**R13**

B.Tech II Year II Semester (R13) Supplementary Examinations December 2016
## 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)   Describe the three levels of data abstraction.
   (b)   What is data independence?
   (c)   What is relational algebra?
   (d)   What is normalization?
   (e)   What is BCNF?
   (f)   What is indexing and what are the different kinds of indexing?
   (g)   What is database trigger?
   (h)   What is database tuning?
   (i)   How reliability can be improved through redundancy?
   (j)   What is meant by multi-dimensional database?

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

**UNIT - I**

2    Explain about different kinds of data models.

**OR**

3    Explain the notational conventions used in ER model. Construct ER model for student administration system.

**UNIT - II**

4    Explain briefly about fundamental relational algebra operations.

**OR**

5    Explain about inference rules for functional dependencies and also explain about second normal form.

**UNIT - III**

6    Explain about data definition language in detail.

**OR**

7   (a)   Explain about SQL fundamentals.
   (b)   Explain about triggers.

**UNIT - IV**

8    Explain how hashing is used for file organization. Write about static hashing and dynamic hashing.

**OR**

9    Discuss how multilevel indexes are constructed using B trees and B+ trees.

**UNIT - V**

10   Discuss various concurrency control protocols.

**OR**

11   Discuss 2PC (2 phase commitment) protocol and its significance.

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