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Paper Code: MCAE-41

**MCA**  
**FIFTH SEMESTER EXAMINATION, 2016-2017**  
**ADVANCED DATABASE MANAGEMENT SYSTEM**

[Time: 3 Hours]

[Total Marks: 100]

**Note:** Attempt *ALL* questions. Assume suitable data, if required. All question carry equal marks.

1. Attempt any four questions. [5x4=20]
  - (a) What is transaction? Describe all the state of transaction.
  - (b) What do you understand by distributed commit?
  - (c) Explain all kinds of locks in brief.
  - (d) Define ACID properties.
  - (e) What are the various reasons of transaction failure?
  - (f) Explain semi joins and multi joins.
  
2. Attempt any two questions. [10x2=20]
  - (a) What do you understand by schedules? Explain conflict serializability and view serializability.
  - (b) What do you understand by *enforcing serializability by locks*? Explain.
  - (c) Explain fragmentation and replication techniques in detail.
  
3. Attempt any two questions. [10x2=20]
  - (a) Explain:
    - (i) Log based recovery
    - (ii) Recovery in message passing system
  - (b) Explain distributed commit in detail.
  - (c) What do you understand by long duration transactions? State distributed locking schemes.
  
4. Attempt any two questions. [10x2=20]
  - (a) Explain distributed deadlocks in detail.
  - (b) Draw and explain architecture of locking scheduler.
  - (c) Explain multiple granularity and multiversion techniques.
  
5. Attempt any two questions. [10x2=20]
  - (a) What do you understand by concurrent transaction? Write down the benefits of concurrent transactions.
  - (b) Explain recoverable and cascade less schedules with suitable example.
  - (c) Explain:
    - (i) Lock based protocols
    - (ii) Time stamp based protocols