OBJECT ORIENTED CONCEPTS (BCA 301)

Duration: 02 Hours   **Maximum Marks: 50**

Instructions: *1) All questions are compulsory*
2) Figures to the right indicate full marks
3) Start each new question on fresh page

Q.1. **Explain the following terms with an example of each.**   **5 x 2 = 10 Marks**

   i) Unstructured Programming   ii) Inheritance   iii) Interfaces

   iv) Method Overriding   v) Constructor

Q.2 **Answer the following.**   **10 Marks**

A) Explain, how we achieve encapsulation in Object Oriented Programming? Give an example.   **(02)**

B) Explain any three limitations of Procedure Oriented Programming?   **(03)**

C) Based on the problem definition given below, identify objects/classes, its attributes and behaviors and represent it in the form of suitable class diagram. *(Mention suitable assumptions, if any)*   **(05)**

In an online booking system, a customer can book maximum 3 rooms at a time. There are two types of rooms, standard and suite. These rooms differ by their cost and capacity. System stores name, address, mobile no., email id, password and id related information of customer. It shows room no, floor no., room type, cost per room, capacity, description and status of rooms. While doing booking, it captures date of booking, no. of rooms booked, and total cost along with room no. and customer name. A customer can book, cancel, view, print, email and modify the booking and update data related to him/her.

Q.3 **Answer the following.**   **10 Marks**

A) Explain the differences between aggregation and composition using suitable example?   **(02)**

B) What is the purpose/use of garbage collection, 'super' and 'new' in java?   **(03)**

C) Explain polymorphism and its types. Which type of polymorphism is achieved by overriding & overloading concepts?   **(05)**

P. T. O.

Q.4 Answer the following.   **10 Marks**

A) How reusability is achieved in object oriented programming?   (02)

B) What do you mean by generic class? Write syntax of generic class with respect   (03)
   to java programming language.

C) I. Mention different types of inheritances.   (05)
    II. Which inheritance type is not possible in java and how it can be achieved?   (2+2+1)
    III. What will happen, if a method of a super class is declared as final?

Q.5. Answer the following   **10 Marks**

A) Whether the code block mentioned below will compile? Why or why not?   (02)

```
try{
        //operation code...
} finally {
        //operation code ...
}
```

B) Explain different types of exceptions? Which type of exception is necessary to   (03)
   be handled?

C) What are Stream Classes? Explain different type of stream classes along with its (05)
   purposes?

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