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

   (b) Differentiate functional and procedural models of big data with their merits and usage.

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67108

MCA 3rd Semester (CBCS Scheme)

w. e. f. Dec. – 2017-18

Examination – December, 2018

ADVANCE DATABASE SYSTEMS

Paper : 17MCA33C3

Time : Three Hours]   *[Maximum 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 examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. **1** is *compulsory*. All questions carry equal marks.

1. *Compulsory* Question :
   (a) What is the difference between specialization hierarchy and specialization lattice ?   Give example also.
   (b) How OID differs from primary key and tuple identifier in relational model ?
   (c) How is linear recursion used for specifying recursive queries in ORDBMS ?
   (d) How DSS is 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) How are active rules designed and implemented ?

(h) Differentiate Text analytics and Predictive analysis in Big data.

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 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 subclass ? 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 effectiveness of information retrieval is measured ? Discuss the metrics for measuring retrieval effectiveness.

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

(b) What are different schema architectures for multidimensional data models ? Discuss with diagrammatic notation.

UNIT – III

6. (a) What is intraquery parallelism ? How processing of query can speed up with intraquery parallelism ?

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

7. (a) How server provides transaction services to client ? 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 attributes versioning in temporal database ?

(b) What is cloud storage ? Discuss cloud storage architecture with diagram.