

N.B:-

1. All questions are compulsory.
2. Answer to the same question must be written together.
3. Numbers to the right indicate full marks.
4. Draw neat labelled diagrams wherever necessary.
5. Use of non-programmable calculators are allowed.

Q.1) Attempt the followings.(Any Three) (Each Of 5 marks)

[15 M]

- 1) Write difference between file processing and DBMS.
- 2) Write advantages of DBMS.
- 3) Describe the basic building blocks of relational model.
- 4) Write Relational Algebra Queries for a given set of Relations.

TITLE	DIRECTOR	MYEAR	RATING
Fargo	Coen	1996	8.2
R zem	Coen	1987	7.6
Spiderman	Raimi	2002	7.4
Wonder boy	hanson	2000	7.6

Actor	Ayear
Cage	1964
Hanks	1956
Maguire	1975
Mc Dorman	1957

- a) Find movies made after 1997.
 - b) Find movies made by Hanson after 1997.
 - c) Find all movies and their ratings.
 - d) Find Coen's movies with Mc Dorman.
 - e) Find all actors and directors.
- 5) Explain primary key and foreign key constraint.
 - 6) Explain types of keys with example.

Q.2) Attempt the followings. (Any Three) (Each Of 5 marks)

[15 M]

- 1) Draw an ER diagram for Online sale system.
- 2) Draw UML diagram for ATM machine.
- 3) Write difference between strong Entity set and Weak Entity set.
- 4) Explain with example how E-R diagrams are converted into tables.
- 5) Explain different relationships in UML.
- 6) Explain ER diagram and its attributes.

Q.3) Attempt the followings. (Any Three) (Each Of 5 marks)

[15 M]

- 1) Explain why normalization is necessary in database system and also explain database anomalies in details.

- 2) Differentiate between 3NF and BCNF.
- 3) Explain 1NF with suitable example.
- 4) Explain 2NF with suitable example.
- 5) Explain BCNF with suitable example.
- 6) What is Normalization? What is its objective?

Q.4) Attempt the followings. (Any Three) (Each Of 5 marks)

[15 M]

- 1) Explain Outer Joins, Self Joins ,and Inner Joins.
- 2) Write characteristics of SQL.
- 3) What are NULL values? Explain with example.
- 4) What are constraints? What are different types of constraints?
- 5) Write in brief about SQL.
- 6) Explain following database languages
a) DDL b) DML c) DCL d) TCL

Q.5) Attempt the followings. (Any Three) (Each Of 5 marks)

[15 M]

- 1) List and explain ACID properties of transactions.
- 2) Write a note on Transaction Management.
- 3) Explain database Recovery management.
- 4) Explain Time stamp Ordering Protocol.
- 5) What are advantages of concurrent execution of transaction?
- 6) Explain the process of Transactions.

ALL THE BEST