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.

Roll No. .....

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.