Code: 15A05301

B.Tech II Year I Semester (R15) Regular & Supplementary Examinations November/December 2018
DATABASE MANAGEMENT SYSTEMS
(Common to CSE & IT)

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
   (a)   Explain data abstraction.
   (b)   Describe how integrity constraints are enforced.
   (c)   What is relational algebra?
   (d)   Illustrate comparison operator with example.
   (e)   Explain decompositions.
   (f)   How to identify attributes of entities?
   (g)   Describe the testing for serializability.
   (h)   What is transaction rollback?
   (i)   Bring out the differences between primary indexes and secondary indexes.
   (j)   What is static hashing?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2   Describe the notational conventions used in ER model. Construct ER model for university administration system.

OR

3   Describe data models, database languages and database architecture in detail.

UNIT – II

4   Illustrate nested queries, aggregate operators and null values in detail with examples.

OR

5   What is relational algebra? List all the relational algebra operators. Explain following operations: SELECT, PROJECTION, JOIN and DIVISON with examples.

UNIT – III

6   List the problems caused by redundancy. Explain Boyce-Codd normal form in detail with an example.

OR

7   Explain decomposition into 3NF by selecting a real-world example.

UNIT – IV

8   Explain storage structure and their access methods in detail.

OR

9   Discuss ACID properties. Explain lock-based concurrency control protocol in detail with an example.

UNIT – V

10   What is indexing? Explain B+ trees in detail with search insert and delete operations.

OR

11   Compare and contrast different types of file organizations.

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