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P 608

[4064] - 604

B.E. (IT)

**ADVANCED DATABASE MANAGEMENT**

**(2008 Course) (414443(A)) (Sem. - I) (Elective - I)**

*Time : 3 Hours]*

Nov - Dec  
[Total No. of Pages :3 2011

*[Max Marks : 100*

*Instructions to candidates :*

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Neat Diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*
- 5) *All questions are compulsory.*

**SECTION-I**

- Q1) a) What is the need of PL/SQL? Draw PL/SQL block structure and execution environment. Explain each block. [8]
- b) How can you trap exceptions in PL/SQL? Write a code fragment to trap any three exceptions. [8]

OR

- Q2) Write an UPDATE trigger on a table that keeps track of old values of the updated record. Add old values in another table. Create required tables and write SQL statements for the same. [16]

- Q3) a) What are TP monitors? Explain the TP-Monitor architectures. [8]
- b) What are two-phase locks? Give an example. [8]

OR

- Q4) a) Write a note on long-duration transactions. What are the key properties they must have? [8]
- b) What are compensating transactions? [8]

- Q5) a) Where you would need to use Complex data types? How would you declare structured types using SQL: 1999? [10]
- b) What is XML DTD? Explain with example. [8]

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OR

- Q6) a) Write a note on XML applications. [8]
- b) In order to turn a language into database programming language, we need to make objects persistent. Explain different approaches. [10]

**SECTION-II**

- Q7) a) Suppose that a data warehouse consists of three dimensions time, doctor and patient, and the two measures count and charge where charge is the fee that a doctor charges a patient for a visit. [9]
- i) Enumerate three classes of schemas that are popularly used for modeling data warehouse.
- ii) Draw a schema diagram for the above data warehouse using one of the schemas listed above.
- b) Define data warehouse. Explain each clause in the definition. Can RDBMSes be used instead of warehouses? Give reasons. [9]

OR

- Q8) a) What is the need of extraction, cleaning and transformation while building data warehouse? Give examples to support your answer. [9]
- b) Describe how a dimensional model differs from an Entity-Relationship (ER) model present a diagrammatic representation of a typical star schema and state its advantages and disadvantages. [9]
- Q9) a) What is market-basket analysis? Explain the algorithm that implements this concept. [8]
- b) Explain in detail any four OLAP functions which are extensions to SQL. [8]

OR

- Q10) Write short notes on: (any two) [16]
- a) Categories of OLAP tools.



- b) Supervised and unsupervised learning
- c) OLAP benchmarks and applications.

*Q11)* a) Explain Implicit Locking. How does Oracle implement it? [8]

b) Write a note on Database Security and the threats. [8]

OR

*Q12)* a) How will you implement business rule validations? [8]

b) Explain the following in terms of providing security for a database: [8]

i) Authorization.

ii) Encryption.

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