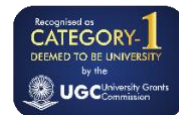


Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



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.

- a) Recovering a NOARCHIVELOG Database with Incremental Backups
- b) Restoring the Server Parameter File
- c) 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 executed successfully.