

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 & Onwards) (Sem.-3)

DATABASE ADMINISTRATION

Subject Code : MCA-301

Paper ID : [B1157]

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.**

SECTION-A

- 1)
 - a) What is database administrator (DBA)? Explain the roles and responsibilities of DBA.
 - b) Compare MySql server and ORACLE server (give at least 4 comparisons). Give procedure to Install and configure ORACLE database server.
- 2)
 - a) Describe the three tier client server architecture with the help of suitable example.
 - b) What is the need of an index in a database system? Name and explain various types of indexes that may be most useful for the database system. Justify your answer.

SECTION-B

- 3) What is SQL Server Agent Service? How it helps in automating various administrative task. Explain its various properties.
- 4) Explain the following :
 - a) Monitoring and Troubleshooting SQL Server
 - b) Implementing migration, consolidation and upgrade strategy in a database.

SECTION-C

- 5)
 - a) What is database security? Explain the goal of database security. Describe the Granting & Revoking privileges using SQL with syntax and example.
 - b) Mention all the steps you have to take while creating a job schedule and henceforth attaching it to the job for which you have designed that schedule. Take an example of your own.

- 6) a) Differentiate among transaction failure, media failure and system failures in a database. How can a Database recover from the failure of media? Explain this with the help of an example database of a Departmental store/where online purchases and sales transactions are going on.
- b) Determine why computer backup is important and how it is accomplished. How do you define and test a backup, restore and recovery strategy?

SECTION-D

- 7) a) How can increasing the concurrency of requests increase database performance? What problems can 'Increased concurrency' cause?
- b) What is a clustered instance of a database? Explain the procedure to implement a MS-SQL Server clustered instance.
- 8) a) Why should one tune the performance of their database server? Explain various methodologies for Optimizing SQL Server Performance.
- b) What is database mirroring? Explain the procedure to implement database mirroring, in a database server.

SECTION-E

9) Write briefly :

- a) Explain why relational data model is a better choice over Hierarchical and Network data models.
- b) What do you understand by the word "views" in the context of databases? Explain how views can assist database designer.
- c) What is database integrity?
- d) How can system log be used for recovery when multiple concurrent transactions are going on? Explain with the help of an example.
- e) Differentiate among Differential backups, Transaction-log backups and File-group backups.
- f) How do you audit user activity in a database environment?
- g) What is RAID?
- h) What is a nested query?
- i) Define scalability in a database.
- j) What is a foreign key in RDBMS?