Sr.	Unit No.	Question	BL	CO
1	**1**	Define Functional Dependency and explain types of functional dependency.	**U**	**CO1**
2	**1**	List out and explain Armstrong's axioms. **OR** Discuss Armstrong's inference rules.	**U**	**CO1**
3	**1**	What is closure of a set of FDs? Describe how to find closure of a set of FDs with suitable example.	**U**	**CO1**
4	**1**	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.	**R**	**CO1**
5	**1**	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).	**R**	**CO1**
6	**1**	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.	**U**	**CO1**
7	**1**	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.	**R**	**CO1**
8	**1**	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: $(E\_ID)^+$, $(E\_CITY)^+$	**R**	**CO1**
9	**1**	Define Canonical Cover. Write down the rules to find canonical cover.	**R**	**CO1**
10	**1**	Define decomposition and describe types of decomposition with example.	**U**	**CO1**
11	**1**	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.	**R**	**CO1**
12	**1**	What is Normalization? Discuss the need of Normalization.	**U**	**CO1**
13	**1**	Explain 1NF, 2NF and 3NF with suitable example.	**U**	**CO1**
14	**1**	Compare BCNF with 3NF.	**U**	**CO1**
15	**1**	Write a short note on Multivalued Dependency with suitable example.	**U**	**CO1**
16	**1**	Write a short note on 4NF and 5NF.	**R**	**CO1**
17	**1**	Write down the rules to find a key. **OR** List out the conditions to find a candidate key.	**R**	**CO1**
18	**1**	Consider table R (A, B, C, D, E) with FDs as A → B, BC → E and ED → A. Find out the key for Relation R.	**R**	**CO1**
19	**1**	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?	**R**	**CO1**
20	**1**	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.	**R**	**CO1**
21	**2**	Define View. Describe types of view in brief.	**U**	**CO2**
22	**2**	How to create a Simple View and Complex View? Explain with suitable example.	**U**	**CO2**
23	**2**	Discuss Updating, Deleting, Renaming and Dropping a View.	**U**	**CO2**
24	**2**	Compare: (i) Simple View v/s Complex View (ii) Table v/s View.	**U**	**CO2**

25	**2**	Consider following table and prepare given queries: EMP (Eid, 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.	**U**	**C03**

43	**3**	Prepare a trigger on Employee table for insert, update and delete statement to display a message "Record is affected".	**A**	**C03**
44	**3**	Create an INSERT trigger on Employee table, which calculates the age and update that age in Employee table.	**A**	**C03**
45	**3**	Discuss advantages and disadvantages of Trigger.	**U**	**C03**
46	**3**	What is Cursor? Explain types of Cursors in brief.	**U**	**C03**
47	**3**	Draw neat and clean diagram of Cursor Life Cycle.	**R**	**C03**
48	**3**	Explain Cursor Life Cycle steps with suitable example.	**U**	**C03**
49	**3**	Consider the below table and prepare cursor as mentions below. **Product** (Product_ID, Product_Name, Price) Prepare a Cursor 'Product_Cursor' to fetch all the rows from a Product table.	**A**	**C03**
50	**3**	What are Indexes in SQL? Explain types of Indexes in SQL Server. **OR** Define Indexes. Explain Clustered Index and Non-Clustered Index.	**U**	**C03**
51	**4**	What is Query Processing? Explain steps in query procession with neat & clean diagram.	**U**	**CO4**
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**
59	**4**	What is Concurrency? Discuss about three problems occurs due to concurrency. **OR** Describe Lost Update, Dirty Read and Incorrect Retrieval problem.	**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**	**C05**
64	**5**	What is Exception Handling? Discuss how to handle exception using Try…Catch block.	**U**	**CO5**
65	**5**	Write a short note on Error Functions.	**R**	**C05**
66	**5**	List out and explain System Defined Exceptions in brief.	**U**	**CO5**
67	**5**	Describe Divide by Zero Exception with suitable example.	**U**	**C05**
68	**5**	Discuss Violation of Primary Key Constraints with proper example.	**U**	**CO5**
69	**5**	Write a short note on RAISERROR( ) function.	**R**	**C05**
70	**5**	Explain THROW statement with syntax and example.	**U**	**CO5**
71	**5**	Explain TCL Commands with suitable example. **OR** Describe Commit, Rollback and Save Point commands with suitable example.	**U**	**C05**
72	**5**	Explain DCL Commands with proper syntax and example. **OR** Describe Grant and Revoke commands with syntax and example.	**U**	**C05**