*Total No. of Questions :8]* *[Total No. of Printed Pages :2*

**Roll No** .....

# MCTA-104

## M.E./M. Tech., I Semester

Examination, December 2016

## Advanced DBMS

***Time : Three Hours***

***Maximum Marks : 70***

***Note:*** Attempt any five questions. All questions carry equal marks.

1. a) Design an E-R model of any university, depicting attribute set, relationship set, attributes, mapping cardinalities, keys, extented features like generalization/specialization, aggregation. 7
   b) What do you mean by DBMS standardization? Give an example to explain it. 7

2. a) Explain the layers of query processing. 7
   b) What is multivalued dependency? Explain BCNF in detail. 7

3. a) What is the goal of query optimization? Why is optimization important? 7
   b) What is semijoin operation? How can it be used in distributed query processing? Describe with the help of an example. 7

4. a) What are the problems that arise in a distributed DBMS environment for concurrency control and recovery purpose. 7
   b) What is commit protocol and why is it required in distributed database? What is blocking and how does the three phase protocol prevent it? 7







5. a) Why do database system support concurrent execution of transactions, in spite of the extra programming effort needed to ensure that concurrent execution does not cause any problems? 7
   b) How does the concept of an object in the object oriented model differ from the concept of an entity in the entity relationship model? 7

6. a) What are web databases? How databases are accessed through webs? 7
   b) Explain briefly : 7
      i) Object oriented data model
      ii) Object data management group

7. a) Give a brief note on image and multimedia database? 7
   b) What is R tree? What is the structure of data entries in R Trees? How does concurrency control in a R tree work? 7

8. Write short notes on the following: 14
   a) Color Histogram
   b) XML database
   c) Association
   d) Integrity constrians

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