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) Explain the term 'data hiding' in context to OOPS? Correlate it with encapsulation and abstraction?

b) What is finalize method in Java? What is the importance of it in Java? Justify your answer with example.

c) What is Object serialization? What is its use?

d) What is runtime polymorphism in Java? How can we achieve this? Give example.

e) What are the difference between abstract class, ordinary class and interface? Give their importance in context of uses.

f) What are CRC cards and what are their usages in Object-Oriented Technology.

g) How do IS-A and HAS-A relationships help in developing Object-Oriented Design.

(7x4)

2.

a) Describe in brief, the need of formulating middleware standards like (CORBA) in distributed object-oriented systems.

b) What is class-instance diagram in Object-Oriented Methodology? Explain with example.

c) What are the roles of stubs and skeletons? What is object marshalling?

(6+6+6)

3.

a) If we say "Java is robust", Justify? Explain the terms 'throw' and 'throws'? How do they differ from each other?

b) What is polymorphism? Explain method overloading and method overriding in context of Java?

c) Can we declare the constructor private? What happen if we do this? Give your detail justification.

(6+6+6)

4.

a) What is multithreading? Explain the term synchronization with example.

b) Explain and differ the terms 'access-specifires' and 'access-modifiers'?

c) Explain term OMT in detail with example?

(6+6+6)

5.

a) What is persistent programming language? How do we make object persistent?

b) Compare and contrast relational database and object-relational database models.

c) What is software reuse? Discuss the benefits of software reuse. Illustrate, by giving suitable examples from Java code.

(6+6+6)

6.

a) What is TCP/IP networking? How can Java do this?

b) Explain the 'event delegation model'?

c) What is applet? What are the importances of Applet? How can we pass the information from HTML to an Applet?

(6+6+6)

7.

a) What is servlet? Explain servlet life cycle? 'Servlets are multithreaded', Justify?

b) Explain the different types of JDBC drivers used in Java for database connectivity? Why we use Type-4 in place of Type-1 in big systems.

c) Explain the following terms:

i) Smalltalk

ii) Virtual reality

iii) Domain naming system

(6+6+6)