

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

# **UNIVERSITY EXAMINATIONS 2014/2015**

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

**ICS 2101 : INTRODUCTION TO COMPUTER PROGRAMMING**

**DATE: DECEMBER 2014 TIME: 2 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE [COMPULSORY] AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE**

1. Define the following terms and give appropriate example in each case where possible
2. Debug
3. Constant
4. Array
5. Algorithm
6. Syntax [10 marks]
7. (i) Write an algorithm which computes the daily wages of a casual labourer in a flower farm. Hint: total daily wage is total hours worked times shs. 50). [5 marks]

(ii) Write a C program to implement the algorithm in (b) above [5 marks]

1. Describe the various data types in C programming language [5 marks]
2. Distinguish between selection and iteration [2 marks]
3. Study the code snippet below and write down the expected output on the console.

int a;

long int b;

long long int c;

print + (“size of int=%d byter\n”, size of (a));

print + (“size of long int = %id bytes\n”, size of (b));

Print (“size of long long \*int=%id bytes; size of (c);

Return 0;

} [3 marks]

**QUESTION TWO**

1. Explain any four features of a good program [4 marks]
2. (i) Write an algorithm which alerts the consumer each time there is a power fluctuation as follows

Voltage command /Alert

>240 High voltage

>=110 normal voltage

<110 low voltage [4 marks]

(ii) Convert the algorithm in (b) above to a C program [6 marks]

1. Differentiate between the following terms as used in computer programming
2. Syntax error and logical error [3 marks]
3. Source code and object code [3 marks]

**QUESTION THREE**

1. Identify the correct symbol used to remote each of the following operations eg >=means greater or equal to;
2. Not equal to
3. Equal to
4. Remainder after division [3 marks]
5. Describe any four advantages of modular programming [4 marks]
6. List any four rules of naming variable names [4 marks]
7. Write a C program that prompts the user to input the subject marks of the student and it prints on the console the grade attained in that subject . The grading criteria is as outlined below.

Marks Grade

70 and above A

60 – 69 B

50 – 59 C

40 – 49 D

Less than 40 Fail [9 marks]

**QUESTION FOUR**

1. Describe at least three control structures in C programming language. In each case provide the respective syntax. [9 marks]
2. (i) What are computers and interpreters and how are they different [4 marks]
3. Give two examples each of compiled and interpreted languages [4 marks]
4. Differentiate between call by value and call by reference methods of parameter passing to a function giving an example of each. [3 marks]

**QUESTION FIVE**

1. What do you understand by scope of a variable [ 1 mark]
2. Differentiate between global and local scope of variables giving an example of each [4 marks]
3. Write a c program to sort an array of integers in ascending order [7 marks]
4. Explain the usage of the following console 1/0 functions in C and give their respective syntax in usage
5. Scant ( ) [2 marks]
6. Print f ( ) [2 marks]
7. Getchar ( ) [1 mark]
8. Briefly describe the three parts of a function [3 marks]