DBMS IMPORTANT QUESTIONS

1.Write short notes on EXISTS and UNION functions in SQL.

2.Describe the concept of cursor and how it is used in embedded SQL.

3.What is JDBC? Explain its components.

4.Discuss all the aggregate functions with suitable relational algebra examples.

5.How are the OUTER JOIN operations different from the INNER JOIN operations? How is the OUTER UNION operation different from UNION?

6.Write short notes on JOIN and DIVISION operation with examples. Explain informal quality measures employed for a relation schema design.

7.Consider the following schema:

Bank(Bank Name, Bank Code, Address)

Customer(Customer id. Name. Phone Number, Address)

Branch(Branch id, Name, Address)

Account(Account number, Account Type, Balance)

Loan(Loan id, Loan Type, Amount)

Illustrate the ER-to-relational mapping procedure for the above database with all required steps.

8.Consider the following schema:

EMPLOYEE(FName, Minit, LName, Ssn, Bdate, Address, Sex, Salary, super-ssn, Dno)

DEPARTMENT(Dname, Dnumber, Mgr\_ssn, Mgr\_st date) DEPART LOCATIONS(Dnumber, Dlocation)

PROJECT(Pname, Pnumber, Plocation, Dnum)

WORKS ON(Essn, Pno, Hours)

DEPENDENT(Essn, Dependent name, Sex, Bdate, Relationship)

Write the relational algebra queries for the above schema:

1. Find the names of employees who work on all the projects controlled by department number 5.

2. Retrieve the names of employees who have no dependents.

3. List the names of all employees with two or more dependents.

9.Write short notes on Cartesian product with examples.

10.Discuss the various types of inner join operations. Why is theta join required?

11.Distinguish Prime attribute with Non-prime attributes.

12.Write short notes on UNION, INTERSECTION, and MINUS Operations with examples.

13.Define functional dependency using suitable examples.

14.Write short notes on JOIN and DIVISION operation with examples.

15.Explain informal quality measures employed for a relation schema design.

16.With suitable examples in SQL explain Schema change statements

17.Write short notes on NULL and the 3 valued logic.

18.Give the syntax of the select query in SQL. Give the 6 basic clauses of the SQL select query.

19.How do you create a view in SQL? Give examples. Can you update a view table? Discuss.

20.Explain the concept of triggers with suitable example in SQL.

21.Consider the following schema and write the SQL queries. Give sample data and expected output:

SAILORS (SID. SNAME, RATING, AGE)

BOATS (BID, BNAME, COLOR)

RESERVES (SID, BID, DAY)

1. Find names of sailors who have reserved boat for 103.

2. Find names of sailors who have reserved a red boat.

3. Find names of sailors who have reserved a red or green boat.

4. Find names of sailors who have reserved all boats.

22.Consider the following schema and write the SQL queries. Give sample data and expected output:

EMPLOYEE(FNAME, MINIT, LNAME, SSN, BDATE, ADDRESS, SEX, SALARY, SUPER-SSN, DNO)

DEPARTMENT(DNAME, DNUMBER, MGR SSN, MGR ST DATE)

DEPART LOCATIONS(DNUMBER, DLOCATION)

PROJECT(PNAME, PNUMBER, PLOCATION, DNUM)

WORKS ON(ESSN, PNO, HOURS) DEPENDENT(ESSN, DEPENDENT NAME, SEX, BDATE, RELATIONSHIP)

1. For every project located in Boston, list the project number the controlling department number and the department manager's last name, address and birthdate.

2. List the names of all employees who have a dependent with the same first name as themselves.

3. For each project, list the project name and the total hours per week (by all employees) spent on that project.

4. Retrieve the name of each employee who works on all projects controlled by 'Research' department.

23.Explain the concept of stored procedures.

24.Consider the following schema and write the SQL queries. Give sample data and expected output:

CUSTOMER (CID, CNAME, EMAIL, ADDR, PHONE)

SALES (CID, ITEM NO, AMOUNT, SALE DATE)

ITEM (ITEM NO, ITEM NAME, PRICE, BRAND)

SUPPLIER (SID, SNAME, SPHONE, SADDR) SUPPLY (SID, ITEM NO, SUPPLY DATE, QTY)

1. List the items purchased by customer 'Nisha'.

2. Retrieve items supplied by all suppliers starting from 01-Jan-2019 to 30-Jan-2019.

3. Get the details of customers whose total purchase of items worth more than 5000 rupees.

4. List total sales amount, total items, and average sale amount of all items.

5. Display customers who have not purchased any items.