2012

OBJECT ORIENTED PROGRAMMING

Time Allotted : 3 Hours   Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words

as far as practicable.

GROUP – A

(Multiple Choice Type Question)

1.   Choose the correct alternatives for the following: 10 x 1 = 10

   i)   Which of the following statements is wrong?

   a)   A base class reference can refer to an object of a derived class

   b)   The dynamic method dispatch is not carried out at the run time

   c)   The super( ) construct refers to the base class constructor

   d)   The super.case-class-method-name( ) format can be used only within a derived class.

   ii)   A sub-class having more than one super class is called

   a)   category   b)   classification

   c)   combination   d)   partial participation.

iii) Out of the following which one is not correctly matched?

    a)   Int – 24 bits

    b)   Short – 16 bits

    c)   Double – 64 bits

    d)   Byte – 8 bits.

iv) What is the correct ordering for the import, class and package declarations when found in a single file?

    a)   Package, import, class

    b)   Class, import, package

    c)   Import, package, class

    d)   Package, class, import.

v) Which one of the following statement is not correct?

    a)   An interference can inherit another interface.

    b)   The package name and subdirectory name need not be identical.

    c)   Only the classes declared as public in a package are accessible outside that package.

    d)   The import java.awt.*; directive will not import classes in java.awt.event package.

vi) What results from the following fragment of code?

    1.   int x = 1;

    2.   String[] names = {"Fred", "Jim", "Sheila"};

    3.   for(int i = 0 ; I < names.length ; i++){

```
4.    names[--x]+ = ". ";

5.    system.out.println(names[i]);

6.    }
```

a)   The output includes Fred. with a trailing period.

b)   The output includes Jim. with a trailing period.

c)   The output includes Sheila. with a trailing period.

d)   None of the outputs shows a trailing period.

e)   An ArrayIndexOutOfBoundsException is thrown.

vii)   What is the output of this code fragment?

```
1.    int x = 3 ; int y = 10 ;

2.    System.out.println( y % x );
```

a)   0   b)   1

c)   2   d)   3

viii)   Which of the following statements is correct?

a)   The 'try' block should be followed by a 'catch' block.

b)   The 'try' block should be followed by a 'finally' block.

c)   The 'try' block should be followed by either a 'catch' block or a 'finally' block.

d)   The 'try' block should be followed by atleast two 'catch' blocks.

ix)	The wait( ) and notify( ) methods are used to perform

a)	Interthread communication

b)	Synchronization

c)	Deadlock

d)	all of these.

x)	If a data-item is declared as a protected access specifier then it can be accessed

a)	anywhere in the program

b)	by the base and derived classes

c)	only by base classes

d)	only by derived classes.

xi)	Which of the following is wrong?

a)	'Runnable' is a predefined interface.

b)	The sleep( ) method instructs a thread to terminate its execution.

c)	The isAlive( ) methods tells whether a thread has not yet died.

d)	MAX_PRIORITY represents the level 10.

xii)	What type of following stream is used to read binary data?

a)	InputStream		b)	InputStreamReader

c)	DataInputStream		d)	None of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 x 5 = 15

2. Write down a program to implement Command Line arguments.

3. What are the main characteristics of OOP Language? Explain each.

4. How does string class differ from String buffer class?

5. What are Implicate and Explicit Casting? Explain with the help of example.   2 + 3

6. What is the difference between 'error' and 'exception'? What are the benefits of organizing classes into packages?

$$2\frac{1}{2} + 2\frac{1}{2}$$

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 x 15 = 45

7. a) What is mutable strings?

    b) What are the benefits of organizing classes into package?

    c) How can you create your own package and add classes in that? Explain with the help of an example.

    d) Explain with the help of an example, how java gets benefited by using Interface?   2 + 2 + (2 + 3) + 6

8. Write short notes on any *three* of the following:

   a) Wrapper class

   b) Meta class

   c) String Tokenizer Class

   d) getCodeBase( ) methods.

9. a) Explain the life cycle of an Applet.

   b) List various attributes of Applet tag used in HTML. Explain the purpose of these attributes.

   c) Write a Java program that uses the draw Polygon( ) method of Graphics class to draw a triangle with endpoints (25, 30) ; (75, 80) and (50, 50).

   3 + (3 + 3) + 6

10. a) Why does Java have two ways to create child threads (by extending Thread or implementing Runnable) and which approach is better?

    b) Define an exception called "NotEqualException" that is thrown when a float value is not equal to 3.14. Write a program that uses that user-defined exception.

    c) Write a Multitreading program to generate the square roots to the first 30 natural numbers using Runnable interface.

    d) What do you mean by 'Synchronization'? Why do we need it?

    2 + 5 + 5 + 3

11. a) How applet is different from frame and panel? Explain.

b) How threads are made to communicate with each other? Explain with example.

c) Explain any three events with suitable example.

$$5 + 5 + 5$$

=========