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B.Tech.
FEEC6301

5th Semester Back Examination 2018-19
DATA BASE MANAGEMENT SYSTEMS
BRANCH : AEIE, ECE, EEE, EIE, ELECTRICAL, ETC, IEE
Time : 3 Hours
Max Marks : 70
Q.CODE : E610
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 transparent DBMS?
   b) Define System Catalog?
   c) What does join operator do and enlist its types?
   d) Compare Non-clustered and clustered index.
   e) What does a checkpoint command do and When is it used?
   f) Define atomicity and aggregation?
   g) Which data model is known as tree structured model? What are its disadvantages?
   h) Enlist the advantages of normalizing database.
   i) Specify the rules for converting E-R diagram into relational model.
   j) Which file organization provides very fast access to any arbitrary record of a file?

Q2 **a)** What are the factors of DBMS and specify the types of database users.   **(5)**
   b) Explain the advantages of data base management system over file management system.   **(5)**

Q3 **a)** Consider a table which contains 3 columns ID, Student, DOB, and Marks. Write the query for following questions: **(5)**
       (i)   Find all the students, whose marks are greater than average mark.
       (ii) Name the student who has secured third highest marks.
       (iii) Find out the no of student who fails
       (iv) Display the name of those students whose DOB is before1990.
       (v)   Find the student whose DOB is before1990 and secured highest mark.
   b) Describe about the different data models are used to design the data base. Explain data independence in 3-levels of data abstraction.   **(5)**

Q4 **a)** Explain CODD's 12 rule.   **(5)**
   b) Define 3NF and explain with an example. How can you know the normalization is loss-less or not?   **(5)**

Q5 **a)** Explain the types of data ware house and the steps needed to build a data ware house.   **(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)**

Q6 **a)** What are the various locking methods used in Data Security? **(5)**

b) Consider two transactions : T1 & T2 . Explain when serial schedule execution of two transactions will be a serializable schedule? Give an example. **(5)**

Q7 Briefly describe about the different types of data base recovery techniques. **(10)**

Q8 **Write short answer on any TWO :** **(5 x 2)**

a) Query by Example

b) Data Base failure

c) OLAP vs OLTP.

d) DBA