

B5.2-R3: OBJECT ORIENTED DATABASE MANAGEMENT SYSTEM

NOTE:

1. Answer question 1 and any FOUR from questions 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 are data and functions organized in an object oriented program?
- b) What is a class? How does it accomplish data hiding in object oriented programming?
- c) What additional functionality would typically be provided by an ORDBMS?
- d) Explain: Every object has state, behavior and identity.
- e) What is the role of ORB (Object Request Broker) in CORBA?
- f) Discuss the extension required to query processing and query optimization to fully support the ORDBMS.
- g) Explain the stages of object oriented methodology.

(7x4)

2.

- a) Explain interface definition and interface compiler in CORBA? What is the need of interface compiler?
- b) How object oriented design provide separation of interface and implementation?
- c) What is the relationship between data mining and business intelligence? Explain the architecture of data mining system with the help of a neat sketch.

(8+4+6)

3.

- a) What is persistent programming language and how does it differ from Embedded SQL?
- b) Explain the major strengths of the relational model. With all of these strengths, why go beyond the relational model in general, and to an object oriented model in particular?

(8+10)

4.

- a) Explain the concept of generalization and inheritance in relational data modeling.
- b) What is the need of recoverability in concurrently running transactions? Explain the concept of cascading rollback and cascade less schedules.
- c) Explain why it may be impractical to require serializability for long duration transaction.

(6+6+6)

5.

- a) Differentiate between homogeneous distributed databases and heterogeneous distributed databases. Discuss the implementation issue for Distributed Database.
- b) Give architectural differences between object oriented database management and object relational database management with respect to following concepts; data modeling and query, backup and recovery, performance, customizing data types.

(8+10)

6.

- a) Explain the concept of Persistent Programming Language. How can it be helpful in Object Relational Database?
- b) Explain Data Warehouse Design Process and Multi Tier Architecture of Data Warehouse.
- c) What is the motivation for splitting a long transaction into a series of small ones? What problems could arise as a result and how can these problems be avoided?

(6+6+6)

7.

- a) What is meant by database authorization and database audit?
- b) Explain Object Modeling Technique (OMT) and relationship among models.
- c) What is Classification? Differentiate between Classification and Clustering. Explain the issues regarding Classification.

(6+4+8)