Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 50383

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Third/Fifth/Eighth Semester

Computer Science and Engineering

CS 6302 – DATABASE MANAGEMENT SYSTEMS

(Common to Mechanical and Automation Engineering, Mechatronics Engineering, Information Technology)

(Regulations 2013)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. State the levels of abstraction in a DBMS.

2. What are the problems caused by redundancy ?

3. What is static SQL and how is it different from dynamic SQL ?

4. State the steps in query processing.

5. State need for concurrency.

6. Define ACID properties.

7. What are data fragmentations ? State the various fragmentations with example.

8. Define ordered indices with example.

9. Distinguish between threats and risks.

10. State the function of XML schema.

PART – B (5×13=65 Marks)

11. a) i) Differentiate between foreign key constraints and referential integrity constraints with suitable example. (6)

   ii) Distinguish between lossless-join decomposition and dependency preserving decomposition. (7)

(OR)

   b) State and explain the architecture of DBMS. Draw the ER diagram for banking systems. (Home loan applications). (13)

12. a) i) State and explain the command DDL, DML, DCL with suitable example. (7)

   ii) Justify the need of embedded SQL. Consider the relation student (studentno, name, mark and grade). Write embedded dynamic SQL statements in C language to retrieve all the students' records whose mark is more than 90. (6)

(OR)

   b) Explain the catalog information for cost estimation for selection and sorting operation in database. (13)

13. a) State and explain the lock based concurrency control with suitable example. (13)

(OR)

   b) When does deadlock occurs ? Explain two-phase commit protocol with example. (13)

14. a) i) What are the various feature of distributed database versus centralized database system ? (6)

   ii) Explain the B+ tree indexes on multiple keys with a suitable example. (7)

(OR)

   b) Explain the distinction between static and dynamic hashing. Discuss the relative merits of each technique in database applications. (13)

15. a) i) Distinguish between classification and clustering with example. (6)

   ii) State the necessity for crawling and indexing the web. Explain the procedure for it. (7)

(OR)

   b) Describe the various component of data warehouse and explain the different data model used to store data with example. (13)

PART – C (1×15=15 Marks)

16. a) Explain in detail about spatial and multimedia databases. (15)

(OR)

   b) Write the DDL, DML, DCL commands for the students database.
   Which contains student details : name, id, DOB, branch, DOJ.
   Course details : Course name, Course id, Stud. id, Faculty name, id, marks. (15)

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