

KABARAK



UNIVERSITY

UNIVERSITY EXAMINATIONS

2010/2011 ACADEMIC YEAR

**FOR THE DEGREE OF BACHELOR OF COMPUTER SCIENCE
AND BACHELOR OF SCIENCE IN ECONOMICS & MATHEMATICS**

COURSE CODE: COMP 111

COURSE TITLE: INTRODUCTION TO PROGRAMMING

STREAM: Y1S1

DAY: THURSDAY

TIME: 9.00 – 11.00 A.M

DATE: 16/12/2010

INSTRUCTIONS:

- *Section A is compulsory*
- *Attempt other two questions from Section B*

PLEASE TURNOVER

SECTION A (30 Marks)

QUESTION ONE: (30 MARKS)

- a) Explain the three types of instructions in C. **(3 Marks)**
- b) Write a program to calculate simple interest for ten clients who are enjoying the same terms. The initial deposit is Ksh.50, 000, rate of interest is 3% and the period of maturity is four years. **(5 Marks)**
- c) Why is C most preferred by many professional programmers? **(4 Marks)**
- d) Differentiate between the following: - **(6 Marks)**
- i. Identifier and keyword
 - ii. Formal arguments and actual arguments
 - iii. Looping and nesting
- e) Explain four properties that qualify a function in a program. **(4 Marks)**
- f) Explain a pointer in C. **(4 Marks)**
- g) What is an array? How is a 1 – dimensional array initialized? **(4 Marks)**

SECTION B: (20 Marks each)

QUESTION TWO: (20 MARKS)

- a) Any character is entered through the keyboard; write a program to determine whether the character entered is a capital letter, a small letter, a digit or a special symbol. The following table shows the range of ASCII values for various characters: **(6 Marks)**

Characters	ASCII
A – Z	65 – 90
a – z	97 – 122
0 – 9	48 – 57
Special symbols	0 – 47, 58 – 64, 91 – 96, 123 – 127

- b) Differentiate between the following:
- i. Logical operators and relational operators **(4 Marks)**
 - ii. Local variables and global variables **(2 Marks)**
- c) Write a program to receive an integer and find its octal equivalence. **(6 Marks)**
- d) Define a structure. **(2 Marks)**

QUESTION THREE: (20 MARKS)

- a) Differentiate between the following: - **(6 Marks)**
- i. Continue and break
 - ii. Do –while and while statement
 - iii. Binary and tertiary operators
- b) Write a program to print the multiplication table up to ten of the number entered by the user. The table should be displayed in the following format: **(6 Marks)**
- 29 * 1 = 29
29 * 2 = 58
- c) Explain the for loop statement. **(4 Marks)**
- d) Explain the 2 –D array and how to initialize it. **(4 Marks)**

QUESTION FOUR: (20 MARKS)

- a) Explain the benefits of using functions in programming. **(4 Marks)**
- b) Write a program to interchange two values of user’s choice using functions and only two variables. **(6 Marks)**
- c) Define the following: - **(4 Marks)**
- i. Recursion
 - ii. Auto
 - iii. Loose typing
 - iv. Initialization
- d) Write a program to find the square of any number using a function. **(6 Marks)**