



College of Business Peace Leadership and Governance

CSC 310 Intermediate Programming JAVA

END OF SEMESTER EXAMINATIONS

NOVEMBER/DECEMBER 2018

LECTURER: Mr. Luke Marwa

DURATION: (3 HRS)

INSTRUCTIONS

1. Answer all questions.

2. Total marks 100

Question 1

a) Explain what is meant by the following terms:

- i) Class;
- ii) Object instance;
- iii) Abstract class;
- iv) Data hiding;
- v) Encapsulation;
- vi) Constructor

(12 marks)

b) Use pieces of java code to illustrate each of the following separately.

- i) Method overriding
- ii) An interface
- iii) inheritance
- iv) Class variable and Instance variable

(3+3 +3+2+2 marks)

c)

- i) Write a program that accepts dimensions from the user and can find area of a rectangle, triangle, circle -use method overloading;

(20 marks)

Question 2

a)

- i) Define an array
- ii) Write a program that accept from user and adds two 2x2 matrices of numbers using arrays and print the result matrix

(2+10 marks)

b)

- i) What is an access modifier
- ii) Name and explain any three access modifiers

(2+2+2 marks)

Question 3

Consider the following pieces of code below;

- i. Write down the output.

```
class StringMethods
{
public static void main(String args[])
{
    int n;
    String s = "Java programming for all", t = "", u = "";

    System.out.println(s);
    n = s.length();
    System.out.println("Number of characters = " + n)
    t = s.replace("Java", "C++");
    System.out.println(s);
    System.out.println(t);

    u = s.concat(" is fun");
    System.out.println(s);
    System.out.println(u);
}for ( int a = 0; a <= 10; a++ ) {
    if ( a == 3 ) {
        break;
    }
}
System.out.println (a + " is less than five");
}
```

(12 marks)

- ii. Write down the output of the following code.

```
for ( int a = 0; a <= 10; a++ ) {
    if ( a == 5 ) {
        break;
    }
}
System.out.println (a + " is less than five");}
```

(10 marks)

- iii. Dry run the following program with 12

```

import java.util.*;
class oddyNumbers{
    public static void main(String args[])
    {
        int n, status = 1, num = 3, count, j;
        Scanner in = new Scanner(System.in);
        System.out.println("Enter the number you want");
        n = in.nextInt();
        if (n >= 1)
        {
            System.out.println("These are the following "+n+" numbers:");
            System.out.println(2);
        }
        for (count = 2; count <=n; ) {
            for (j = 2; j <= Math.sqrt(num); j++) {
                if (num%j == 0){
                    status = 0;
                    break;
                }
            }
            if (status != 0){
                System.out.println(num);
                count++;
            }
            status = 1;
            num++;
        }
    }
}

```

(15 marks)