(b) What is Fragmentation ? Discuss various correctness strategies for fragmentation. How can a relation be put back together from various partitioning ?

7. (a) How server provides transaction services to client ? Illustrate with diagrammatical notation.

(b) Discuss reference and component architecture for distributed database. How the degree of local autonomy is defined in these architectures ?

UNIT-IV

8. (a) Discuss the design and implementation issues for active database.

(b) How do spatial databases differ from regular databases ? Discuss the different categories of spatial queries.

9. (a) Discuss the architecture for mobile computing with diagram.

(b) What are the different components and constraints associated with GIS ?

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M.C.A. 4th Sem. (with new notes)
M.M. 80

Examination–May, 2017

ADVANCED DATABASE SYSTEMS (NEW)

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 **five** questions in all. Question No. 1 is **compulsory**. In addition to compulsory question, attempt **four** more questions selecting **one** question from each unit. All questions carry equal marks.

1. **Compulsory** Question

(a) How does a category differ from a regular shared subclass ?

(b) Define factory object. How is it used to create individual object ?

(c) How type constructor are defined in ORDBMS ?

(d) Differentiate false positive and false negative.

(e) How Cache-coherency problem is reduced in interquery parallelism ?

(f) What are the different types of network transparency ? Define each of them.

(g) How rules are interpreted in deductive database ?

(h) How time is represented in temporal database and compare different time dimensions ?

UNIT-I

2. (a) Differentiate Specialization and Generalization. Why differences of both are not displayed in Schema diagram ? Discuss disjointness and completeness constraints with example.

(b) What are the different architectures and storage issues related to OODBMS ?

3. (a) How type constructors are used to create complex object structure ? Also discuss the semantics exist between a complex object and its component with example.

(b) How the concept of inheritance is achieved in EER model ? Discuss the concept in reference of simple and multiple inheritance.

UNIT-II

4. (a) How inheritance, recursion, constructor functions and multiset aggregation are specified in ORDBMS ?

(b) How the relevance of document can be measured on the basis of given term t ? How is indexing useful in information retrieval ?

5. (a) How query is processed and optimized in ORDBMS ? Give an example also.

(b) How effectiveness of information retrieval is measured ? Discuss the metrics for measuring retrieval effectiveness.

UNIT-III

6. (a) Differentiate Interquery and Intraquery parallelism ? How processing of query can speed up with intraquery parallelism ?