ADT Question papers

Mid Sem Question paper:

CHRIST (Deemed to be University), Bangalore – 560 029p

Department of Computer Science

MID SEMESTER EXAMINATION – September 2023

PG I Trimester

Programme Name: Master of Computer Applications **Max. Marks: 50**

Course Name: Advanced Database Technologies **Time: 2 Hrs**

Course Code: MCA135

General Instructions

- All rough work should be done in the answer script. Do not write or scribble in the question paper except your register number.
- Verify the Course code / Course title & number of pages of questions in the question paper.
- Make sure your mobile phone is switched off and placed at the designated place in the hall.
- Malpractices will be viewed very seriously.
- Answers should be written on both sides of the paper in the answer booklet. No sheets should be detached from the answer booklet.
- Answers without the question numbers clearly indicated will not be valued. No page should be left blank in the middle of the answer booklet.

Course Outcomes (COs): The students will able to

CO1: Understand the basic concepts of database systems, transactions, and related database facilities like concurrency control, data object locking and protocols.

CO2: Analyze the database requirements and develop logical design of the database.

CO3: Develop NoSQL database applications using storing, accessing, and querying.

Answer all the questions:

The first 3 questions are compulsory and the remaining are questions with an internal choice. **5 X 10 = 50 Marks**

Q. No	Questions	CO	RBT
1	Explain the below with an example query: a. Data-Manipulation Language b. Data-Definition Language	1	L3
2	Explain the Entity-Relationship Model and Normalization	3	L2
3	Analyze the impact of Multivalued Dependency and the need for Fourth Normal Form.	3	L3
4	a) B+ Tree Index Files are more helpful in storage management – Justify. (OR) b) Explain the need for Bitmap Indices.	2,3	L5

5	a) Analyze the need for Transaction Atomicity and Durability. (OR) b) Explain the different isolation levels specified by the SQL standard.	2,3	L4

Revised Bloom's Taxonomy (RBT) Levels :		
L1 – Remembering	L2 – Understanding	L3 – Applying
L4 – Analyzing	L5 – Evaluating	L6 - Creating

End Sem Question paper:

CHRIST (Deemed to be University), Bangalore – 560 029

Department of Computer Science

END TRIMESTER EXAMINATION – October 2023

PG I Semester

Programme Name: Master of Computer Applications **Max. Marks: 100**

Course Name: Advanced Database Technologies **Time: 3 Hrs**

Course Code: MCA135

General Instructions

- All rough work should be done in the answer script. Do not write or scribble in the question paper except your register number.
- Verify the Course code / Course title & number of pages of questions in the question paper.
- Make sure your mobile phone is switched off and placed at the designated place in the hall.
- Malpractices will be viewed very seriously.
- Answers should be written on both sides of the paper in the answer booklet. No sheets should be detached from the answer booklet.
- Answers without the question numbers clearly indicated will not be valued. No page should be left blank in the middle of the answer booklet.

Course Outcomes (COs): The students will able to

CO1: Understand the basic concepts of database systems, transactions, and related database facilities like concurrency control, data object locking and protocols.

CO2: Analyze the database requirements and develop logical design of the database.

CO3: Develop NoSQL database applications using storing, accessing, and querying.

Answer ALL the questions:

5 X 20 = 100 Marks

Q. No	Questions	CO	RBT
1	a) i) What are the constraints on binary relationship types? (10) ii) Explain the constraints with example. (10) [OR] b) i) Analyze and design database for Student information system. (10) ii) Explain the Enhanced ER with example. (10)	1	L3
2	a) i) Discuss the Project-join normal form with example. (10) ii) What are the limitations of 1NF and 2NF? (10) [OR] b) Explain the different forms of normalization in detail with example. (20)	3	L1

3	a) i) Discuss the problems of deadlock and starvation. (10) ii) Explain the different approaches to dealing with these problems. (10) [OR] b) Why Concurrency Control Is Needed? Explain the states for transaction execution. (20)	3	L3
4	a) Analyze the primary categories of NoSQL databases in detail. (20) [OR] b) How to work with Column-oriented databases? Explain in detail (20)	2	L5
5	a) Describe the Data Definition Language (DDL) commands and provide examples. (20) [OR] b) Explain the significance of DDL in database management with example. (20)	3	L4

Revised Bloom's Taxonomy (RBT) Levels :		
L1 – Remembering	L2 – Understanding	L3 – Applying
L4 – Analyzing	L5 – Evaluating	L6 - Creating