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Paper Code : PCC-CS503   Object Oriented Programming

Full Marks :70

Time Allotted : 3 Hours

The Figures in the margin indicate full marks.
Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

[1 x 10 = 10]

1. Answer any ten of the following :

(I)   In which memory a String is stored, when we create a string using new operator?

(II)   _____ is an abstract machine. It is a specification that provides runtime environment in which java bytecode can be executed.

(III)   Which of the following keywords are used to control access to a class Member?
   A) new
   B) abstract
   C) public
   D) interface

(IV)   An abstract class, which declared with the "abstract" keyword, cannot be instantiated. True or False?

(V)   Out of the following which one is not correctly matched ?
   A) JAVA - Object Oriented Language
   B) FORTRAN - Object Oriented Language
   C) C++ - Object Oriented Language
   D) BASIC - Procedural Language

(VI)   "A package is a collection of classes, interfaces and sub-packages"
   The above statement is true or false?

(VII)   Which of the following statements is valid array declaration?
   A) int number ()
   B) float average [ ]
   C) int marks
   D) count int[ ]

(VIII)   Java virtual machine is _____. Fill in the blank.
   A) platform dependent totally
   B) independent
   C) depends on machine architecture only
   D) depends on OS only

(IX)   Which method is used to set the graphics current color to the specified color in the graphics class?

(X)   Java is robust because _____ . Fill in the blank.

   A) it is object oriented
   B) garbage collection is present
   C) inheritance is present
   D) exception handling

(XI)   Consider the following 2 statements(S1 and S2).
   (S1) C++ uses compiler only.
   (S2) Java uses compiler and interpreter both.
   Above statements are true or false?

(XII) What is the length of the application box made by the following Java program?

```java
import java.awt.*;
    import java.applet.*;
    public class myapplet extends Applet
    {
      public void paint(Graphics g)
      {
        g.drawString("A Simple Applet", 20, 20);
      }
    }
```

A) 20
B) 50
C) 100
D) System dependent

Group-B (Short Answer Type Question)
Answer any three of the following

[5 × 3 = 15]

2. What is qualified association? Describe with an example

[5]

3. What is an object? Why Java is called an object oriented language? Write the difference between procedural oriented programming and object oriented programming.

[5]

4. Explain static keyword with suitable Java code.

[5]

5. What is dynamic method dispatch in Java? Explain with an example.

[5]

6. What AWT? What is Event Listener?

[5]

Group-C (Long Answer Type Question)
Answer any three of the following

[15 x 3 = 45]

7. Discuss the differences between the following:
   i) 'throw' and 'throws' clause
   ii) final and finally
   iii) Abstract classes and Interfaces

[5+5+5]

8. Write short notes of the following:
   i) Link and Association
   ii) Thread Life-Cycle
   iii) Abstraction

[5+5+5]

9. Write short notes of the following:
   i) Dynamic method dispatch
   ii) Dynamic binding
   iii) Encapsulation

[5+5+5]

10. Create a package and write a java file with four methods for four basic arithmetic operations such as addition, subtraction, multiplication and division. These methods should save the file in the package. Write one more program that imports the above file to use those four methods.

[15]

11. (a) What are exceptions? Explain the user defined exceptions and system defined exceptions with suitable examples.

[2+6]

(b) Briefly explain the use of "this" and "super" keywords.

[4]

(c) Difference between' = =" operator and "equals" methods in the context of string object.

[3]

*** END OF PAPER ***