



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

DEPARTMENT OF COMPUTER SCIENCE & SOFTWARE ENGINEERING

UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX

2ND YEAR 1ST SEMESTER 2015/2016 ACADEMIC YEAR

KISUMU LC

COURSE CODE: ICT 2212

COURSE TITLE: INTRODUCTION TO JAVA PROGRAMMING

EXAM VENUE:

STREAM:

DATE:

EXAM SESSION:

TIME:

INSTRUCTIONS

- 1. Answer Question 1 (Compulsory) and ANY other TWO questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

Question 1 [30 marks]

- a) Define the following terms
 - i) Syntax Error (2 marks)
 - ii) Semantic Error (2 marks)
 - iii) Runtime Error (2 marks)
 - iv) Logical Error (2 marks)
 - v) Source Code (2 marks)
 - vi) Object Code (2 marks)
 - vii) Assembler (2 marks)
- b) Discuss three categories of Computer Language (6 marks)
- c) Discuss the difference between Java and Java. (8 marks)
- d) Give FOUR examples of a relational operator (4 marks)

Question 2 [20 marks]

- a) Write a Java application which prompts the user to enter 15 integers, then computes the sum, and then prints the sum to the screen. (7 marks)
- b) What is the output of the following code fragment?

```
int x = 1;
while (x<5){
System.out.println(x);
if (x==3)
x++;
else
x = x+2;
}
```

(3 marks)

Which of the following are valid Java identifiers? EXPLAIN

- XBox
- \$3t4
- hop-toad
- if
- 2ndFloor
- MyGoodness

(6marks)

- a) List FOUR examples of a primitive date type (4 marks)

Question 3 [20 marks]

- a) What are the advantages of object-oriented programming over procedural programming? (2 marks)
- b) Give some of the THREE advantages of Java as a programming language (3 marks)
- c) Explain Why would you use a StringBuffer instead of a String (4 marks)

- d) Complete the following code which takes a string that represents a binary number from the user, and converts this number to its decimal equivalent. (11marks)

```
int decimal=0;

int power=0;

System.out.println ("Enter the binary number");

String binary=Keyboard.readString();

power=binary.length()-1;

for(int counter = 0; counter <binary.length(); counter++)
{
    if(bin.charAt(counter)=='1')
    {
        decimal = decimal + (int)Math.pow(2,power);
        power--;
    }

System.out.println( "string equiv of binary is: " + decimal);
```

Question 4 [20 marks]

```
public class MySwitch {

    public static void main(String[] args) {
        int k=10;
        switch(k) {
            case 10:
                System.out.println("ten");
            case 20:
                System.out.println("twenty");
                break;

            default:
```

```
System.out.println("This is the default output");  
break;  
}  
}  
}
```

- a) What is the name of above class? **(2 marks)**
- b) List all the **NINE** java reserved words in the above class **(9marks)**
- c) What will happen when you attempt to compile the above code? Will you get any output? If yes then write the output. **(9 marks)**

Question 5 [20 marks]

- a) What is a compiler **(3marks)**
- b) Every compiled program in java must have a main method? TRUE/ FALSE.
EXPLAIN **(3 marks)**
- c) Explain Why java is called a fully object oriented language **(2 marks)**
- d) Define what is meant by a java interface **(4 Marks)**
- e) Courses is an array which contains the following DIT course codes:{DT211,DT249,DT228,DT210} Write a java program which takes a course code as input and checks to see if that code is in the Courses array**(8 marks)**