

Seat No. : _____

N28-130

December -2014

Fourth Year M.Sc. (CA & IT) (Integrated)

Advanced Database Systems

Time : 3 Hours]

[Max. Marks : 100

1. (a) Define the following (any 5) : **10**
- (1) Canned Transactions
 - (2) Database State
 - (3) Mappings
 - (4) Flash Memory
 - (5) Data Independence
 - (6) DBMS Catalog
- (b) Answer any 2 : **10**
- (1) Explain all types of actors in DBMS.
 - (2) What is DDBMS ? Explain homogenous and heterogeneous DDBMS.
 - (3) Explain database system utilities.
2. (a) Answer the following : (any 4) **12**
- (1) Write goals for database tuning.
 - (2) What is discretionary and mandatory security mechanism ?
 - (3) Explain counter measures used in loss of confidentiality in DBMS.
 - (4) What is multilevel security ?
 - (5) Explain : Polyinstantiation
- (b) Answer the following : **8**
- (1) What is horizontal and vertical partitioning ?
 - (2) Explain types of security used in database.

3. (a) Explain the following terms : (any 5) 15
- (1) Shadowing
 - (2) Deferred Update
 - (3) Network Partitioning
 - (4) Cascading rollback
 - (5) Primary site technique for distributed concurrency control
 - (6) Snapshot Refresh Process
- (b) Explain fuzzy check pointing and write actions taken for a checkpoint. 5
4. (a) Explain types of queries used in spatial database. 6
- (b) Write and explain all additional functions of distributed database. 6
- (c) What is federated DDBMS ? 4
- (d) Explain replication and fragmentation transparency. 4
5. (a) Define : (any 2) 6
- (1) Multimedia Database
 - (2) GIS
 - (3) Genetics
- (b) Explain ORDBMS and the concept of interoperability. 4
- (c) Give an example of row type and array type constructor and creating object using the constructor. 5
- (d) Illustrate nested relational model using an example. 5
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