



Vavuniya Campus of the University of Jaffna

First Examination in Information and Communication Technology - 2015

First Semester - August/September 2016

ICT1142 Object Oriented Program Design

Answer Four Questions Only

Time allowed : Two hours

1. (a) Identify a real-world object, list three *attributes* and three *behaviours* of it. [20%]
(b) Draw a class diagram of the object you have stated for the question (a) above. [20%]
(c) Define a model class in Java for the object you have identified in part (a). [20%]
(d) State why Java is a platform independent language. [20%]
(e) Discuss the advantages of following the Java naming convention. [20%]
2. (a) State how to make variable or method shared between all instances of a class? [20%]
(b) Briefly describe the use of the *String array parameter* used in main method of a Java class. [30%]
(c) State the usage of "*this*" keyword in Java. [20%]
(d) List and specify the default values of six *primitive datatypes* in Java ? [30%]

3. (a) Briefly discuss the advantages of using *packages* in Java. [2]
(b) Write the command to compile "A.java" file to make the package directory structure at the location "D:/Exam". [1]
(c) State the use of "import" keyword in a Java file. [1]
(d) Briefly describe the four main types of *access modifiers* used in Java? [4]
(e) State why *main* methods should be declared as *public*? [2]
4. (a) With the aid of an example show the way to initialize member variables while instantiating an object of a class in Java. [2]
(b) Discuss the three ways of method-overloading. [3]
(c) With an aid of an example describe *method overriding*. [4]
(d) Using suitable examples show the usage of the keywords used to inherit a *class*, and inherit *interfaces*. [20]
5. (a) What is an *interface*, state how it brings multiple inheritance? . [20]
(b) State the use of "super" keyword in Java? [20]
(c) State what is referred to "Virtual Method". [10]
(d) Trace the following Java program and write the output. (P)

```

class Test
{
    int a=1;
    static int b=2;
    void setAB(int c,int d)
    {
        a=c;
        b=d;
    }

    void printAB(){
        System.out.println("A = "+a+" , B = "+b);
    }

    public static void main(String []arg)
    {
        Test t1=new Test();
        Test t2=new Test();
        t1.printAB();
        t2.printAB();
        t1.setAB(3,4);
        Test t3=t2;
        t1.printAB();
        t2.printAB();
        t3.printAB();
    }
}

```

[50%]