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## Fourth Semester B.E. Degree Examination, Dec.2018/Jan.2019

### Object Oriented Concepts

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing one full question from each module.*

#### Module-1

- 1
  - a. Write the differences between procedure oriented program and object oriented program. (04 Marks)
  - b. List and explain any four features of object oriented program. (05 Marks)
  - c. What is function overloading? Write a C++ program to define three overloaded functions to find the sum of two integers, sum of two floating point numbers and sum of three integers. (07 Marks)

#### OR

- 2
  - a. Define a Student class with following measures:  
Data members: RollNo., Name, averagemarks  
Member function: to read the data, to print the data, write a C++ program to read the data of 10 students and print the 10 students information. (05 Marks)
  - b. Define a friend function. Illustrate with an example. (05 Marks)
  - c. What is constructor? Mention its types. Explain parameterized constructor with an example. (06 Marks)

#### Module-2

- 3
  - a. List and explain the java buzzwords. (08 Marks)
  - b.
 

```
class Example {
    public static void main (String args[ ]) {
        int a;
        for (a = 0; a < 3; a++)
        { int b = -1;
          System.out.println (" " + b);
          b = 50;
          System.out.println (" " + b);
        }
    }
}
```

What is the output of the above code? If you insert another 'int b' outside the for loop, what is the output. (04 Marks)
  - c. With an example, explain in working of >> and >>> (unsigned right shift). (04 Marks)

#### OR

- 4
  - a. Define bytecode. How does it help java program(s) achieve portability? (05 Marks)
  - b. Write a java program to sum only the first five elements of the array {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} using "for each" version of the for loop. (06 Marks)
  - c. Define type casting. Explain with an example. (05 Marks)

**Module-3**

- 5 a. Define inheritance. Explain multilevel hierarchy with an example program. (05 Marks)  
 b. Describe the various levels of access protections available for packages and their implications. (07 Marks)  
 c. Distinguish between method overloading and overriding in Java, with suitable example. (04 Marks)

**OR**

- 6 a. Define exception. Explain exception handling mechanism with an example. (08 Marks)  
 b. Discuss the following terms with example: i) super ii) final (08 Marks)

**Module-4**

- 7 a. What is thread? Explain two ways of creating a thread in JAVA with example. (08 Marks)  
 b. What is the need of synchronization? Explain with an example how synchronization is implemented in JAVA. (08 Marks)

**OR**

- 8 a. Explain the delegation event model used to handle events in JAVA. What are events, event listener and event sources? (06 Marks)  
 b. With the syntax, explain the use of isAlive() and join() methods. (04 Marks)  
 c. Explain Adapter class and Inner classes with example. (06 Marks)

**Module-5**

- 9 a. What is an Applet? Explain the skeleton of an Applet. Enlist applet tags. (08 Marks)  
 b. Write a program using an Applet which will Print "key pressed" on the status window when you press the key, "key released" on the status window when you release the key and when you type the characters it should print "Hello" at coordinates (50, 50) on Applet. (08 Marks)

**OR**

- 10 a. Describe the two key features of swings. (04 Marks)  
 b. Explain the following with an example for each and syntax:  
     i) JLabel  
     ii) JTextField  
     iii) JButton  
     iv) JComboBox (12 Marks)

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