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Exam. Code: 0919
Sub. Code: 6803

1128
B.E. (Computer Science and Engineering)
Seventh Semester
CS-702: Advanced Database Systems

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer the following in brief:-

- a) Difference between BFIM and AFIM and their role in recovery techniques.
- b) Difference between OLTP and datawarehouse. Explain with an example.
- c) Immediate update and deferred update recovery techniques.
- d) Difference between OLAP and OLTP
- e) Difference between SQL and SQL3

(5x2)

UNIT – I

II. a) Explain the steps of processing a high level query. How the query execution plans are derived?

b) Discuss the functions of ODL and OQL in object oriented databases. (2x5)

III. a) Outline the main differences between the following data models:-

- i) Document Oriented
- ii) Relational

b) Explain, with aid of examples, the difference between serial and serialisable schedules of transactions. Comment on whether (and if so, how) one is a superset of the other.

(2x5)

IV. Consider the following tables:-

Film (filmNbr, title, year)

Director (directID, name)

Directing (directID, filmNbr)

And the following query:

```
SELECT Film.title FROM Film, Director, Directing WHERE Film.filmNbr =  
Directing.filmNbr AND Director.directID = Directing.directID AND Director.name =  
'Lucas' AND Film.year = 2015;
```

Draw a query tree that corresponds to the most efficient way of processing this query (10)

P.T.O.

(2)

UNIT – II

- V. a) Draw and explain the 3-tier Client-Server architecture of DDBMS.
b) Explain and discuss the architecture of datawarehouse. Explain each term in detail. (2x5)
- VI. a) Give a comparison of application development, recovery and performance features of Oracle, DB2 and MySQL.
b) How are recursive queries specified in SQL? Explain. (2x5)
- VII. a) Describe about identity, object structure, and type constructors in Object Oriented databases.
b) How is concurrency managed in distributed database management system? (2x5)

x-x-x