

Printed Page:-

Subject Code:- AMIBA0404

Roll. No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA (Integrated)

SEM: IV - THEORY EXAMINATION (20 - 20)

Subject: Data Base Management

Time: 2.5 Hours

Max. Marks: 60

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.

SECTION-A

15

1. Attempt all parts:-

- 1-a. The architecture of a database can be viewed as the _____.(CO1,K1) 1
- (a) One level
- (b) Two-level
- (c) Three-level
- (d) Four level
- 1-b. In relational model, the database is represented as a collection of _____.(CO2,K1) 1
- (a) Relations
- (b) objects
- (c) classes
- (d) attributes
- 1-c. The property of normalization of relations which guarantees that functional dependencies are represented in seperated relations after decomposition is classified as(CO3,K1) 1
- (a) non additive join property
- (b) independency reservation property
- (c) dependency preservation property
- (d) additive join property
- 1-d. Relational Algebra is a _____ query language that takes two relations as 1

input and produces another relation as an output of the query. (CO4,K1)

- (a) Relational
- (b) Structural
- (c) Fundamental
- (d) Procedural

1-e. The deadlock state can be changed back to stable state by using _____ 1
statement.(CO5,K1)

- (a) commit
- (b) Rollback
- (c) Savepoint
- (d) Deadlock

2. Attempt all parts:-

- 2.a. List any eight applications of DBMS.(CO1,K1) 2
- 2.b. State the difference between view and table.(CO2,K1) 2
- 2.c. Define Functional Dependency with an example. (CO3,K1) 2
- 2.d. Define Syntax and Semantics.(CO4,K1) 2
- 2.e. Define Concurrency.(CO5,K1) 2

SECTION-B

15

3. Answer any three of the following:-

- 3-a. Explain the structure of a database with the help of an example.(CO1,K2) 5
- 3-b. Explain different types of Data Models.(CO2,K2) 5
- 3-c. Define and explain 3rd normal form with an example.(CO3,K2) 5
- 3-d. Discuss the various type of join operations ? Why are these join required. (CO4,K2) 5
- 3.e. Discuss How Concurrency is executed in a Distributed Database.(CO5,K2) 5

SECTION-C

30

4. Answer any one of the following:-

- 4-a. Discuss the architecture of Database Management System.(CO1,K2) 6
- 4-b. Briefly explain the drawbacks of file based system in DBMS.(CO1,K2) 6

5. Answer any one of the following:-

- 5-a. Explain all the types of attributes which exist in the database.(CO2,K2) 6
- 5-b. Explain the differences between physical level, conceptual level and view level of data abstraction.(CO2,K2) 6

6. Answer any one of the following:-

- 6-a. Describe Unified Modeling Language. Explain Different types of UML(CO3, K2) 6
- 6-b. Differentiate between weak entity set and strong entity set with suitable example.(CO3,K4) 6

7. Answer any one of the following:-

- 7-a. Explain Tuple Relational Calculus and Domain Relational Calculus.(CO4,K2) 6
- 7-b. Discuss selection and projection operations in relational algebra with examples. (CO4, K2) 6

8. Answer any one of the following:-

- 8-a. Discuss and Elaborate Time Stamp based protocol. Discuss its features.(CO5,K2) 6
- 8-b. Differentiate between Timestamp based protocol and Validation based Protocol. Which one is better and why? (CO5,K4) 6

REG:JAN_JUN-2025