSITY EXAMINATIONS 2012/2013

**1ST YEAR 1ST SEMESTER EXAMINATION FOR THE DEGREE
OF BACHELOR OF SCIENCE (COMPUTER SECURITY AND
AUDIT)**

(KISUMU L.CENTRE)

COURSE CODE: IIT 3112

COURSE TITLE: INTRODUCTION TO PROGRAMMING

DATE: 13/8/2013

TIME: 9.00-11.00 AM

DURATION: 2 HOURS

INSTRUCTIONS

- 1. This paper consists of 5 Questions.**
- 2. Answer Question 1 (Compulsory) and any other 2 questions.**
- 3. Write your answers on the answer booklet provided.**

QUESTION ONE 30 marks

- a) Highlight and explain at least four fundamental principles of object oriented programming. 8marks
- b) What is an array ?, illustrate how arrays can be declared. 4marks
- c) Explain the following three logic structure in programming. 12marks
 - i. Sequence logic structure
 - ii. Decision logic structure
 - iii. Loop structure
- d) Define and explain any four primitive data types used in java programming. 8marks

QUESTION TWO 20marks

- a) Explain the following problem solving techniques used in programming. 8marks
 - i. Algorithm.
 - ii. Decision tables.
 - iii. Flow chart.
 - iv. Pseudo code.
- b) Explain any **four** properties of an algorithm. 4marks
- c) Explain different operators in java programming. 4marks
- d) Differentiate between variables and constants. 4marks

QUESTION THREE 20marks

- a) Draw a flow chart to calculate the area of a triangle. 4marks
- b) Write a simple program in java to display welcome to programming lecture. 2marks
- c) Describe the following as applied in Programming language and provide an example where appropriate:
 - i) Algorithm. 4marks
 - ii) Semantic errors. 4marks
 - iii) Compiler. 2marks
 - iv) Arithmetic operator. 4marks

QUESTION FOUR 20marks

- a) What is program documentation and enumerate four advantages associated with it. 4marks
- b) Using suitable diagram explain the differences between a while loop and a do.. while loop. 8marks
- c) What is exceptional Handling in java? 2marks
- d) Explain how throw and catch are used in exceptional handling. 4marks
- e) What is AWT in java(abstract window Tool kit). 2marks

QUESTION FIVE 20marks

- a) Discuss **two** advantages and disadvantages of developing a tailor made program 4marks
- b) Using the switch statement, develop a flowchart that prints student grades 40 and below “F”, between 40 to 50 “D”, between 50 to 60 “C”, 60 to 70 “B” and above 70 “A”. 6marks
- c) Write a program in java to illustrate the use of for loop. 4mark
- d) What is a Sockets in java programming and explain the operations of sockets. 6marks