Mahila Vikas Sanstha's

INDRAPRASTHA NEW ARTS COMMERCE & SCIENCE COLLEGE, AT POST NALWADI, DIST. WARDHA (M.S.)

Accredited 'B' by NAAC

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Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

Recognised by U.G.C New Delhi under section 2 (f) & 12 (b) of UGC act 1956

Department of Computer Science
Class: BSc V Sem
Subject : DBMS(Paper II)
Question Bank

Unit I

1. Define DBMS. What are the objectives of DBMS ?
2. Explain relational database model in DBMS.
3. What are the issues involved in handling traditional file processing system ?
4. Write a note on 'database users' in DBMS.
5. What are the advantages of DBMS ?
6. Give classification of Data Models and explain in brief.
7. Explain network data model with example and discuss advantages and disadvantages ofthis model.
8. Explain different problems associated with traditional file processing system.
9. Draw three level architecture of DBMS and explain.
10. Explain Data Migration.
11. What are the different problems in traditional file processing system ?
12. Explain the Network data model with suitable example.
13. Explain the different components of database management system.
14. Explain the three level architecture of DBMS

Unit II

1. What do you mean by weak and strong entity set in DBMS ? Explain with example.
2. Draw an E-R diagram for hospital system.
3. What is generalization and specialization in DBMS ? Explain
4. Explain data mapping with suitable example.
5. Explain super key, candidate key and primary key with suitable example.
6. Define attribute. Explain :
     I.   Simple and composite attribute
     II.   Single valued and multivalued
     III. Null attribute
     IV.   Derived attribute.
7. List symbols used in E-R diagram and explain their meaning. Give one example of
8. E-R diagram.

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9. Explain Relationship giving suitable example.
10. Explain Data mappings.
11. Draw an E-R diagram for Hospital System.
12. Explain Aggregation with suitable example.

Unit III

1. Explain natural join operation with suitable example.
2. What are aggregate functions ? Explain with examples.
   a. SAILOR (sid, sname, rating, age)
   b. BOAT (bid, bname, color)
   c. RES_BOAT (sid, bid, date)
   d. Answer the query in relational algebra to find all sailors who have rating of at least 8 or reserved boat 103.
3. Explain union and intersection operation with example.
4. Explain in brief set intersection operation.
5. Explain following operations with suitable example :
   a. Union
   b. Set difference.
6. Consider following relation :
   a. NSS_UNIT(stu_name, volunteer_no)
   b. NCC_UNIT(stu_name, cadet_no)
7. Answer following query in relational algebra :
   a. Find names of all students who are members of both NSS_UNIT and NCC_UNIT.
8. Explain left, right and full outer join operation with example.
9. Consider following relation :
   a. loan(branch_name, loan_no, loan_amt).
   b. Construct queries in relational algebra for following :
   c. Find all tuples with branch name "XYZ".
   d. Find all tuples with loan_amt more than 2 lac.
   e. Find all tuples with branch name "PQR" and loan_amt more than 5 lac.
   f. Find branch_name of loan_no "LOOA58".
   g. Find loan_no pertaining to "MNO" branch.
10. Explain projection operation with suitable example.
11. Explain the Division operation with suitable example.
12. Consider the following relations
    Depositor (Cust_name, acct_no)

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Borrower (Cust_name, Loan_no)

13. Answer the following query in relational algebra : Find the names of all bank customers who have either an account or a loan or both.
14. Explain the Cartesian product operation with suitable example.
15. Consider the following relations :
    Borrower (Cust_name, Loan_no)
    Loan (Branch_name, Loan_no, Amount)
    Answer the following query in relational algebra. Find the names of all customers who have a loan at Nagpur Branch.

Unit IV

1. What is Functional Dependency ? Explain full and partial functional dependency with example.
2. Define normalization. Define BCNF with suitable example.
3. Explain the role of functional dependency in the process of normalization.
4. Explain the fourth normal form giving suitable example.
5. Explain transitive functional dependency.
6. Explain 2NF. Discuss problems arising in three basic operations_insert, delete and update when relation is in 2NF.
7. Explain partial functional dependency and transitive functional dependency with example.
8. Write advantages of representing data in normalized form. Also draw successive levels of normal forms.
9. Identify the functional dependencies in the following table :—
   J K L
   x 1 2
   x 1 3
   y 1 4
   y 1 3
   z 2 5
   P 4 7 5
10. Explain with example Second Normal Form (2NF).
11. Explain BCNF with suitable example.
12. Explain the multivalued dependency.