



Vavuniya Campus of the University of Jaffna

First Examination in Information and Communication Technology - 2014

First Semester - August/September 2015

ICT1142 Object Oriented Program Design

Answer Four Questions Only

Time allowed : Two hours

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1. (a) State the differences between *Structured Programming* and *Object Oriented Programming*? [20%]
- (b) Explain what is meant by Class and Object with the help of suitable examples. [20%]
- (c) Discuss the use of variables and methods in a class. [20%]
- (d) State the use of *javac* and *java* when executing a Java program. [20%]
- (e) Briefly explain what do you understand "*Java is a platform independent programming language*". [20%]
2. (a) Clearly state the difference between a *class variable* and an *instance variable*. [20%]
- (b) Briefly describe the use of parameters with the help of an example. [20%]
- (c) State the usage of the keyword "*this*" in Java. [15%]
- (d) Discuss briefly the term *Datatype*. [15%]
- (e) Write a Java class to read a number from user and print its square value, specify the importing classes and follow Java naming convention. [30%]

3. (a) Write a Java statement to declare an integer array aR to hold ten integers.
(b) Show how to initialize the above mentioned array aR with any ten integer values all at once.
(c) Write a Java code to get the summation of elements stored in the array aR using a looping structure.
(d) Briefly describe the four main types of access modifiers used in Java.
(e) Show how to access private variables outside the class.
4. (a) Describe briefly the use of Constructors.
(b) Discuss briefly *compile-time polymorphism* and *runtime polymorphism*.
(c) Describe what is meant by *return type* of a method and state the use of keyword *void*.
(d) Compare and contrast *Abstract class* and *Interface*.
5. (a) With an aid of a diagram, explain the three different types of inheritance.
(b) State the use of the keyword "*super*" in Java.
(c) Describe briefly the three ways to create a String object, using examples.
(d) Describe briefly the three ways for String comparison.
(e) Trace the following Java program and write the output:

```
class Test
{
    int a=1;
    void meth()
    {
        class Inner
        {
```

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he array aR usin

Java.

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ate the use of

inheritance.

ng examples.

```
void iMeth1()
{
    System.out.println("From iMeth1 "+ --a);
}
```

```
void iMeth2()
{
    System.out.println("From iMeth2 "+ ++a);
}
```

```
    }
    Inner bc=new Inner();
    bc.iMeth1();
    bc.iMeth2();

    }
```

```
public static void main(String []arg)
{
    Test t=new Test();
    t.meth();
}
}
```

[20%]