BICSE-007

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

ㅁㅁ8ㅌㅌ   June, 2016

BICSE-007 : DISTRIBUTED DATABASE

Time : 3 hours   *Maximum Marks : 70*

Note : *Answer any* ***seven*** *questions. All questions carry equal marks.*

1. Explain the general architecture of a parallel database system and shared memory architecture. **10**

2. Which process of DDBS design is used when we want to design DDBS from scratch ? Also draw and explain that process. **10**

3. (a) "Providing transparency is needed in DDBMS." Comment with suitable examples. **5**

(b) How does distributed transaction manager deal with multiple copies of data, when concurrency control is based on locking ? 5

4. (a) "Dynamic query optimization approach is best for Ad-hoc queries." — Write your comments on this statement by giving justification for your answer. 5

(b) What is query optimization ? List the components of query optimizer software and explain any one from that. 5

5. (a) How can the correctness rules be applied to primary and derived horizontal fragmentation ? 5

(b) Define distributed deadlock detection. 5

6. Describe query decomposition and data localization in detail. 10

7. (a) Explain ACID properties of transaction. 5

(b) What are the lazy replication protocols ? 5

8. (a) Describe the fundamental approaches to construct a reliable system. *5*

(b) Explain the distributed cost model with an example. *5*

9. (a) Differentiate between federated database system and multi database system. *5*

(b) Explain three-phases commit protocol in detail. *5*

10. Write short notes on any *two* of the following : *2×5=10*

(a) Scheduler

(b) 2PC

(c) Fragmentation of database