

Code No: 157BD

**R18**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, February/March - 2022**

**DATABASE MANAGEMENT SYSTEMS**

**(Electronics and Communication Engineering)**

**Time: 3 Hours**

**Max. Marks: 75**

**Answer any Five Questions**

**All Questions Carry Equal Marks**

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- 1.a) Discuss the levels of abstraction provided by DBMS.
- b) How does DBMS address the disadvantages of file system? [8+7]
2. Construct an entity relationship diagram in the conceptual database design of an international school admission system. [15]
3. Demonstrate reduction of tables from entity relationship diagram for designing a database. [15]
- 4.a) Contrast tuple relational calculus with domain relational calculus.
- b) What is an assertion? How to define it? [7+8]
5. Consider the following database schema to write queries in SQL:  
Employee(Eid, Ename, Ecity)  
Company(Cno, Cname, City)  
Works\_for(Eid, Cno, Salary)  
a) Find the employee names who are working for 'TCS' located in Hyderabad.  
b) Find the company with largest number of employees.  
c) Find the employees who earn more than the average salary of the employees. [15]
- 6.a) Illustrate the problems caused by redundancy.
- b) How to compute closure of F, the set of functional dependencies. [8+7]
- 7.a) How does multiple granularity handle concurrency control?
- b) What is log? What is log tail? Discuss different types of log records. [8+7]
- 8.a) Make a comparison of heap file organization with hash file organization.
- b) Differentiate between sparse and dense index. [8+7]

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