Total No. of Questions : 4]

SEAT No. :

P8569

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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]**