

Dr. D Y Patil Institute of Technology, Pimpri, Pune					
Department of Electronics and Telecommunication Engineering					
Class: TE (A, B, C)			Course: Database Management		
Assignment - I					
Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Define the term DBMS and identify its various real-time examples.	1	1	1,2,3	1
2	List various advantages and disadvantages of Database systems.	1	1	1,2,3	1
3	Categorize different levels of Abstraction in DBMS.	1	1	1,2,3	2
4	How does the concept of an object in the object-oriented model differ from the concept of an entity in the E-R model?	1	1,2	1,2,3	2
5	Explain the concept of specialization and generalization in E-R model using suitable example.	1	1, 9	1,2,3	2
6	Explain components and overall structure of DBMS.	1	1, 3	1,2,3	2
7	What is a Relational model, and explain its various characteristics?	1	1	1,2,3	1, 2

8	Implement various mapping cardinality with suitable diagram.	1	1,3	1,2,3	3
9	How a simple ER diagram is converted into EER Diagram?	1	1	1,2,3	3
10	Make a simple ER diagram for a library system.	1	1	1,2,3	3
11	What are Extended ER Features.	1	1	1,2,3	2
12	Construct an ER diagram for a hotel management system.	1	1,3,5,12	1,2,3	3
13	Categorize various mapping cardinalities in E-R Diagram.	1	1,3,5,12	1,2,3	4
14	Calculate different cardinalities are associated in DBMS with suitable examples.	1	1,3,5,12	1,2,3	4
15	Construct an ER diagram for a College system. Different Entities are Student, Faculty, Library, Administrative department, Admission department.	1	1,3,5,12	1,2,3	5

Reference Books:

1. A. Silberschatz, H.F. Korth and S. Sudarshan , “Database System Concepts”, McGraw Hill, 6th Edition.
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Assignment - II					
Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Explain in details the CODD’s rules.	2	1,2	1,2,3	1
2	Explain the need of foreign key.	2	1,2	1,2,3	1
3	Differentiate between primary key and foreign key.	2	1,2	1,2,3	2
4	Define 1NF method in Normalization in detail.	2	1,2	1,2,3	2
5	Compare all types of keys with their examples through tables.	2	1, 9	1,2,3	2
6	Summarize different anomalies generated in RDBMS.	2	1, 3	1,2,3	2
7	Explain different terms like: Table, Tuple, Schema, Cardinality in terms of RDBMS table with examples.	2	1	1,2,3	1, 2
8	Write a short note on the need of Normalization and what will happen if Normalization is not done in RDBMS.	2	1,3	1,2,3	3

9	Construct a Table explaining all the anomalies in Normalization method.	2	1	1,2,3	3
10	Show the real life examples of utilization of Codd's rules in constructing RDBMS system.	2	1	1,2,3	3
11	Explain on the finding of a Candidate key using the Closure method.	2	1	1,2,3	2
12	Suppose R(ABCDE) and FD= {A→B, BC→D, E→C, D→A}. Find out the Prime attributes and non-prime attributes using a closure method.	2	1,3,5,12	1,2,3	3
13	Categorize different Normal forms in Normalization method.	2	1,3,5,12	1,2,3	4
14	Apply a closure method to find out the Candidate key if R(ABCDEFG) and FD= {A→B, BC→D, E→F, F→G, G→A}.	2	1,3,5,12	1,2,3	4
15	Suppose R(ABCDEF) and FD= {A→B, BC→D, E→F, F→A}. Find out, if the table is in 3NF or 2NF?	2	1,3,5,12	1,2,3	5

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Assignment - III					
Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Explain Transaction Control Language.	3	1,2	1,2,3	1
2	What are different types of Joins in SQL? Explain with example.	3	1	1,2,3	1
3	Explain View objects in SQL with examples.	3	1,2	1,2,3	2
4	Present Stored Procedure with examples.	3	1,2	1,2,3	2
5	Compare Cursor, Trigger and Assertions with examples.	3	1, 9	1,2,3	2
6	Explain Explicit Cursor in PL/SQL with suitable example.	3	1, 3	1,2,3	2
7	Define Database Triggers and Assertion with examples.	3	1	1,2,3	1, 2
8	Prepare different tables for Inner Join and Outer Join	3	1,3	1,2,3	3
9	Make a chart for different SQL Data types and literals.	3	1	1,2,3	3

10	Examine database modification techniques using Insert, Update and Delete queries.	3	1	1,2,3	3
11	Understand and explain various SQL Operators with suitable examples.	3	1	1,2,3	2
12	Implement the ways of creating a new table and modify it with suitable syntaxes.	3	1,3,5,12	1,2,3	3
13	Categorize Null, Not Null and Check with examples.	3	1,3,5,12	1,2,3	4
14	Organize various String functions in SQL and give their examples with tables.	3	1,3,5,12	1,2,3	4
15	<p>Write an SQL Program by making a relational database for a car company and write SQL queries for following requirements:</p> <p>1. Find name of all parts whose color is Green.</p> <p>2. Find names of suppliers show supply only engines.</p> <p>3. Find names of all parts whose cost is more than Rs. 1000.</p>	3	1,3,5,12	1,2,3	5

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Assignment - IV					
Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Write a short note of Scheduling in DBMS.	4	1,2	1,2,3	1
2	Explain Deadlock and the ways to prevent it	4	1	1,2,3	1
3	Explain the term Serializability with suitable examples.	4	1,2	1,2,3	2
4	What is Recoverability. Explain with examples.	4	1,2	1,2,3	2
5	Write an example of ACID Properties of a Transactions.	4	1, 9	1,2,3	2
6	Compare Conflict Serializability Vs View Serializability.	4	1, 3	1,2,3	2
7	Highlight Deadlock procedure and how to recover if deadlock takes place.	4	1	1,2,3	1, 2
8	Make a chart for Locking methods in DBMS.	4	1,3	1,2,3	3

9	Execute different states of Transaction in DBMS.	4	1	1,2,3	3
10	Prepare a note on Recovery and Atomicity.	4	1	1,2,3	3
11	Categorize the process of Transaction in DBMS.	4	1	1,2,3	2
12	Execute various phases of ARIES recovery method.	4	1,3,5,12	1,2,3	3
13	Analyze the roles of analysis, Redo and Undo in ARIES with suitable examples.	4	1,3,5,12	1,2,3	4
14	Structure the shadow paging method with suitable examples.	4	1,3,5,12	1,2,3	4
15	Prepare a note on different Concurrency Control Protocols.	4	1,3,5,12	1,2,3	3

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Assignment - V					
Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Find the difference between Multi-user DBMS and Centralized DBMS architectures.	5	1	1,2,3	1
2	Define and explain two-tier DBMS architecture with suitable diagram.	5	1,2	1,2,3	1
3	Explain speedup and scaleup in parallel database in details.	5	1	1,2,3	2
4	Estimate different performance parameters for Parallel Databases.	5	1,2	1,2,3	2
5	Compare different parallel databases: share memory, shared disc, shared nothing and hierarchical.	5	1, 9	1,2,3	2
6	Compare different factors affecting the speedup and scaleup attributes.	5	1, 3	1,2,3	2

7	Highlight various advantages and disadvantages of shared memory architecture.	5	1	1,2,3	1, 2
8	Implement the suitable diagram for Shared Nothing Architecture with detail.	5	1,3	1,2,3	3
9	Prepare the diagram for Virtualization on Multicore Processors.	5	1	1,2,3	3
10	Present how to evaluate a parallel query in parallel databases.	5	1	1,2,3	3
11	Compare Inter query and Intra query in Parallelism.	5	1	1,2,3	2
12	Display Hierarchical Architecture diagram with its advantages and disadvantages.	5	1,3,5,12	1,2,3	3
13	Explain Oracle Architecture with suitable Case study.	5	1,3,5,12	1,2,3	3
14	Explain various performance parameters for parallel databases.	5	1,3,5,12	1,2,3	3
15	Explain charts for various Client Server Database Architecture types with suitable diagram.	5	1,3,5,12	1,2,3	4

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Q. No	Questions	Mapping with CO	Mapping with PO	Mapping with PSO	Blooms Level
1	Write a short note on Distributed Database system.	6	1	1,2,3	1
2	What are different types of Distributed Database system.	6	1	1,2,3	1
3	Comment on Distributed database design with reasons and its proper explanation.	6	1	1,2,3	2
4	Categorize Distributed Database system using design problems, design strategies and storage system.	6	1,2	1,2,3	2
5	Explain Commit Protocol with example.	6	1, 9	1,2,3	2
6	Compare Client-server and Peer-to-Peer server architecture in detail.	6	1, 3	1,2,3	2
7	Define Distributed Database system with real-time examples.	6	1	1,2,3	1, 2

8	Prepare a note on different Commit protocols like 1 PC, 2 PC and 3 PC.	6	1,3	1,2,3	3
9	Explain Homogeneous and heterogeneous Database system.	6	1	1,2,3	3
10	Implement Failure modes with various techniques in the architecture of Distributed Database system.	6	1	1,2,3	3
11	Execute Concurrency control in Distributed Database system.	6	1	1,2,3	2
12	Determine various failure modes and commit protocols in Distributed Database system.	6	1,3,5,12	1,2,3	3
13	Estimate two phase commit protocol in Distributed Database system.	6	1,3,5,12	1,2,3	2
14	Explain how 3 PC is different than 2 PC?	6	1,3,5,12	1,2,3	3
15	Categorize Single Lock Manager and Distributed Lock Manager in Concurrency control in Distributed Database system.	6	1,3,5,12	1,2,3	4

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