Question Paper Code : 91393

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Third/Fifth/Eighth Semester

Computer Science and Engineering

CS 6302 – DATABASE MANAGEMENT SYSTEMS

(Common to Computer Science and Engineering/Mechanical and Automation
Engineering/Mechatronics Engineering/Information Technology)

(Regulations – 2013)

(Also Common to PTCS 6302 – Database Management Systems for B.E.
(Part-Time) – Second Semester – Computer Science and Engineering –
Regulations 2014)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What are the major drawbacks of File Processing System ?

2. What is meant by weak entity set ? Explain with an example.

3. Write short note on Aggregate functions. Give examples.

4. Can a view be defined with other view ? Explain with an example.

5. Differentiate Loss less join decomposition and Lossy Join decomposition.

6. How do you estimate the cost of the Hash Join ? How is it different from Hybrid
   Hash Join ?

7. Give the different forms of query that are possible with Multimedia Database
   Systems.

8. Compare and Contrast Range Partitioning and Hash Partitioning.

9. Give examples of different query languages of Object Relational Databases.

10. Mention few applications of Data Mining.

PART – B   (5×13=65 Marks)

11. a) Define Normalization. Explain the different levels of Normal forms for the relation given below.

Project_employee table (Proj.Num, Proj.Name, Empid, Empname, Designation, Hourly charges, total no. of hours worked, Total Charges).

(Note : Fill the table with appropriate Values)

(OR)

b) Explain in detail on the Codd's rule on relational database.

12. a) Consider the following relational schema
Emp (eid:integer, ename:string, salary:real)
Works (eid:integer, did:integer)
Dept (did:integer, dname:string, managerid: integer, floornum: integer)

Write the following queries in QBE. Be sure to underline your variables to distinguish them from your constants.
1. Print the names of all employees who work on the 10th floor and gets less than Rs. 50,000 as their salary.
2. Print the names of all managers who manage three or more departments on the same floor.
3. Give every employee who works in the toy department a 10% raise.
4. Print all of the attributes for employees who work in some department that employee ABC also works in.
5. Print the name of each department that has a manager whose last name is PABC and who is neither the highest paid nor the lowest paid employee in the department.

(OR)

b) Prove the statement "When the column of a view is directly derived from a column of a base table, that column inherits any constraints that apply to the column of the base table" by using suitable example.

13. a) Elaborate on the following
   i) Two phase locking protocol.   (7)
   ii) Graph based protocol.   (6)

(OR)

b) Explain Concurrency Control and Deadlock in relation to databases with examples.

14. a) i) Elaborate on Web Databases. (9)

    ii) Explain about the advantage of using RAID. (4)

              (OR)

   b) Explain how B and B+ tree are processed ? Give one example for each.

15. a) Discuss in detail on the recovery techniques that can be applied to the common types of database failure.

              (OR)

   b) i) Give a detailed note on the challenges involved in mining spatial data ? (7)

    ii) Explain the concept of clustering in Data Mining. (6)

PART – C   (1×15=15 Marks)

16. a) Elaborate on :
    i) Distributed databases. (8)
    ii) Information Retrieval. (7)

              (OR)

   b) i) Explain in detail about Database Security. (8)
    ii) XML Databases. (7)

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