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Paper Code : BCAC301 Object Oriented Programming

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) What is aggregation?
- (II) What is Inheritance?
- (III) What is the name of the Java file containing the following program?

```
import myLibrary.*;
public class ShowSomeClass
{
// Code of the class...
}
```
- (IV) What is bytecode?
- (V) what is default access specifier?
- (VI) What is the difference between 'Exception' and 'error' in java?
- (VII) What is link?
- (VIII) What is Data hiding?
- (IX) What is the difference of Object and Object reference?
- (X) int values[] = {1, 2, 3, 4, 5, 6, 7, 8};
 for(int i=0; i<X; ++i)
 System.out.println(values[i]);
 Referring to the above, what value for X will print all members of array "values"?

- (XI) What is Message Passing?
- (XII) What will be the output of the following code segment?

```
public class Trial
{
int x;
public static void main(String args[])
{
x = 8;
System.out.println(x);
}
}
```

Group-B (Short Answer Type Question)

Answer any three of the following

[5 x 3 = 15]

2. Differentiate major and minor elements with example. [5]
3. Write differences between Object Oriented Programming and other conventional programming? [5]
4. What is an exception? Explain with an example, how exceptions are handled in java? [5]
5. Distinguish between Abstract class and Interface. [5]
6. "Java does not support destructors", Discuss. What is 'this' keyword? Explain with an example. [5]

Group-C (Long Answer Type Question)

Answer any three of the following

[15 x 3 = 45]

7. (a) Differentiate Generalization and Specialization with example. [7]
- (b) Explain Degree of an Association with example. [4]

- (c) Explain Cardinality Relations of Associations with example. [4]
8. (a) Explain polymorphism with suitable example. [5]
- (b) What are the advantages and disadvantages of OOP? [5]
- (c) Explain differences between Abstraction and Encapsulation. [5]
9. (a) What is thread? [2]
- (b) How do we set the priorities for thread? Describe with an example. [8]
- (c) Write a small program which will synchronize among two threads. [5]
10. (a) Explain method overloading with example. [8]
- (b) Explain Autoboxing and Unboxing with example. [7]
11. (a) What are the uses of exception handling in JAVA? [2]
- (b) Write a program using java that handles an exception "Entry of negative age of person". [4]
- (c) Write a multithreading program to generate the square roots of the first 30 natural numbers using Runnable Interface. [6]
- (d) What do you mean by 'Synchronization'? Why do we need it? [3]

*** END OF PAPER ***