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Roll No.					
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## MCA-3 1<sup>st</sup> Year Examination, Calendar Batch 2017 Data Base Management System

Time: 3 Hours ] [Max. Marks: 100

Note. Attempt any five questions. Each questions carry equal marks.

- **Q.1** What is Transaction? Draw a state diagram of a transaction showing its states. Explain ACID properties of a transaction with suitable examples.
- **Q.2** What do you mean by timestamps? Explain the salient features of timestamp ordering protocol.
- Q.3 Define SQL? Explain how SQL works?
- Q.4 Discuss various advantages and disadvantages of the database approach.
- **Q.5** Explain the Two-Phase locking protocol.
- Q.6 What is relational algebraic expression and what are relational algebraic operations? explain
- Q.7 Describe the architecture of DBMS with a neat & clean diagram.
- **Q.8** Discuss the DKNF.

