

Roll No. ....

Total No. of Questions : 09]

[Total No. of Pages : 02

MCA (Sem. - 3<sup>rd</sup>)

**RELATIONAL DATA BASE MANAGEMENT SYSTEM - I**

**SUBJECT CODE : MCA-304(N2)**

**Paper ID : [DU113]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours**

**Maximum Marks : 60**

**Instruction to Candidates:**

- 1) Attempt any one question from each Sections - A, B, C, & D.
- 2) Section - B is Compulsory.
- 3) Use of Non-Programmable Scientific Calculator is allowed.

**Section - A**

*(1 × 10 = 10)*

- Q1)** What are the various objective of a data base system. Explain the architecture for a relational data Model.
- Q2)** Explain the following type of keys with example :
- |                    |                    |
|--------------------|--------------------|
| (a) Primary Key.   | (b) secondary Key. |
| (c) Candidate key. | (d) Super key.     |

**Section - B**

*(1 × 10 = 10)*

- Q3)** A department store consists of many item sections. A section is in charge. The store has three kinds of employees, accounts and billing; administrators; section maintainers. A request for purchase of items for the store is initiated by accounts and billing department which has the inventory details. Purchases are made by administration with proper quality checks from specified vendors. The section maintainers update the inventory placed at shelf's. Draw the E-R diagram for the store.
- Q4)** What is an object oriented data base. Explain the architecture of object oriented data base.

**Section - C**

*(1 × 10 = 10)*

- Q5)** What are the first three normalization in relational data base model.

- Q6) Explain the selection and projection classes in Relational algebra and relational Calculus.

**Section - D**

(1 × 10 = 10)

- Q7) Given the following relations:

Supplier(S#, Name, City); S# is a key

Part(P, Name, Weight, Quantity); P is a key

Supply(S, P, Quantity); S, P is key

Write the expression in SQL to answer the following queries

- Find all part numbers being supplied.
- Find part numbers and part names of parts held in quantity of less than 25.
- Find supplier names of suppliers who supply part number 1.
- Find supplier number of supplier who are located in the same city as the supplier named 'pink'.

- Q8) What is the rollback of a data base. Explain the process with an example.

**Section - E**

(10 × 2 = 20)

Q9)

- What are the benefits of data base. Explain.
- What do you understand by Attribute and Key. Explain.
- What is atomicity of transaction.
- What do you understand by Relationship. Explain.
- What are the features of DCL.
- Give example using SQL for the Retrieval with a subquery with same table involved.
- What is the major difference of data base approach and file approach.
- Give example using SQL for the Retrieval with a subquery with different table reference.
- What are the security need of data base.
- What is the client/Server Architecture.

