Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

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B.Tech.(Automation & Robotics) (DE-I 2011 & Onward)/
(ECE)/(ETE) (E-I 2011 Onwards)   (Sem.–6)
RELATIONAL DATA BASE MANAGEMENT SYSTEM
Subject Code : BTEC-901
M.Code : 71125

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Q1. Answer briefly :

a) Write advantages of DBMS.

b) Write in brief about DBMS Layers.

c) What is clustered index organization?

d) Define Entity, Attributes, Entity set, relationship.

e) Differentiate between Cartesian product and natural join operations used in relational algebra.

f) Differentiate between SQL commands DROP TABLE and DROP VIEW.

g) What is the need of the normalization? Explain the first three steps involved in the normalization.

h) Explain the classification of functional dependency

i) Why is concurrency control needed?

j) Explain in brief about Encryption and Digital Signatures.

SECTION-B

Q2. Differentiate between File Systems and DBMS.

Q3. Explain the following terms in brief.

    a) Hashing

    b) B-trees

Q4. Explain in detail about Hierarchical Data Model.

Q5. Write a detailed note on Relational Algebra.

Q6. Explain in detail about Basic query Optimization Strategies.

SECTION C

Q7. a) Define BCNF. How does BCNF differ from 3NF? Explain with example.

    b) What is meant by multivalued dependency? Explain with example.

Q8. a) Explain ACID properties of transaction management

    b) Explain in detail about deadlock handling.

Q9. Explain in detail about following terms :

    a) Role Based Security

    b) Bell-la-Padula Model

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.