

R09

Code No: 54013

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech II Year II Semester Examinations, June - 2022

DATA BASE MANAGEMENT SYSTEMS

(Common to CSE, IT)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

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- 1.a) What are database system applications? Distinguish between database system and file system.
- b) What do you mean by Data Abstraction? Discuss briefly. [10+5]
2. Draw and explain an ER diagram for hospital management system. [15]
- 3.a) What do you mean by domain relational calculus? Illustrate with an example.
- b) Describe integrity constraints over relations. [9+6]
- 4.a) Explain about complexity integrity constraints in SQL.
- b) Discuss about logical connectivity's in SQL with examples. [8+7]
- 5.a) What are the problems related to decomposition?
- b) Discuss about lossless-join decomposition.
- c) Discuss about 4NF with suitable example. [5+5+5]
- 6.a) Describe the two phase locking protocol with the help of an example.
- b) What are the basic properties of a transaction? Explain these properties with the help of an example? [8+7]
- 7.a) What is the need of buffer management? Explain.
- b) What does ARIES algorithm do? Explain. [8+7]
8. Construct a B⁺-tree for the following set of key values.
(2,3,5,7,11,17,19,23,29,31)
Assume that the tree is initially empty and values are added in ascending order. Construct B⁺-tree for the cases where the number of pointers that will fit in one node is as follows.
 - a) four
 - b) six
 - c) eight. [15]

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