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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

Roll. No:

Subject Code:- AMIBA0404

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA (Integrated)

SEM: IV - THEORY EXAMINATION (2023 - 2024)

Subject: Data Base Management

Time: 2.5 Hours

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

- 3. Illustrate your answers with neat sketches wherever necessary.
- 4. Assume suitable data if necessary.
- 5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

1. Attempt all parts:-

- 1-a. Which one of the following is a type of Data Manipulation Command? (CO1) 1
 - (a) Create

(b) Alter

(c) Delete

- (d) All of the above
- 1-b. Which of the following is a valid aggregate function? (CO2)
 - (a) UNIQUE
 - (b) COMPUTE
 - (c) CHECK
 - (d) MIN

1-c. A functional dependency is a relationship between or among (CO3)

- (a) Entities
- (b) Rows

SECTION A

15

Max. Marks: 60

1

1

	(d) Tables	
1-d.	In conflict serializability (CO4)	1
	(a) order of operations does not matter	
	(b) order of operations matter	
	(c) a conflict should be there	
	(d) None of the above	
1-e.	Which of the following cannot be used to implement a timestamp ? (CO5)	1
	(a) System clock	
	(b) Logical counter	
	(c) External time counter	
	(d) None of the mentioned	
2. Attei	mpt all parts:-	
2.a.	Who is a DBA? What are the responsibilities of a DBA? (CO1)	2
2.b.	What is a "key" in the Relational Model? (CO2)	2
2.c.	Define Functional Dependency with an example. (CO3)	2
2.d.	Define Concurrent transactions. (CO4)	2
2.e.	List the Concurrency Control techniques. (CO5)	2
_	SECTION B	15
3. Ansv	ver any <u>three</u> of the following:-	
3-a.	Explain the total and partial constraints with the help of an example. (CO1)	5
3-b.	Differentiate between DDL and DML commands in SQL. (CO2)	5
3.c.	Explain all the types of anomalies which can arise in a database.(CO3)	5
3.d.	How can we test whether a schedule is serializable or not? (CO4)	5
3.e.	Describe major problems associated with concurrent processing. What is the role of locks in avoiding these problems $2(CO5)$	5
		30
1 Answ	ver any one of the following:-	50
4. AIISW	Explain different types of attributes in DBMS with suitable examples? (CO1)	6
4-a.	What is $SO(2)$ Explain the various features of $SO(-(CO1))$	U C
4-IJ.	what is SQL: Explain the various realties of SQL. (COT)	Ö
5. ANSV	ver any <u>one</u> of the following:-	~
5-a.	what are subqueries? why do we need them? Explain with the help of an	6

(c) Attributes

example. (CO2)

5-b. Explain Self Joins with the help of an example. (CO2)

FG.

6. Answer any one of the following:-

6-a. What is a log File. Write the steps in Log based recovery with a suitable 6 example. (CO3)

6

6

6

6-b. Differentiate between centralized and distributed databases. (CO3)

7. Answer any one of the following:-

- 7-a. Discuss various methods of recovery from failure in distributed systems. (CO4) 6
- 7-b. Why should serialization be achieved? What is the significance of this ? Does 6 conflict serialization and view serialization have equal importance? (CO4)

8. Answer any one of the following:-

- 8-a. Explain the features of NoSQL. How is it different from SQL? (CO5)
- 8-b. Differentiate between Timestamp based protocol and Validation based 6 Protocol. Which one is better and why? (CO5)