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Total Number of Pages : 02

B.Tech.
FEAE6301

6th Semester Back Examination 2017-18
DATABASE MANAGEMENT SYSTEMS & APPLICATIONS
BRANCH : AERO
Time : 3 Hours
Max Marks : 70
Q.CODE : C135

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

- Q1 Answer the following questions : (2 x 10)**
- a) What is the role of database administrator? Explain.
 - b) Define System Catalog?
 - c) Define Metadata?
 - d) List the different types of keys used in E-R diagram?
 - e) Define integrity constraint?
 - f) Differentiate between generalization and specialization?
 - g) What is a data dictionary?
 - h) What does join operator do and enlist its types?
 - i) What do you mean by mapping constraint?
 - j) What do you mean by redundancy?
- Q2 a) What are the various levels of data abstraction in a database? (5)**
b) Draw an E-R diagram for a Hospital Management System? (5)
- Q3 a) What are the different types of data models used in RDBMS? (5)**
b) Consider 3 relations : Emp(e#, ename, sal) (5)
Assigned-to(e#, p#)
Project(p#, pname, chief)
- Display employee no, employee name of those employees having salary more than 8000
Display the details of those employees working in project no P008.
Find employee name, project no of those employee working in project name DB or OS.
Find the maximum salary of the employee table
Find employee no and project no of those employee whose chief is 'Duke'.
- Q4 a) What are the different types of database and users? Discuss the main activities of each. (5)**
b) Explain QBE. Give some examples of QBE commands? (5)
- Q5 a) What are the different types of recovery techniques used for database? (5)**
b) What are the various locking methods used in Data Security? (5)

- Q6** a) Define transaction. What are the properties of a transaction? (5)
b) Why concurrency control is needed in RDBMS? Explain the problems that would arise when concurrency control is not provided by the database system? (5)
- Q7** Given a relation R(A,B,C,D,E) (10)
F = {A→B, AC→D, D→E, E→A}
Check whether the relation is in 3NF or not. If not decompose into 3NF. Find out the decomposition is loss-less or lossy.
- Q8** Write short answer on any TWO : (5 x 2)
a) Types of Data Base failure
b) Differentiate between RDBMS & OODBMS
c) Differentiate between Primary Key, Foreign Key, Alternate Key
d) Referential Integrity