GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY
(ANAUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)
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QUESTION BANK(DESCRIPTIVE – 12 MARKS)

Subject Name: Database Management Systems
Subject Code: 22A0512T
Course & Branch: B.Tech & (Common to CSE ,CS,DS, AI&ML)
Year & Semester: II B.Tech II Semester **Regulation:**RG22

Q. No	Unit-1 : Introduction to Database concepts and Modeling	[BT Level] [CO][Marks]
1	Extend the purpose of Database Systems and advantages of Database systems.	[2][CO1][12]
2	Compare different types of Data Models with Examples.	[2][CO1][12]
3	Define Database. Illustrate the responsibilities of different Database users.	[2][CO1][12]
4	Outline the architecture of Database System.	[2][CO1][12]
5	Infer different views of Data with a neat sketch.	[2][CO1][12]
6	Compare and contrast different Database languages with suitable examples.	[2][CO1][12]
7	Illustrate the E-R diagram components and notations with their extended features.	[2][CO1][12]
8	Define Entity. Interpret different types of entities with suitable examples.	[2][CO1][12]
9	Outline an ER-Diagram for Library Management System.	[2][CO1][12]
10	Define an Attribute. Explain different types of attributes with examples.	[2][CO1][12]
11	Define Relationship? Extend different types of Relationships in ER-Model with examples.	[2][CO1][12]
Q. No	**Unit-2 : Relational Model, Relational Algebra**	**[BT Level] [CO][Marks]**
1	Define Constraint? Explain different types of Integrity Constraints with suitable examples.	[2][CO2][12]
2	Illustrate the basic concepts of Relational Data Model.	[2][CO2][12]
3	Interpret Views in Relational Model with examples.	[3][CO2][12]
4	Demonstrate the concept of querying Relational data with suitable examples.	[3][CO2][12]
5	Implement referential integrity constraint by considering an example.	[3][CO2][12]
6	Infer select, project operations in relational algebra with examples.	[2][CO2][12]
7	Implement Set operations in relational algebra with example.	[3][CO2][12]
8	Classify and explain join operations in relational algebra with example.	[2][CO2][12]
9	Demonstrate the conversion of ER-Model to Relational model with examples.	[3][CO2][12]

Q. No	Unit-III: SQL	[BT Level] [CO][Marks]
1	Identify different categories of DDL commands, Provide syntax and examples?	[L4][CO3][12]
2	Explain SELECT, FROM and WHERE Clauses with suitable examples.	[L4][CO3][12]
3	Analyze different types of Joins in SQL with suitable examples.	[L4][CO3][12]
4	Explain Nested Queries With suitable Examples.	[L4][CO3][12]
5	Identify various aggregate functions and provide suitable examples.	[L4][CO3][12]
6	Illustrate all data manipulation language commands with examples.	[L4][CO3][12]
7	Discriminate between simple and complex views.	[L4][CO3][12]
8	Illustrate all arithmetic operators with suitable examples.	[L4][CO3][12]
9	Summarize any 5 special operators with suitable examples.	[L4][CO3][12]
10	Demonstrate functions in PL/SQL with an example.	[L4][CO3][12]
11	Outline the steps involved in creating an explicit cursor by the user with an example.	[L4][CO3][12]
Q. No	**Unit-IV: Normalization**	**[BT Level] [CO][Marks]**
1	Ascertain the term anomaly. Demonstrate all types of anomalies with suitable examples.	[L3][CO4][12]
2	Express the reason for usage of BCNF with suitable example.	[L3][CO4][12]
3	Explore the need for normalization with suitable example.	[L3][CO4][12]
4	Provide an example of a relation that is in 3NF but not in BCNF. And also provide the solution that converts the relation into BCNF.	[L3][CO4][12]
5	Compare primary key, candidate key, Super key and foreign keys with suitable examples.	[L3][CO4][12]
6	Relate transitive dependency with 3NF. Provide an example to illustrate your answer.	[L3][CO4][12]
7	Illustrate Join Dependency and the Fifth Normal Form with example.	[L3][CO4][12]
8	Illustrate Multi-Valued Dependency and the Fourth Normal Form with an example.	[L3][CO4][12]
9	Illustrate with an example about partial functional dependency and describe how this type of dependency relates to 2NF.	[L3][CO4][12]
10	Compare between 1NF, 2NF with examples.	[L3][CO4][12]

Q. No	Unit-V: Transaction Management & Concurrency Control and Recovery	[BT Level] [CO][Marks]
1	Describe the ACID Properties of a transaction.	[L2][CO5][12]
2	Explain Timestamp protocol with an example.	[L2][CO5][12]
3	Explain the benefit of two phase locking protocol with an example.	[L2][CO5][12]
4	Elaborate the states of a transaction with a neat Sketch.	[L2][CO5][12]
5	Define Serializability. Explain the types of serializability with examples.	[L2][CO5][12]
6	Ascertain various concurrency control protocols with suitable examples.	[L3][CO6][12]
7	Illustrate Granularity locking method in concurrency control	[L3][CO6][12]
8	Demonstrate Database Recovery concepts in brief.	[L3][CO6][12]
9	Demonstrate the violations caused by each of the following: dirty read, non-repeatable read and phantoms with suitable example.	[L3][CO6][12]
10	Extend the lock based concurrency control with suitable example.	[L2][CO6][12]
11	Determine Log Based Recovery with example.	[L3][CO6][12]

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QUESTION BANK(DESCRIPTIVE – 2 MARKS)

Subject Name: Database Management Systems
Subject Code: 22A0512T **Course & Branch:** B.Tech & (Common to CSE ,CS,DS, AI&ML)
Year & Semester: II B.Tech II Semester **Regulation:**RG22

2 Marks Questions (Short)

Q.No	Unit-1 : Introduction to Database concepts and Modeling	[BT Level][CO][Marks]
1	What is Data and Information?	L1, CO1, 2 M
2	What is Database?	L1, CO1, 2 M
3	What is DBMS?	L1, CO1, 2 M
4	Define Entity Set	L1, CO1, 2 M
5	Define Entity	L1, CO1, 2 M
6	Define Attribute	L1, CO1, 2 M
7	List the types of Relationships?	L1, CO1, 2 M
8	What is Data Model? Explain types of Data Models?	L1, CO1, 2 M

Q.No	Unit-2 : Relational Model, Relational Algebra : 2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define primary key	L1, CO2, 2 M
2	What is Referential Integrity?	L1, CO2, 2 M
3	What is Selection operation in Relation algebra	L1, CO2, 2 M
4	What is Projection operation in Relation algebra	L1, CO2, 2 M
5	What is join operation in Relation algebra	L1, CO2, 2 M
6	Compare Unique and Not null constraint?	L2, CO2, 2 M
7	Define Check Constraint?	L1, CO2, 2 M
8	List the Set operators	L1, CO2, 2 M

Q.No	Unit-3 : SQL, PL/SQL: 2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define View?	L1, CO3, 2 M
2	What is Nested query?	L1, CO3, 2 M
3	What is Correlated query?	L1, CO3, 2 M
4	What is join? Explain its types?	L1, CO3, 2 M
5	List the Aggregate functions in SQL?	L1, CO3, 2 M
6	Define Function?	L1, CO3, 2 M
7	Define Trigger	L1, CO3, 2 M
8	What is Cursor?	L1, CO3, 2 M
9	Compare the operators “between” and “in”	L2, CO3, 2 M

Q.No	Unit-4 : Normalization: 2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define Functional dependency?	L1, CO4, 2 M
2	What is Transactive dependency?	L1, CO4, 2 M
3	Define Partial functional dependency?	L1, CO4, 2 M
4	What is Join dependency?	L1, CO4, 2 M
5	What is Normalization?	L1, CO4, 2 M
6	Define BCNF	L1, CO4, 2 M
Q.No	Unit-5 : Transaction Management, Concurrency Control and Recovery : 2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define Transaction?	L1, CO5, 2 M
2	List the states of transaction?	L1, CO5, 2 M
3	What is Lock Granularity	L1, CO5, 2 M
4	What is Two Phase Locking	L1, CO5, 2 M
5	What is Time Stamping	L1, CO5, 2 M
6	Define Atomicity	L1, CO5, 2 M
7	What is database Recovery	L1, CO5, 2 M

Signature of the Staff:

Signature of Department Academic Committee Member 1:

Signature of Department Academic Committee Member 2:

Signature of Department Academic Committee Member 3: