Roll No. .....

67174

M.C.A. 4th Sem.
(with New notes - M.M. 80.)
Examination–May, 2016

Advanced Database System (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.

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1. Compulsory question :

(a) What is the difference between specialization hierarchy and specialization lattice ? Give example also.

(b) How does OID differ from primary key and tuple identifier in relational model?

(c) How is linear recursion used for specifying recursive queries in ORDBMS ?

(d) How is DSS different from transaction processing system ?

(e) What is I/O parallelism? Name the partitioning techniques used for it.

(f) What is degree of local autonomy? How is it useful in DDBMS ?

(g) Discuss the categorization of spatial queries.

(h) How are active rules designed and implemented ?

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.

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(b) What are the different ways for transaction management and concurrency control in OODBMS ?

3. (a) How persistency is handled in OODBMS? Discuss the methods for achieving the persistency of an object.

(b) How does a category differ from regular shared sub-class? What is a category used for ? Illustrate the answer with example.

Unit-II

4. (a) How type constructor, object identity, encapsulation of operations and inheritance are specified in ORDBMS ?

(b) How the relevance of document can be measured in on the basis of given term *t*. Discuss the concept of stop word and proximity in context of relevance.

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) What is intraquery parallelism? How processing of query can speed up with intraquery parallelism?

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(b) What are various design issues related to DDBMS? Discuss their usage also.

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

(b) How concurrency control is achieved in distributed database?

Unit-IV

8. (a) How time is incorporated using tuple versioning and attribute versioning in temporal database?

(b) How rules are interpreted in deductive database? Also discuss the datalog program and their safety.

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

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