University Examinations 2010/2011

FIRST YEAR, SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY/DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE/DEGREE OF BACHELOR OF MATHEMATICS AND COMPUTER SCIENCE

ICS 2104: OBJECT ORIENTED PROGRAMMING I

DATE: DECEMBER 2010   TIME: 2 HOURS

INSTRUCTIONS: *Answer Questions One and any other Two Questions*

QUESTION ONE – (30 MARKS)

(a) What modifiers are allowed for methods in an Interface?   (2 Marks)

(b) Which characters may be used as the second character of an identifier but not as the first character of an identifier?   (2 Marks)

(c) What does it mean when a method or field is "static"   (2 Marks)

(d) Explain local, member and class variable.   (6 Marks)

(e) What will be the output of the following program: (6 Marks)

```
class TwoDAgain{
public static void main(String args[]) {
int twoD[] = new int[4][];
twoD[0] = new int[1];
twoD[1] = new int[2];
twoD[2] = new int[3];
twoD[3] = new int[4];
int i, j, k = 0;
for (i=0; i<4; i++)
for (j=0; j<i+1; j++) {
twoD[i][j] = l;
k++;
}
for(i=0; i<4; i++) {
```

```
    for(j=0;j<i+1;j++)
    system.out.print(twoD[i]pj]+"");
    system.out.print1n();
    }
    }
    }
```

(f) Explain the if-else-ladder for java program with simple example. (6 Marks)

(g) Explain the advantages of java beans. (6 Marks)

QUESTION TWO – (20 MARKS)

(a) What is the difference between the >> and >>> operators. (2 Marks)

(b) Briefly explain on how to convert a String to Number in java program. (4 Marks)

(c) What is the difference between a while statement and a do statement. (4 Marks)

(d) Write a java program that generates the following output. (5 Marks)

This is x:0

This is x:1

This is x:2

This is x:3

This is x:4

This is x:5

This is x:6

This is x:7

This is x:8

This is x:9

(e) Write a java program to generate the following output. (5 Marks)

tick 10

tick 9

tick 8

tick 7

tick 6

tick 5

tick 4

QUESTION FOUR – (20 MARKS)

(a) Explain the Polymorphism principle. Explain the different forms of Polymorphism.

(8 Marks)

(b) What will happen when you attempt to compile and run this code? (4 Marks)

```
public class MyMain{
public static void main(String argv){
    System.out.print1n("Hello cruel world");
```

```
        }
    }
```
(c) What will be the output of the following program?   (8 Marks)
```
class TwoDArray {
public static void main(String args[]) {
int twoD[][]= new int[4][5];
int i,j,k = 0;
for(i=0; i<4; i++)
for(j=0; j>5; j++) {
twoD[i][i] = k;
k++;
}
for(i=0; i<4; i++) {
    d) for (j=0; j<5; j++)
    e) system.out.print(twoD[i][i] + " ");
    f) system.out.print1n();
}
}
}
```

QUESTION FOUR – (20 MARKS)

(a) What is the difference between the **and** operator and the && operator.

                                                                          (4 Marks)
(b) Write a simple java program to display following output: (6 Marks)
   Enter the First Name: James
   First Name: James
   Note: the name should be entered from a keyboard.
(c) Explain the switch statement in Java with a simple example.   (10 Marks)

QUESTION FIVE – (20 MARKS)

(a) Explain the inheritance concept in java with a simple program.   (8 Marks)
(b) Explain four access specifiers that are utilized by java.   (4 Marks)
(c) Explain the following terms.   (8 Marks)
        (i) Method Overriding
        (ii) Method overloading