10/5/13

Comp. Sem V Rev

ADBMS

73 : 1st half.13-shilpa(h)

Con. 7037-13. **GS-8748**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Solve any **four** out of **remaining** questions.
(3) **Suitable** assumptions can be made if **required**.

1. (a) Construct an EER diagram for an airline database. The database contains information about passengers, flights, departure, employees of the airline and aircrafts. For passengers name, address, phone no. and related information is to be stored. For employees, the company want to record the name, address, salary, identification no. and flight information. Not all employees can fly aircraft–but just the Pilots. For all these employees, it is required to record the qualification i.e. what kind of plane they can fly. For planes it is required to record the model and manufactures of the plane. The airline has many aircrafts of a certain type. For flights the airline needs to keep the information like ; flight no., origin, destination, departure time and arrival time. Note that for the same source–destination, there can be many flights per week. Relevent assumptions, if required can be made. **8**
   (b) Convert the above EER diagram into Relational schema. **6**
   (c) Write three typical queries in SQL3. **6**

2. (a) State the purpose of two phase commit protocol. Explain two phases in detail. **10**
   (b) Explain the need of Replication. How Quries are processed in Replicated Distrubuted databases ? **10**

3. (a) Explain Hash join algorithm. **10**
   (b) What are the main architectures used for building parallel databases ? Give advantages and disadvantages of each. **10**

4. (a) What is data transperency ? Explain the types transperencies distributed database should achieve. **10**
   (b) How concurrency control is achieved in distributed database systems ? **10**

5. (a) What is heuristic rule in query optimization ? Explain transformation rules. **10**
   (b) Explain nested loop join and block nested loop join algorithm in query processing. **10**

6. (a) Explain merge sorting in query processing. **10**
   (b) Explain macro life cycle in database design methodology. **10**

7. Write notes on (any **two**) :– **20**
   (a) Object relational features in SQL3
   (b) Measures of query cost
   (c) XML Schema elements.

****