Total No. of Questions : 12]

SEAT No. :

P1436

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B.E. (Information Technology)

a: ADVANCED DATABASE MANAGEMENT

(2008 Pattern) (Semester - I) (Elective -I) (414443)

Time : 3 Hours] *[Max. Marks :100*

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Answers to the two sections must be written in separate answer-books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data wherever necessary.***

SECTION - I

Q1) a) Explain PL/SQL Transactions. What is save point & cursor? **[8]**

b) How can you trap exceptions in PL/SQL? Write a code fragment to trap any three exceptions. **[8]**

OR

Q2) a) Explain difference between procedure & function in PL/SQL. Consider following database. **[8]**

Employee (Emp_id, Emp_name, Emp_salary).

Write a procedure which read the Emp_salary from database. If salary is less than 20,000/- then increase it by 10% otherwise by 5%. Update Database accordingly.

b) What is Cursor in PL/SQL? Explain its types with their attributes. Also explain how to open cursor, fetch cursor, close cursor using suitable example. **[8]**

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Q3) a) What are TP Monitors? Explain the TP Monitor architectures. **[8]**

b) Write short note on Main Memory Databases? **[8]**

OR

Q4) a) Explain transactional workflow with suitable example. **[8]**

b) Write down different methods for concurrency control? **[8]**

Q5) a) Where you need to use complex data types? Also explain structured data types and inheritance in object based databases. **[8]**

b) A car rental company maintains a vehicles database in its current Fleet. For all vehicles, it includes the vehicle identification number, license number, manufacturer model, date of purchase and color. Special data are included for certain types of vehicle. **[10]**

Trucks: Cargo capacity

Sports cars: horsepower, renter age requirement.

Vans: Number of passengers

Off-road vehicles: ground clearance, drivetrain (four-or two-wheel drive)

Construct an SQL: 1999 schema definition for this database. Use inheritance where appropriate.

OR

Q6) a) Describe XML query algebra operation. Describe use of X-Query for path Expression and FLWOR expression in DBMS. **[8]**

b) Explain XML DTD representation for nested relational schema. **[10]**

SECTION - II

Q7) a) Explain Kimball database design methodology for data warehouse. **[9]**

b) Present a diagrammatic representation of typical architecture and main components of data warehouse. **[9]**

OR

Q8) a) Explain Data Marts-Reasons and issues. **[9]**

b) Explain all schemas used in Data warehouse. **[9]**

Q9) a) Write a note on classification-Decision Trees. **[8]**

b) What is k-means algorithms used for? Explain with help of example. **[8]**

OR

Q10) Write short notes on (any two): **[16]**

a) Bayesian Classifiers.

b) Difference between OLTP and OLAP.

c) OLAP benchmarks and applications.

Q11) a) Explain Database Defense Mechanism? **[8]**

b) Explain statistical database auditing. **[8]**

OR

Q12) a) Explain what the need of granting and revoking privileges is. **[8]**

b) Explain Oracle's named Exception Handlers. **[8]**

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