

Code No: 54013

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech II Year II Semester Examinations, November/December - 2020****DATABASE MANAGEMENT SYSTEMS****(Common to CSE, IT)****Time: 2 hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

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- 1.a) Define DBMS. Compare and contrast DBMS with file system.
b) How does DBMS provide data abstraction? Explain with a neat diagram. [7+8]
- 2.a) Discuss about class hierarchies and constraints on them in ER Model.
b) Construct an ER diagram for college admission systems. [8+7]
3. Consider the following schema to write queries in SQL.
Suppliers(sid:integer,sname:string,scity:string)
Parts(pid:integer,pname:string,pcolour:string)
Catalogue(sid,pid,cost)
a) Find the part names supplied by suppliers belonging to 'Vijaz'.
b) Find the names of the suppliers who are supplying at least two parts.
c) Find the parts which are supplied by only 'Mohan'.
d) Find the suppliers who supply every blue part.
e) Find the suppliers who supply only blue parts. [3+3+3+3+3]
- 4.a) Discuss the group by clause in SQL with illustrations.
b) What is a nested query? Discuss a correlated nested query with examples. [7+8]
- 5.a) Describe the problems related to decomposition.
b) Discuss fourth normal form with example. [8+7]
6. Discuss two phase locking protocol. Explain all its variants with necessary schedules. [15]
- 7.a) Discuss pin count and dirty bit in buffer management.
b) Explain write-ahead log protocol in detail. [8+7]
8. Discuss B+ tree as indexing structure. Bulk load the B+ tree with the following records (key*) format. A page can hold only two data records. Index record can hold two keys.
44*, 34*, 12*, 35*, 25*, 56*, 7*, 91*, 36*, 87*, 3*, 45*. [15]

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