DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY
UNIVERSITY EXAMINATIONS 2020/2021
SECOND YEAR SEMESTER 1 EXAMINATION FOR THE DEGREE OF
BACHELOR OF TELECOMMUNICATIONS INFORMATION ENGINEERING

CCS 2101: COMPUTER PROGRAMMING EXAMS

DATE: 13/11/2020   **TIME: 08.30-10.30 A.M.**

Instructions: Answer Question 1 and Any Other Two.

Question One (30 Marks)

a) Explain two advantages of object-oriented programming over procedural
programming?   **(4 Marks)**
b) Name four advantages of Java as a programming language?   **(4 Marks)**
c) Explain the following concepts as used in java programming   **(4 Marks)**

    Object
    Class
    Methods
    Variables

d) Write a java program that will give the following output to the screen   **(4 Marks)**

    Hello World.
    My name is James.

e) Using examples, Differentiate between an identifier and a variable   **(4 Marks)**
f) Name four of the primitive data types in Java?   **(4 Marks)**
g) Study the following section of code   **(4 Marks)**
   int total = 2.

   *What is the value of **total** ++ and **total**+=5?*

   Explain your answer.

h) What is the error in this following java program?   **(2 Marks)**

                public class Employee
        {
                public showName ()
        {
                        name = Walter.

System.out.println ("Employee's name is: " + name);
            }
    }

Question Two.

a) Using well labelled diagrams, explain the difference between a while loop and a do…while loop.

(6 Marks)

b) Write a Java program, with a class named Numbers that uses a for loop to print out the following: **(4 Marks)**

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

c) Use the For loop to write a Java program to print sum of natural numbers from 1 to 10

(5 Marks)

Public class Numbers
{
Public static void main (String []args)
{
*   int n, i, sum = 0;*
*   for(i=1; i <= n; ++i)*
*   {*
*   sum += i;   // sum = sum+i;*
*   }*
*   System.out.println("Sum = sum);*

}

Question Three (15 Marks)

    a) What is an array? Mention two cases where arrays are suitably used?   **(3 marks)**
    b) Declare an array called Numbers of integer data type   **(1 mark)**
    c) Create the above array specifying its size to be 10.   **(1 mark)**
    d) Assign values 10, 20, 30, 40, 50, 60,70,80,90,100 to the array created above

(2 marks)

    e) Write a program to print the elements of the above array.   **(3 marks)**
    f) Write a program to print the largest number in the above array   **(5 marks)**

Question Four (15 Marks)

a) Using for loop, write a java program to print numbers from 1 to 10 in a horizontal line **(3 marks)**

b) Modify the program above to print numbers 1 to 10 using while loop **(3 marks)**

c) What is the output of the following code? Explain your answer **(2 marks)**

```java
public class Numbers {

    public static void main(String[] args) {
        int x=1;
        do
        {
        System.out.println(x);
        x++;
        }
        while(x==0);

    }

}
```

d) Using if ….else statement, write a java program that prompts a user to enter an integer number. The program should determine if the number entered is even number or not, if the number is even, it should be printed to the screen otherwise if the number is not an even number, the program should inform the user that the number entered is not an even number. **(4 marks)**

e) What will be the output of the following code? Explain your answer **(3 marks)**

```java
public class Numbers {

    public static void main(String args[]) {

        int [] numbers = {10, 20, 30, 40, 50};

        for(int x : numbers ) {

            if( x == 30 ) {

                continue;

            }

            System.out.print( x );

            System.out.print("\n");

        }

    }

}
```