Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

MCA (2013 and 2014 Batch)   (Sem.–3)
DATABASE ADMINISTRATION
Subject Code : MCA-301
M.Code : 70772

Time : 3 Hrs.   Max. Marks : 100

INSTRUCTION TO CANDIDATES :
 1. **SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.**
 2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
 3. **Use of non-programmable calculator is allowed.**

SECTION-A

1. (a) What is Database Administrator (DBA)? Explain the roles and responsibilities of DBA.

    (b) Compare MS SQL Server, Oracle and MySQL in brief.

2. What is Client/ Server model? Describe the three-tier client/server architecture with the help of suitable example.

SECTION-B

3. Elaborate the various client tools for administrative tasks.

4. What is database replication and how does it increase database scalability? What are the problems of replication?

SECTION-C

5. What is database security? What is the difference between database security and database integrity? Explain the various methods of database security.

6. What are the different types of failures in databases? Explain various strategies for database recovery and backup.

SECTION-D

7. What is performance tuning and what are its requirements? Explain in detail the methodology of performance tuning of databases.

8. Briefly discuss the following:

   (a) General table optimization

   (b) Database mirroring and clustering

SECTION-E

9. **Answer the following in brief :**

   A. What are communication protocols?

   B. What are the different database objects that need to be managed?

   C. What are views in the context of databases?

   D. How users are granted privileges?

   E. How is database integrity managed?

   F. How do you audit user activity in a database environment?

   G. What is a sub-query? How sub-queries are tuned?

   H. Define RAID.

   I. What is the need for database encryption?

   J. What are status variables?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.