

Total No. of Questions : 4]

SEAT No. :

P8569

[Total No. of Pages : 2

Oct-22/TE/Insem - 542

T.E. (Electronics/E& TC Engineering)

DATABASE MANAGEMENT

(2019 Pattern) (Semester - I) (304183)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Solve Q1 or Q2, Q3 or Q4 from following questions.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) What is meant by mapping cardinality? Explain different types of cardinalities for a binary relationship with example. [5]

b) Construct an E-R diagram for a car insurance company that has a set of consumers each of whom owns one or more cars. Each car has associated with zero to any number of recorded accidents. [5]

c) Explain in detail the different levels of abstraction. [5]

OR

Q2) a) Define the term in relational model. [5]

- i) Tuple
- ii) Relational scheme
- iii) Relational instance.

b) Perform the following relational algebra on given relations a & b. [5]

- i) Union operation
- ii) Cross product

P.T.O.

Table a : Employee

Number	Name	Age
101	Sonal	18
102	Riya	20
103	Ram	19

Table b: Student

Number	Name	Age
101	Maduri	18
102	Riya	20
103	Ram	19

- c) Explain the concept of specialization & generalization in E-R Model using suitable example. [5]

Q3) a) Explain first five Codd's rules. [5]

b) Differentiate between BCNF & 3NF. [5]

c) Explain any two anomalies with example. [5]

OR

Q4) a) State & prove Armstrong's Axioms rules for functional dependencies. [5]

b) Describe the desirable properties of "Decomposition". [5]

c) Describe the concept of fully functional dependency & transitive functional dependency. [5]
