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Paper Code : BCAC301 Object Oriented Programming

UPID : 300067

Time Allotted : 3 Hours

Full Marks : 70

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. Answer any ten of the following :

[1 x 10 = 10]

- (I) Which feature of OOPS described the reusability of code?
 - A) Abstraction
 - B) Encapsulation
 - C) Polymorphism
 - D) Inheritance
- (II) A function in C language is similar to what in Java language?
 - A) Method
 - B) Member
 - C) Variable
 - D) None of the above
- (III) Which method of the Class is used to determine the name of a class represented by the class object as a String?
 - A) getClass()
 - B) intern()
 - C) getName()
 - D) toString()
- (IV) Which of the following is a mutable class in java?
 - A) java.lang.String
 - B) java.lang.Byte
 - C) java.lang.Short
 - D) java.lang.StringBuilder
- (V) What is multithreaded programming?
 - A) It's a process in which two different processes run simultaneously.
 - B) It's a process in which two or more parts of same process run simultaneously.
 - C) It's a process in which many different process are able to access same information.
 - D) It's a process in which a single process can access information from many sources.
- (VI) Which are the common security restrictions in applets?
 - A) Applets can't load libraries or define native methods.
 - B) An applet can't read every system property.
 - C) Applets can play sounds.
 - D) Both A & B
- (VII) An overridden method is the method of _____ class and the overriding method is the method of _____ class.
 - A) super, sub
 - B) sub, super
 - C) super, super
 - D) sub, sub
- (VIII) Which among the following is not a valid Data Type in Java?
 - A) Long
 - B) Bool
 - C) Double
 - D) Float
- (IX) The combination of abstraction of the data and code is viewed in _____.
 - A) inheritance
 - B) object
 - C) operator overloading
 - D) interfaces

- (X) String args[] in main method are used for?
- ```
public static void main(String args[])
{
//
```
- A) Passing arguments at compile time  
B) Passing arguments at run time  
C) Counting number of words  
D) Nothing
- (XI) Choose the correct statement about Java?
- A) JIT Compiler produces Byte Code from Java file.  
B) JIT Compiler takes chunks of Byte Code as input and produces Executable code on that particular machine.  
C) JIT Compiler assists the actual JAVAC compiler to compile fast.  
D) None of the above
- (XII) What will happen if two threads of the same priority are called to be processed simultaneously?
- A) Anyone will be executed first lexicographically      B) Both of them will be executed simultaneously  
C) None of them will be executed      D) It is dependent on the operating system

### Group-B (Short Answer Type Question)

Answer any three of the following :

[ 5 x 3 = 15 ]

2. Define state, data member, attribute, property. [5]
3. Explain about Public and Private access specifiers. [5]
4. Difference between Array and Array List. [5]
5. Identify the output of the below java program and Justify your answer. [5]

```
class Main {
 public static void main(String args[]) {
 Scaler s = new Scaler(5);
 }
}

class InterviewBit{
 InterviewBit(){
 System.out.println(" Welcome to InterviewBit ");
 }
}

class Scaler extends InterviewBit{
 Scaler(){
 System.out.println(" Welcome to Scaler Academy ");
 }
 Scaler(int x){
 this();
 super();
 System.out.println(" Welcome to Scaler Academy 2");
 }
}
```

6. Can Java be said to be the complete object-oriented programming language? Pointers are used in C/C++. Why does Java not make use of pointers? [5]

### Group-C (Long Answer Type Question)

Answer any three of the following :

[ 15 x 3 = 45 ]

7. What is meant by Overloading? Explain with example. What is meant by Method Overriding? Explain with example. State the difference between Overloading & Method Overriding. [ 5+5+5 ]
8. How to resolve conflicts in naming between multiple parent classes if they are called from a child? [ 5+5+5 ] Compare Class & Struct. Define process abstraction.
9. What is the drawback to Garbage Collection? Explain the difference between a minor, major and full garbage collection. When does a Java object become available for garbage collection? What do you mean by mark-and-sweep? What is a daemon thread and Is Garbage Collection a daemon thread? [ 3+3+3+3+3 ]
10. [ 5+5+5 ]

Can Applets On Different Pages Communicate With Each Other? How Will You Communicate Between Two Applets? What Are The Attributes Of Applet Tags?

11. Explain Java.util.Objects class in Java. Write a program to ascending sort an array and display it.

[ 9+6 ]

\*\*\* END OF PAPER \*\*\*