



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX ENGINEERING
2nd YEAR 1st SEMESTER 2018/2019 ACADEMIC YEAR
KISUMU CAMPUS

COURSE CODE: ICT 2212

COURSE TITLE: INTRODUCTION TO JAVA PROGRAMMING

EXAM VENUE:

STREAM: Dip. Linux Engineering

DATE: 14 /08/2019

EXAM SESSION: 2.00 –3.30PM

TIME: 1 ½ HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 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 ONE: 30 MARKS

- a) What is Java? (2 marks)
- b) Java is used in a wide variety of computing platforms name them (4 marks)
- c) What is object-oriented programming (2 marks)
- d) Explain the following object-oriented programming concepts (10 marks)
 - i. Object
 - ii. Class
 - iii. Inheritance
 - iv. Polymorphism
 - v. encapsulation
- e) Programming in Java involves first of all setting up appropriate environment. List two environments you may use with Java Programming Language (2 marks)
- f) Java is case-sensitive, explain (2 marks)
- g) List six IDEs available for Java language. Which one would you prefer and why? (5 marks)
- h) Write a java program to output "My First Java Program" (3 marks)

Question Two (20 Marks)

- a) Describe the steps you will follow to download, install and setup Java before you can start programming in Java language in an Integrated Development Environment (10marks)
- b) Differentiate between a variable and a constant? (4 marks)
- c) Describe three data types in Java programming language (6 marks)

QUESTION THREE (20 MARKS)

- a) Programming in Java can be daunting due to errors. Explain the following types of errors (4 marks)
 - i. Syntax
 - ii Run-time
- b) What would be the output of the following program (6 marks)

```
class Example2
{
public static void main(String args[])
{
int var1; // this declares a variable
int var2; // this declares another variable
var1 = 1024; // this assigns 1024 to var1
System.out.println("var1 contains " + var1);
var2 = var1 / 2;
System.out.print("var2 contains var1 / 2: ");
System.out.println(var2);
}
}
```

- c) Describe Five Mathematical operators in Java giving examples (10 marks)

Question Four (20 Marks)

- a) List and describe five escape codes in Java language (10 marks)

- b) What would be the output of the following program (4 marks)

```
class Example6
{
public static void main(String args[])
{
System.out.println("First line\nSecond line");
System.out.println("A\tB\tC");
System.out.println("D\tE\tF");
}
}
```

- c) Differentiate between compiler and translator (3 marks)

- d) Complete the following table (3 marks)

| Operator | Description | Example | Description |
|----------|----------------|---------|-------------|
| ++ | increment | | |
| -- | decrement | | |
| += | Add and assign | | |

QUESTION FIVE [20 MARKS]

- a) Kenya Power and Lighting Company has hired you as a programmer. Your task is to come up with an automated system for Billing. Write a simple program in Java that will provide an Electricity Billing solution (10 marks)

- b) Explain the Structure of Java Program (5 marks)

- c) List and explain any Five benefits of object oriented programming. (5 marks)