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M.B.A. EXAMINATION, 2020

(Third Semester)

(C Scheme) (Main & Re-appear)

(MBA)

IT01C

DATABASE MANAGEMENT SYSTEM

Time : 2½ Hours]

[Maximum Marks : 50

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Four* questions in all. All questions carry equal marks.

1. (a) With a neat sketch discuss the architecture of a DBMS.
(b) Define Schema and Subschema with the help of suitable examples.
2. What are data models ? Compare and contrast hierarchical, network and relational data models.
3. Consider the following relation schema :
Sailors (sid : integer, sname : string, rating : integer, age : real)
Boat (bid : integer, bname : string, color : string)
Reserves (sid : integer, bid : integer, day : date)
Write the following queries in SQL :
 - (i) Find the average age of the sailor who are eligible for voting for each rating level that has at least *two* sailors.
 - (ii) Find the name of sailors who have reserved both red and a green boat.
 - (iii) Find the sailor_id of sailors who have reserved a red boat.

4. (a) Differentiate between table and view.
(b) List and explain SET operations of SQL.
5. What is need of concurrency control ? Explain different concurrency control techniques.
6. Explain the following :
 - (a) BCNF
 - (b) Logical data independence.
7. What is meant by database recovery ? Explain immediate update, deferred update and shadow paging recovery techniques with their advantages and disadvantages.
- . Discuss in detail the design of distributed database with the help of suitable examples. Also mention its major characteristics.