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Total No. of Questions : 09] **[Total No. of Pages : 02**

MCA (Sem. – 3rd)

RELATION DATA BASE MANAGEMENT SYSTEM - I

SUBJECT CODE : MCA - 304

Paper ID : [B0113]

[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 - E is **Compulsory**.
3) Use of Non-programmable **Scientific Calculator** is allowed**.**

Section – A

(1 × 10 = 10)

Q1) What is DBMS? What are its characteristics? Explain three level architecture 'of DBMS.

Q2) What is distributed database? Explain various data allocation techniques used in distributed database.

Section – B

(1 × 10 = 10)

Q3) What is data model? Compare and contrast hierarchical, network and relational data models.

Q4) What is ER model? Draw and explain the ER diagram for university examination system.

Section – C

(1 × 10 = 10)

Q5) What is relational algebra? How it is different from relational calculus? Explain various types of relational operators used in relational-algebra.

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Q6) What is normalization? What are its objectives? Explain various steps of normalization by taking suitable examples.

Section – D

(1 × 10 = 10)

Q7) Write notes on the following:

(a) Features of SQL.
(b) Client Server architecture.

Q8) What is oracle? Explain various object oriented features of oracle.

Section - E

Q9) ***(10 × 2 = 20)***

a) What is data independence? Explain.

b) What is object relational database? What are its advantages?

c) What is functional dependency? Explain.

d) What is degree of relation? Explain with example.

e) What are joins? What are different types of joins?

f) What is concurrency control? Explain.

g) What is shadow paging?

h) List any three background processes of oracle.

i) What is database integrity? Explain.

j) What is weak and strong entity?