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| **ST. JOSEPH’S UNIUVERSITY, BANGALORE-27** | | | | | | |
| **MSc Computer Science–II SEMESTER** | | | | | | |
| **SEMESTER EXAMINATION: APRIL 2024**  **(Examination conducted in May/June 2024)** | | | | | | |
| **CS8121- Advanced Database management System**  **(For current batch students only)** | | | | | | |
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| **Time- 2 hrs** | |  | **Max Marks-50** | | |
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| **This paper contains two printed pages and three parts**  **PART A**  **Answer All the following questions. 5 \* 2=10**   1. Write the purpose of GROUP BY clause of SQL. 2. Give any one conflict that can be caused during write and read operation with example. 3. Differentiate intra and inter query processing. 4. How would you differentiate between OLTP and Data Warehousing in a tabular manner? 5. List the Components of Data warehouse.   **PART B**  **Answer any FIVE of the following: 5 \*4 =20**   1. A set of functional dependency for the relation R{A,B,C,0,E,F} is AB->C,C->A, BC->D,ACD->B,BE->C,EC->FA,CF->BD,D->E. Find the minimum cover for this set of FDs. 2. Explain timestamp based protocol in concurrent transactions. 3. Discuss fragmentation transparency, replication transparency and location   transparency in distributed databases.   1. List two major difficulties with the log based recovery without checkpoints. 2. Describe the different types of OLAP operations. 3. Write the different tools for Data warehouse development. 4. Differentiate super key and foreign key with example that is used in company   Database.  **PART C**  **Answer any TWO of the following. 10x2=20**   1. Give example with reason: i) Serializability ii) Defered (5+5)   14. a) How is “Snowflake Schema” used in Data warehousing? (5+5)  b) Discuss fragmentation transparency, replication transparency and location transparency in distributed databases.   1. Consider the following two tables:     **TABLE: TRANSACT**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | TRNO | ANO | AMOUNT | TYPE | DOT | | T001 | 101 | 2500 | Withdraw | 2017-12-21 | | T001 | 103 | 3000 | deposit | 2017-06-01 | | T001 | 102 | 2000 | Withdraw | 2017-05-12 | | T001 | 103 | 1000 | deposit | 2017-10-22 | | T001 | 102 | 12000 | deposit | 2017- |   Use Suitable SQL commands to create above Database with all constraints.  Write the SQL queries for the following:   1. To display details of all transactions of TYPE Withdraw from TRANSACT table 2. To display ANO and AMOUNT of all Deposit and Withdrawals done in month of   „May‟ 2017 from table TRANSACT   1. To display first date of transaction (DOT) from table TRANSACT for Account having ANO as 102 2. To display ANO, ANAME, AMOUNT and DOT of those persons from ACCOUNT and TRANSACT table who have done transaction less than or equal to 3000 3. SELECT ANO, ANAME FROM ACCOUNT   WHERE ADDRESS NOT IN ('CHENNAI', 'BANGALORE'); | | | | | | |
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