

## **Microsoft SQL Server 2016:**

- Topic 1: SQL Server Environments**
- Topic 2: Introduction to SQL Server and Installation**
- Topic 3: SQL Server History and features**
- Topic 4: SQL Server components**
- Topic 5: SQL Server Editions**
- Topic 6: Post installation Steps**
- Topic 7: Introduction about System Databases**
- Topic 8: Database Architecture**

### **Implementing SQL Server Security**

- Topic 1: Implementing Security with Principles, Securables and Permissions**
- Topic 2: Different type of Authentication and its behavior**
- Topic 3: SQL Login Vs SQL User**
- Topic 4: Type of SQL server roles and its behavior**
- Topic 5: Database level Security**
- Topic 6: Working with Database, Schema and object level permissions**
- Topic 7: Database Roles**

### **Backup and Restore**

- Topic 1: Backup Types and its behavior**
- Topic 2: Recovery modes and its behavior**
- Topic 3: Database Restoration options**
- Topic 4: Encrypted Backups**

### **REPLICATION:**

- Topic: Configuring Replication**
- Topic 2: Types of Replications**
- Topic 3: Types of Agents**
- Topic 4: Configuring Transactional and Merge replications**

### **HIGH AVAILABILITY FEATURES AND DISASTER RECOVERY(HADR) CONCEPTS:**

#### **LOGSHIPPING:**

- Topic 1: Introduction to Log shipping**
- Topic 1: Configuring Log shipping**
- Topic 2: Advantages of Log shipping**
- Topic 3: Log shipping Jobs**
- Topic 4: Log Shipping Monitoring**
- Topic 5: Log Shipping Issues**

**Topic6: Method of Failover in Log shipping**

**Topic7: Understanding the behavior of TUF file**

**DATABASE MIRRORING:**

- 1) Understanding Database Mirroring
- 2) Configuring Database Mirroring with endpoints
- 3) Advantages of Mirroring
- 4) Performing failover on Mirroring
- 5) Troubleshooting Mirroring

**WINDOWS SERVER FAILOVER CLUSTER: (WSFC)**

- 1) Understanding Hyper-V
- 2) Creating Network Switch
- 3) Creating Virtual Machines on Windows Server
- 4) Establishing Connection Between Virtual machine
- 5) Creating AD(Active Directory)
- 6) Creating 2 node failover cluster
- 7) Configuring SQL Server Instance on Virtual Machines

**ALWAYS ON AVAILABILITY:**

- 1) Configuring Always on WSFC
- 2) Configuring Availability Groups
- 3) Configuring Availability Replicas
- 4) Monitoring Availability Database Groups
- 5) Troubleshooting Always on Availability Group Issues
- 6) Configuring Replication on Always On

**SQL SERVER PERFORMANCE TUNING:**

- 1) Indexes
- 2) Statistics
- 3) Performance Tuning
- 4) Query Tuning
- 5) Performance Tuning Scenarios
- 6) Tempdb

**SQL SERVER DBA GENERAL:**

- 1) DBCC COMMANDS
- 2) TRANSACTION LOG
- 3) GENERAL
- 4) SHRINKING LOGFILE OF DATABASES

