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MBA
15MNG304D

3rd Semester Regular Examination 2017-18
Data Base Management (DBM)

BRANCH : MBA

Time: 3 Hours

Max Marks: 100

Q. Code: B682

Answer Question No.1 and 2 which are compulsory and any four from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions by choosing the appropriate answer from the given choices. (2x10)

a) A view in a database that appears to an application program is known as _____.

(i)Schema (ii)Subschema (iii)Key (iv)super key

b) Which level of data abstraction describes actual storage of data?

(i)Physical Level (ii)Conceptual Level (iii)Logical Level(iv)All the above

c) An entity type that does not have sufficient attributes to form a key is known as _____.

(i)Strong Entity (ii)Identifying Entity(iii)Weak Entity(iv)Null entity

d) Which of the following may be regarded as metadata?

(i)E-R diagram (ii)Table (iii)View (iv)Data dictionary

e) Which of the following is not a unary operation?

(i)Select (ii)Union (iii)Project (iv)Rename.

f) Which of the following makes the transaction permanent in the database

(i)View (ii)Commit (ii)Rollback (iv)Flashback⁰

g) _____ Key represents relationship between tables.

(i)Super Key (ii)Unique Key (iii) Foreign Key (iv) All the above

h) Non-volatile storage needs to have a _____where the loses in future can be recovered.

(i)Dump (ii)Recover Place (iii)Disk (iv) Redo plan

i) In the _____ normal form, a composite attribute is converted to individual attributes.

(i)Second (ii)Third (iii)BCNF(iv)First

j) Which of the following normal form is based on multi valued dependency

(i)First (ii)Fourth (iii)Third (iv)BCNF

Q2 Answer the following questions : (2 x 10)

a) What is data redundancy and what are its disadvantages?

b) What is recursive relationship? Give an example.

c) Write the use of UPDATE statement in SQL with example.

d) What are the responsibilities of DBA?

e) What is data dictionary?

f) What are Wild Card operators in SQL ? Write their use with example.

g) What is a log file? Why is it used ?

h) List the commonly accepted threats to data base security.

i) What is meant by database audit and audit trail?

j) What is OLTP? Differentiate it with OLAP ?

Q3 A company database keeps track of company's employees, departments and projects. Suppose that after the requirement collection and analysis phase, the database designers provide the following descriptions of the part of the company to be represented in the database: **(15)**

The company is organized into departments. Each department has a unique name, a unique number and a particular employee who manages the department. A department may have several locations. A department controls a number of projects, each of which has a unique name, a unique number and a single location. We store each employee's name, address, salary, sex and the date of birth. An employee is assigned to one department but may works on several projects, which are not necessarily controlled by the same department. We keep track of the direct supervisor of each employee. We want to keep track of the dependents of each employee for insurance purposes. We also keep track of dependent's name, sex date of birth and relationship to the employee. Construct an E-R diagram for the company database

Q4 a) Consider the following schema **(8)**

EMPLOYEE(Eid,Ename,Degn,Sal,Dno)
DEPATRMENT(Dno,Dname,Dloc)

Where Eid represents employee's id, Ename represent employee's name, Degn represents designation of the employee, Sal represents monthly salary of an employee, Dno represents department number, Dname represents name of the department ,Dloc represents location of the department and the key fields are underlined.

Write SQL for the followings:

Find the names of employees who earns more than 15000/- per month.

Retrieve names and salaries of the employees who works for HR department.

b) Define DBMS. Discuss the advantages of database system over traditional file based approach **(7)**

Q5 a) Define functional dependency. Write inference rules .Why Armstrong's inference rules are called as sound and complete . **(8)**

b) Discuss SELECT and PROJECT operation of relational algebra with example. **(7)**

Q6 Why do you require normalization? Define first , second and third normal forms. Decompose a relation R(A,B,C,D,E,F,G,H,I,J) into 2NF and 3NF relations, given a set of functional dependencies $F = \{ AB \rightarrow C, A \rightarrow DE, B \rightarrow F, F \rightarrow GH, D \rightarrow IJ \}$. **(15)**

Q7 a) What is Distributed Database Management System? How is it different from Client-Server model? Write the advantages of DDBMS. **(8)**

b) Define a transaction. State and explain the desired properties of transaction. **(7)**

Q8 Write short notes on (any THREE) : **(5x3)**

a) Database Languages

b) Database security measures.

c) Data Fragmentation.

e) Recovery using Checkpoints