C5-R3: OBJECT ORIENTED METHODOLOGY

NOTE:

> 1.   **Answer question 1 and any FOUR questions from 2 to 7.**
> 2.   **Parts of the same question should be answered together and in the same sequence.**

Time: 3 Hours	**Total Marks: 100**

1.
a)	How to identify the *classes* and *object*s that are relevant to a particular application?
b)	Justify the statement: There is no *destructor* in Java.
c)	Explain: How an *Object Oriented Programming* can be tested at the class level.
d)	What are the good practices to use while designing for reuse?
e)	Differentiate between:
i)	Sequence diagram and Collaboration diagram.
ii)	Sequence diagram and Activity diagram
f)	*UML*: is it a Process, Method or Notation? Is it possible to use *UML* for user interface (UI) design?
g)	What is the role of ORB (Object Request Broker) in CORBA?

(7x4)

2.
a)	Explain, how object oriented design provide separation of interface and implementation.
b)	How is a generalization, specialization relationship resolved in Relational Data Modeling?
c)	What do you understand by distributed object computing? What are the advantages of distributed object computing?

(6+6+6)

3.
a)	What is package in java? What are the advantages of using package?
b)	How is method overriding different from overloading? What does the keyword virtual mean in the method definition? Can it be possible to override *private virtual methods*?
c)	Explain, how an object oriented application can be developed using OODBMS. Also explain the architectural alternatives of an OODB to be used in a distributed Client-Server environment.

(6+6+6)

4.
a)	What is an abstract class? Mention its use. What is an interface? What is/are difference(s) between abstract class and interface?
b)	Explain, how a CORBA object can make static and dynamic service invocation. In each type of service invocation, identify the roles played by the important elements in the CORBA architecture.
c)	Explain the following concepts and show how they can be implemented in C++ language by using suitable example:
Inheritance, Composition, Association.

(6+6+6)

5.
a) Explain the concept of message passing and visibility and discuss, how they are related to each other.
b) Write down the steps to perform programming filters in servlet.
c) Which types of drivers are available in java for database programming? Explain all of them.

(4+8+6)

6.
a) Write network program for DayTime Server in java.
b) Which are the benefits of the Java Collections Framework?
c) Describe some metrics to estimate efforts required to test Object Oriented software.

(8+6+4)

7.
a) Write down the features that Swing and the Java Foundation Classes provides.
b) Write a java program to append data at the end of a text file.
c) Which are the benefits of Bundling code into individual software objects?

(8+8+2)