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Total Number of Pages : 02

B.Tech  
PCS4I103

4<sup>th</sup> Semester Regular / Back Examination 2018-19

DATA BASE SYSTEM

BRANCH : CSE

Time : 3 Hours

Max Marks : 100

Q.CODE : F483

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

Q1 Short Answer Type Questions (Answer All-10) (2 x 10)

- What is Data Independence of DBMS?
- What is SQL Dependency?
- Write a short note on relational algebra.
- Explain why 4NF is more desirable than BCNF with the help of an example.
- What are Triggers?
- Define Embedded SQL.
- What are applets in XML?
- How XQuery is used in XML?
- What is difference between SQL and NoSQL?
- What is meant by transaction management?

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- Give the introduction of database interfaces. What are its types?
- What is an ER-diagram? Construct an ER diagram by taking a suitable example.
- What is Relational Calculus? What is the difference between tuple relational calculus and domain relational calculus? Explain with the help of suitable examples
- Explain structure of XML document with suitable example.
- Why concurrency control is needed in database system? Explain, any One concurrency control technique?
- Discuss briefly about mobile database and multimedia database
- What three data anomalies are likely to be the result of data redundancy? How can such anomalies be eliminated?
- What are the construct used in the relational calculus. Explain each of them with example.
- How OLAP is used to extract and view data in warehousing?
- What is relational model? How the data and relationships are represented in tables in relational models?
- What do you mean by Normalization? Explain the first three normal forms along with BCNF and the anomalies that exist in these normal forms with the help of suitable examples.
- Discuss nested relations in object relational databases. Why they are called complex datatypes?

**Part-III**

**Long Answer Type Questions (Answer Any Two out of Four)**

210 **Q3** 210 What is Data Mining? Explain Data Mining Techniques. Compare between Data Mining and Data Warehousing. **(16)** 210

**Q4** What is the difference between relational algebra and relational calculus? **(16)**

**Q5** What do you mean by ODBC and JDBC? Explain with the help of an example how to access data in the database from a Java application. **(16)**

210 **Q6** 210 What is an XML Schema? What are the basic rules while writing XML? Explain. **(16)** 210