

NB:

- 1) Q1 is Compulsory.
- 2) Attempt any four questions from remaining six questions.
- 3) Assume suitable data if necessary.

- Q1)a. What is trigger? Illustrate the cases when triggers must not be used? (5mks)
 b. Describe transient and persistent objects. (5mks)
 c. Describe the concept of relational database. (5mks)
 d. What is data warehouse? Give definition and features of data warehouse. (5mks)
- Q2)a. What is the purpose of data replication? With the help of advantages and disadvantages explain various schemes of replication. (10mks)
 b. In case of parallel database what are the different partitioning techniques in I/O parallelism? How skew is handled in I/O parallelism. (10mks)
- Q3)a. What do you mean by assertion and when are they used in database. (10mks)
 b. Describe various standards and component of SQL3 (10mks)
- Q4)a. Write in brief about object query languages. (10mks)
 b. Describe various constraints of specialization and Generalization. (10mks)
- Q5)a. Consider the following employee database and convert it into 1NF,2NF,3NF. (10mks)

Employee(eno,ename,Jobno,city,Jobstart,JobFinish,salary)

eno	ename	Jobno	city	Jobstart	JobFinish	salary
E101	Ramesh	J501	Mumbai	1/1/2000	5/2/2000	50000
		J502	Delhi	2/5/2015	5/7/2015	60000
E102	Suresh	J605	Pune	8/1/2010	5/2/2010	75000
		J609	Mumbai	5/2/2010	6/8/2010	56000

- b. A Company have sales department sales consider four dimensions namely:- (10mks)
 i)Time ii) Item iii) Branch iv) Location
 The schema contains a central fact table sales with two measure namely dollars sold and unit sold. Design a star schema and snowflake schema.
- Q6)a. Give details of following ETL activities. (10mks)
 a) Data Extraction. b) Data Transformation
- b. How concurrency control and recovery is done in distributed database? (10mks)
- Q7)a. Write a short note on.(Any Two) (20mks)
 a. Mobile database
 b. Vertical and Horizontal Fragmentation in Distributed Databases.
 c. OLAP.