R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year II Semester Examinations, July/August - 2021
DATABASE MANAGEMENT SYSTEMS
(Common to CSE, IT)

Time: 3 hours   **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks
- - -

1.   With a neat diagram explain the database architecture and its components.   [15]

2.   Construct an Entity-Relationship diagram for a multi-specialty hospital management system. Quote your assumptions and list the requirements considered by you for conceptual database design for the above system.   [15]

3.a)   Differentiate between nested query and correlated query.
  b)   What is a trigger? Discuss its types.   [8+7]

4.   Consider the following schema to write queries in Relational Algebra:
      Sailor(sid, sname, age, rating)
      Boats(bid, bname, bcolor)
      Reserves(sid,bid,day)
      a) Find the sailors who have reserved a boat with id 126.
      b) Find the names and colors of the boats reserved by "Ramu".
      c) Find the sailors who have reserved atleast two boats.   [5+5+5]

5.   Discuss the problems caused by redundancy. How to handle these problems in database management systems?   [15]

6.a)   Differentiate between 3NF and BCNF.
  b)   Give an account of multi valued dependencies.   [7+8]

7.a)   Does two phase locking protocol ensure conflict serializability? Justify your answer with suitable examples.
  b)   Explain multiple granularity locking.   [8+7]

8.   Write a note on the following:
      a) ISAM
      b) Linear hashing.   [7+8]

---ooOoo---