Course Content of SQL Database:

Course Outline Module 1: Introduction to databases This module introduces key database concepts in the context of SQL Server 2016.

Lessons
- Introduction to relational databases
- Other types of database
- Data analysis
- Database languages in SQL Server

Lab : Exploring and querying SQL Server databases

After completing this module, you will be able to:
• Describe what a database is
• Understand basic relational aspects
• Describe database languages used in SQL Server
• Describe data analytics

Module 2: Data Modelling This module describes data modelling techniques.

Lessons
- Data modelling
- ANSI/SPARC database model
- Entity relationship modelling

Lab : Identify components in entity relationship modelling After completing this module, you will be able to:
• Understand the common data modelling techniques
• Describe the ANSI/SPARC database model
• Describe entity relationship modelling

Module 3: Normalization This module describes normalization and denormalization techniques.

Lessons
- Fundamentals of Normalization
- Normal form
- Denormalization

Lab : Normalizing data

After completing this module, you will be able to:
• Describe normalization benefits and notation
• Describe important normalization terms
• Describe the normalization levels
• Describe the role of denormalization

Module 4: Relationships This module describes relationship types and effects in database design.

Lessons
- Introduction to relationships
- Planning referential integrity

Lab : Planning and implementing referential integrity

After completing this module, you will be able to:
• Describe relationship types
• Describe the use, types, and effects of referential integrity

Module 5: Performance This module introduces the effects of database design on performance.

Lessons
- Indexing
- Query performance
- Concurrency

Lab : Performance issues

After completing this module, you will be able to:
• Discuss the performance effects of indexing
• Describe the performance effects of join and search types
• Describe the performance effects of concurrency

Module 6: Database Objects This module introduces commonly used database objects.

Lessons
- Tables
- Views
- Stored procedures, triggers and functions