

Roll No. ....

**23075**

**M. Tech. 3<sup>rd</sup> Sem. (Computer Engg.)**

**Examination – January, 2016**

**ADVANCED DBMS**

**Paper : MTCE – 703 – A**

*Time : Three Hours ] [ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

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

1. (a) What are the various operational in relational algebra ? Explain with example.  
(b) Explain the three-level architecture of DBMS.
2. (a) Describe the structure of typical query processor with the help of a block diagram.  
(b) How a query processor evaluate one-variable and two variable expression in a query. Describe some method for each.

3. (a) What are the possible states of a transaction? Explain.
- (b) What is shadow paging? How is it different from log-based recovery technique? Explain.
4. (a) What is concurrency control? Describe optimistic concurrency control technique.
- (b) What do you mean by deadlock prevention, avoidance and detection? Explain.
5. (a) What is data warehouse? Describe the various characteristics of data warehouse.
- (b) Explain the concept of star schema, snowflake and fact constellation schema with examples.
6. (a) What do you mean by Data Base Management System (DBMS)? What are the advantages and disadvantages of DBMS?
- (b) Explain data replication and data fragmentation.
7. (a) Discuss how database objects are created and queried in object oriented database system.
- (b) Describe the basic concept of object oriented database system. How is it different from conventional database system?

8. (a) What is object relational database? Describe the advantages of object relational approach.
- (b) Explain various features of enhanced SQL of object relational database with the help of examples.