Roll No. ....

67164

M.C.A. 4th Semester

Examination–May, 2013

(w.e.f. May, 2013)

Advanced Database Systems

Paper-MCA-404

Time : 3 hours ***Max. Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt any **five** questions in all selecting at least one from each unit.

Unit-I

1. (a) What is the difference between specialization and generalization ? Why this difference is not displayed in schema diagram ?

   (b) Explain different alternative for specifying structural constraint on relationship type.

   (c) Differentiate specialization hierarchy and lattices with example.

   (d) How does a category differ from a regular shared subclass ? Why category is used? Explain with example.

2. (a) How type constructors are used to create complex objects ?

   (b) Explain architecture and storage criteria for OODBMS.

   (c) What are the methods for achieving the persistency of an object ?

   (d) What are different methods for accessing complex structured objects ?

Unit-II

3. (a) How is recursion used for specifying recursive queries in ORDBMS ? Explain with example.

   (b) How type constructor, object identifier, encapsulation and inheritance are used in ORDBMS ? Illustrate with examples.

   (c) How multivalued attributes and collection types are represented in ORDBMS.

   (d) Explain the creation of constructor function and object views in ORDBMS.

4. (a) What are decision support systems ? What are various tools and techniques that support decision-making system ?

(b) How the relevance of a document to a given term *t* is measured ?

(c) What is the role of indexing in IR system ? Explain various techniques for IR System.

(d) Explain different OLAP operations.

Unit-III

5. (a) Discuss different architectures of parallel database system. From these, which one is better and why ?

(b) What is I/O parallelism ? Discuss its various partitioning techniques and queries.

(c) Explain intraquery parallelism.

6. (a) Explain data transparency and data fragmentation with respect to distributed database. How can a relation be put back together from partitioning ?

(b) When and how are voting and elections are used in distributed databases ?