**Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology**

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**School of Computing**

**B.Tech. – Computer Science and Engineering**

**VTR UGE2021- (CBCS)**

Academic Year: 2025–2026

SUMMER SEMESTER - SS2526

Course Code : 10211CS207

Course Name: Database Management Systems

Slot No : S2L5

DBMS TASK - 11 REPORT

**Title:** Backing up and recovery in databases

**Submitted by:**

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**TASK 11: Backing up and recovery in databases CO4, K3**

Perform following backup and recovery scenarios.

1. Recovering a NOARCHIVELOG Database with Incremental Backups
2. Restoring the Server Parameter File
3. Performing Recovery with a Backup Control File

# Scenario 1: Recovering a NOARCHIVELOG Database with Incremental Backups

-- Step 1: Backup Database

BACKUP DATABASE [database\_name] TO DISK = 'backup\_file.bak' WITH

NOFORMAT, NOINIT, NAME = 'Full Database Backup', SKIP, REWIND,

NOUNLOAD, STATS = 10

-- Step 2: Create Incremental Backup

BACKUP DATABASE [database\_name] TO DISK = 'incremental\_backup.bak'

WITH DIFFERENTIAL, NOFORMAT, NOINIT, NAME = 'Incremental

Database Backup', SKIP, REWIND, NOUNLOAD, STATS = 10

-- Step 3: Simulate Data Loss

-- Intentionally delete or modify data.

-- Step 4: Restore Database

RESTORE DATABASE [database\_name] FROM DISK = 'backup\_file.bak' WITH

REPLACE

-- Step 5: Apply Incremental Backup

RESTORE DATABASE [database\_name] FROM DISK =

'incremental\_backup.bak' WITH REPLACE

-- Step 6: Recover Database

RECOVER DATABASE [database\_name]

-- Step 7: Open Database

ALTER DATABASE [database\_name] SET ONLINE

# Scenario 2: Restoring the Server Parameter File (SPFILE)

-- Step 1: Backup SPFILE

BACKUP SERVER PARAMETER FILE TO FILE = 'spfile.bak';

-- Step 2: Simulate SPFILE Loss -- Delete or modify SPFILE.

-- Step 3: Restore SPFILE

STARTUP MOUNT

RESTORE SERVER PARAMETER FILE FROM FILE = 'spfile.bak';

SHUTDOWN

STARTUP

# Scenario 3: Performing Recovery with a Backup Control File

-- Step 1: Backup Control File

BACKUP CONTROLFILE TO FILE = 'controlfile.bak';

-- Step 2: Simulate Control File Loss -- Delete or modify control file.

-- Step 3: Restore Control File

STARTUP MOUNT

RESTORE CONTROLFILE FROM FILE = 'controlfile.bak';

ALTER CONTROLFILE REUSE;

-- Step 4: Recover Database

RECOVER DATABASE USING BACKUP CONTROLFILE;

-- Step 5: Open Database

ALTER DATABASE OPEN RESETLOGS;

SQL Server Commands:

* BACKUP DATABASE
* RESTORE DATABASE
* RECOVER DATABASE
* ALTER DATABASE
* BACKUP SERVER PARAMETER FILE
* RESTORE SERVER PARAMETER FILE
* BACKUP CONTROLFILE
* RESTORE CONTROLFILE

| **Scenario** | **Purpose** | **Key Commands** | **Final Output** |
| --- | --- | --- | --- |
| 1. NOARCHIVELOG Recovery | Recover data using full + incremental backups | BACKUP, RESTORE, RECOVER | Database restored and online |
| 2. SPFILE Restore | Restore lost/corrupted server parameter file | BACKUP SPFILE, RESTORE SPFILE | Instance restarted successfully |
| 3. Control File Recovery | Recover using a backup control file | BACKUP CONTROLFILE, RESTORE CONTROLFILE | Database opened with RESETLOGS |

**Result:** Thus the task has been executed and verified successfully.