Registration No:

Total Number of Pages : 2   AR-17   B.TECH

3rd Semester (BACK PAPER) Examination-2019

BCSES3052 DATABASE MANAGEMENT SYSTEMS

Common to CIVIL/EE/EEE/MECH

Time : 3 Hours   Maximum : 100 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions) 10 x 2=20 Mark

Q.1. Answer _All_ Questions

a   Before use of DBMS information was stored using -----
   a) Cloud Storage b) Data System c) File Management System d) none of the above

b   An advantage of the database management approach is
   a) data is dependent on programs. b)data redundancy increases.
   b) data is integrated and can be accessed by multiple programs.
   c) None of the above

c   The database schema is writtenin
   a) DML b)DDL c)DCL d) TCL

d   In E-R Diagram derived attribute are representedby
   a) Ellipse   b)Dashedellipse c)Rectangle d)Triangle

e   Cross Product isa:
   a) UnaryOperator b)TernaryOperator c)BinaryOperator d)Not anoperator

f   An instance of relational schema R (A, B, C) has distinct values of A including NULL values. Which one of the following is true?
   a) A is acandidatekey b)A is not a candidatekey c)A is aprimaryKey d) Both a and c

g   The storage structure which do not survive system crashes are--
   a. volatile storage b. non-volatile storage c. stable storage d. dynamic storage

h   Storage devices like tertiary storage , magnetic disk comes under
   a. volatile storage b. non-volatile storage c. stable storage d. dynamic storage

i   The transaction wants to edit the data item is called as …….
   a. exclusive mode b. shared mode c. inclusive mode   d. unshared Mode

j   A Transaction ends
   a. only when it is committed. b. only when it is rolled-back c. when it is committed or rolled-back
   d. only when it is initialized

PART – B: (Short Answer Questions) 10X2=20 Marks

Q.2. Answer _ALL_ questions

a   Define mapping in 3-schema architecture with example.

b   Illustrate how the redundancy is controlled by the database approach

c   Explain DBMS

d   What do you mean by Specialization and Generalization

e   What is Serializability

f   What is Database Design and Explain

g   Explain briefly about Clustered indexes

h   Distinguish between sparse index and dense index

i   What are the two methods for dealing deadlock problem?

j   What is a recovery scheme?

PART – C: (Long Answer Questions) 4X15=60 Marks

Answer _ALL_ questions

Q.3

a	Narrate about a)Data abstraction b)Data Independence	10
b	Discuss different data models of Database	5

OR

c	Define Constraints. Write the different types of constraints in relational model with example.	10
d	Explain three different groups of data models with examples	5

Q.4

a	Explain the functional dependency and its type with example each.	5
b	What is Normalization and Explain different Normal forms with example.	10

OR

c	What are the pitfalls in relational database design? With a suitable example, explain the role of functional dependency in the process of normalization	10
d	What is ER Modelling? Draw an ER Diagram for University Registration System	5

Q.5

a	Describe the structure of B+ tree and give the algorithm for search in the B+ tree with example.	10
b	Discuss about storing of data with its associated storage devices	5

OR

c	Explain in detail about file organization &Indexes?	10
d	Explain current page table and shadow page table.	5

Q.6

a	What you mean as lock ?write shortly about shared lock and exclusive lock?	5
b	Illustrate in detail about object oriented databases?	10

OR

c	Explain the following a)database failure b)database recovery	10
d	Explain about atomocity, Isolation of a transaction with Bank accounts A and B ,funds transfer example?	5

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