

Darshan Institute of Computer Application BCA / BSc.IT - SEM - IV | Question Bank

2304CS422 - Database Management System - II

1 Define Functional Dependency and explain types of functional dependency. List out and explain Armstrong's axioms. OR Discuss Armstrong's inference rules. 1 What is closure of a set of FDs? Describe how to find closure of a set of FDs with suitable example. Relation R is given with attributes A, B, C, G, H and I. Also, a set of functional dependencies F is given with following FDs: F = {A → B, A → C, CG → H, CG → I, B → H} Find Closure of F. Find the closure of the following set F of functional dependencies for relational schema R = (A, B, C, D, E, F): F = (A → B, A → C, CD → E, CD → F, B → E). What is closure of a set of attributes? Explain how (Write an algorithm) to find closure of a set of attributes. OR Discuss closure of a set of attributes with proper example. Given relation R with attributes A, B, C, D, E, F and set of FDs as A → BC, E → CF, B → E and CD → EF. Find out closure {A, B}* of the set of attributes. Consider schema EMPLOYEE (E_ID, E_NAME, E_CITY, E_STATE) and FD = {E_ID → E_NAME, E_ID → E_CITY, E_ID → E_STATE, E_CITY → E_STATE} Find attribute closure for: (E_ID)*, (E_CITY)* Define Canonical Cover. Write down the rules to find canonical cover. Relation R is given with attributes A, B, C, G, H and I. Also, a set of functional dependencies F is given with following FDs. F = {A → B, A → C, CG → H, CG → I, B → H} Find Closure of F. What is Normalization? Discuss the need of Normalization. Under the property of the set of the country of the set of th	CO1 CO1 CO1 CO1 CO1
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10 1 Define decomposition and describe types of decomposition with example. Relation R is given with attributes A, B, C, G, H and I. Also, a set of functional dependencies F is given with following FDs. F = $\{A \rightarrow B, A \rightarrow C, CG \rightarrow H, CG \rightarrow I, B \rightarrow H\}$ Find Closure of F. What is Normalization? Discuss the need of Normalization. U Explain 1NF, 2NF and 3NF with suitable example.	CO1
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A C PONT W OVE	CO1
14 Compare BCNF with 3NF.	CO1
15 1 Write a short note on Multivalued Dependency with suitable example.	CO1
16 1 Write a short note on 4NF and 5NF.	CO1
Write down the rules to find a key. OR List out the conditions to find a candidate key.	CO1
18 Consider table R (A, B, C, D, E) with FDs as $A \rightarrow B$, BC \rightarrow E and ED \rightarrow A. Find out the key for Relation R.	CO1
Consider a relation scheme R = (A, B, C, D, E, H) on which the following functional dependencies hold: {A->B, BC-> D, E->C, D->A}. Find, what are the candidate keys of R?	CO1
Consider the relation scheme R = {E, F, G, H, I, J, K, L, M, N} and the set of functional dependencies: {EF -> G, F -> IJ, EH -> KL, K -> M, L -> N}. Find the keys of relation R.	CO1
21 2 Define View. Describe types of view in brief.	C02
22 How to create a Simple View and Complex View? Explain with suitable example.	C02
23 2 Discuss Updating, Deleting, Renaming and Dropping a View.	
24 Compare: (i) Simple View v/s Complex View (ii) Table v/s View.	C02



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25	2	Consider following table and prepare given queries: EMP (<u>Eid</u> , Ename, Ecity, desg, salary, deptno) 1. Create view Emp_Info from EMP table with all the columns. 2. Create view Emp_Salary from EMP table that displays designation and salary of the employee. 3. Destroy Emp_Info view from the database.	A	C02
26	2	Consider following table and prepare given queries: Student (Sid, SName, City, DoB, Contact_No, Email_ID) 1. Create view Student_View that displays the name of students starts with 'A' and end with 'k'. 2. Create view Stu_DoB that displays the student list who born after 15th June, 1992. 3. Create view Stu_Name that displays the student list consist only 5 characters name.	A	C02
27	2	Consider following tables and prepare given queries: Student (RNo, Name, Branch) Result (RNo, SPI, Bklog) 1. Create view S_R that displays roll number, name, branch and SPI of all the students. 2. Create view Stu_Result that displays the Name, Branch and SPI of the students who having SPI greater than 8.5 3. Create view Stu_Bklog that displays the name and SPI of students having 0 backlog.	A	C02
28	2	List out the advantages and disadvantages of view.	R	C02
29	2	List and explain advantages of PL/SQL.	U	C02
30	2	Write a short note on Stored Procedures.	R	C02
31	2	Discuss how to Update, Drop and Rename Stored Procedures.	U	C02
32	2	What is User Defined Function? Explain types of UDF in brief.	U	C02
33	2	Discuss Scalar Valued and Table Valued Function with suitable example.	U	C02
34	2	Discuss how to Update, Drop and Rename User Defined Functions.	U	C02
35	2	List out advantages of User Defined Functions and Stored Procedures.	R	C02
36	2	Compare Functions v/s Procedure.	R	C02
37	2	Consider following tables and prepare given procedures: Student (RNo, Name, Branch) Result (RNo, SPI, Bklog) 1. Create a stored procedure to display RNo, Name, Branch and SPI. 2. Create a stored procedure to display the name of the students whose SPI is greater than 8.2 and roll number is less than 105.	A	C02
38	2	Consider following table to create given procedures: Student (RNo int, Name varchar (50), Branch varchar (50)) 1. Create a stored procedure to delete a record in student table whose roll number is 204. 2. Create a stored procedure to get a roll number from user and update Branch of student table.	A	C02
39	2	Prepare a scalar valued function which accepts three integer parameters and returns maximum integer value from it.	A	C02
40	2	Prepare a PL/SQL program to check where a given number is positive, negative or zero.	A	C02
41	3	What is Trigger? Explain types of Triggers in brief.	U	C03
42	3	Explain DML Triggers with suitable example.		C03



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3 display a message "Record is affected". A C03					
Create an INSERT trigger on Employee table, which calculates the age and update that age in Employee table. U Co3	43	3	Prepare a trigger on Employee table for insert, update and delete statement to	A	C03
145 3 Update that age in Employee table. 4 CU3 45 3 Discuss advantages and disadvantages. U CO3 46 3 What is Cursor? Explain types of Cursors in brief. U CO3 47 3 Draw neat and clean diagram of Cursor Life Cycle. R CO3 48 3 Explain Cursor Life Cycle steps with suitable example. U CO3 49 3 Explain Cursor Life Cycle steps with suitable example. U CO3 49 3 Product (Product, ID) Product, Name, Price) 49 Prepare a Cursor 'Product Cursor' to fetch all the rows from a Product table. 40 Prepare a Cursor 'Product Cursor' to fetch all the rows from a Product table. 41 What is Query Processing? Explain types of Indexes in SQL Server. 50 J What are Indexes. Explain Clustered Index and Non-Clustered Index 51 4 What is Query Processing? Explain steps in query procession with neat & clean diagram. 52 4 Discuss Evaluation of Expressions with example. U CO4 53 4 Describe Materialization and Pipelining with suitable example. U CO4 54 4 What is Query Optimization? Explain approaches to Query Optimization. U CO4 55 4 What is Transaction? Discuss ACID properties of transaction. U CO4 56 4 Draw and explain Transaction State Diagram in detail. U CO4 57 4 What is Schedule? Describe Schedule with its types. U CO4 58 4 Describe Two Phase Commit Protocol in brief. U CO4 50 What is Concurrency? Discuss about three problems occurs due to concurrency. 59 4 What is Deadlock? Explain Deadlock detection in brief. U CO4 60 4 Explain Two Phase Locking Protocol with suitable example. U CO4 61 4 What is Deadlock? Explain Deadlock detection in brief. U CO4 62 5 What is Security? Compare Security v/s Integrity. U CO5 63 5 Compare Authentication v/s Authorization. U CO5 64 5 Discribe Divide by Zero Exception with suitable example. U CO5 65 5 Describe Divide by Zero Exception with suitable example. U CO5 6					
46 3 What is Cursor? Explain types of Cursors in brief. U CO3 47 3 Draw neat and clean diagram of Cursor Life Cycle. R CO3 48 3 Explain Cursor Life Cycle steps with suitable example. U CO3 49 3 Product (Product_ID, Product_Name, Price) 49 3 Product (Product_ID, Product_Name, Price) 49 Prepare a Cursor 'Product_Cursor' to fetch all the rows from a Product table. 49 What are Indexes in SQL? Explain types of Indexes in SQL Server. 50 Define Indexes. Explain Clustered Index and Non-Clustered Index. 51 4 What is Query Processing? Explain steps in query procession with neat & clean diagram. 51 4 Describe Materialization and Pipelining with suitable example. U CO4 52 4 Discuss Evaluation of Expressions with example. U CO4 53 4 Describe Materialization? Explain approaches to Query Optimization. U CO4 55 4 What is Query Optimization? Explain approaches to Query Optimization. U CO4 55 4 What is Transaction? Discuss ACID properties of transaction. U CO4 56 4 Draw and explain Transaction State Diagram in detail. U CO4 57 4 What is Schedule? Describe Schedule with its types. U CO4 58 4 Describe Two Phase Commit Protocol in brief. U CO4 59 4 Describe Lost Update, Dirty Read and Incorrect Retrieval problem. 50 4 What is Concurrency? Discuss about three problems occurs due to concurrency. 59 4 What is Concurrency? Discuss about three problems occurs due to concurrency. 60 4 Explain Two Phase Locking Protocol with suitable example. U CO4 61 4 What is Deadlock? Explain Deadlock detection in brief. U CO4 62 5 What is Security? Compare Security v/s Integrity. U CO5 63 5 Compare Authentication v/s Authorization. 64 5 What is Exception Handling? Discuss how to handle exception using TryCatch block. 65 5 Write a short note on Error Functions. 66 5 List out and explain System Defined Exceptions in brief. U CO5 67 5 Describe Divide by Zero Exception with suitable example. 68 5 Discuss Violation of Primary Key Constraints with proper example. U CO5 69 5 Write a short note on RAISERROR() function. 70 5 Explain THROW statement with syn	44	3		A	C03
3 Draw neat and clean diagram of Cursor Life Cycle. R C03	45	3	Discuss advantages and disadvantages of Trigger.	U	C03
48 3 Explain Cursor Life Cycle steps with suitable example. 49 Consider the below table and prepare cursor as mentions below. 49 Product (Product_ID, Product_Name, Price) 40 Prepare a Cursor 'Product_Cursor' to fetch all the rows from a Product table. 50 What are Indexes in SQL? Explain types of Indexes in SQL Server. 51 What is Query Processing? Explain steps in query procession with neat & clean diagram. 52 Describe Materialization and Pipelining with suitable example. 53 Describe Materialization and Pipelining with suitable example. 54 What is Query Optimization? Explain approaches to Query Optimization. 55 What is Transaction? Discuss ACID properties of transaction. 56 Describe Two Phase Commit Protocol in brief. 57 What is Concurrency? Discuss about three problems occurs due to concurrency. 58 Describe Lost Update, Dirty Read and Incorrect Retrieval problem. 59 What is Deadlock? Explain Deadlock detection in brief. 50 What is Security? Compare Security v/s Integrity. 50 U CO4 51 What is Exception Handling? Discuss how to handle exception using TryCatch block. 50 What is Security? Compare Security v/s Integrity. 50 U CO5 51 Using a short note on Error Functions. 52 What is Exception Handling? Discuss how to handle exception using TryCatch block. 53 Urite a short note on Error Functions. 54 What is Exception Handling? Discuss how to handle exception using TryCatch block. 55 Describe Divide by Zero Exception with suitable example. 56 Discuss Violation of Primary Key Constraints with proper example. 57 U CO5 58 Discuss Violation of Primary Key Constraints with proper example. 58 Discuss Violation of Primary Key Constraints with proper example. 59 Explain TCL Commands with suitable example. 50 Explain TCL Commands with proper syntax and example. 50 Explain TCL Commands with proper syntax and example.	46	3	What is Cursor? Explain types of Cursors in brief.	U	C03
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