Database/ SQL

1) Database Introduction
    a) Need for a DB
    b) DBMS Features and Types
2) SQL Server
    a) Installation
    b) RDBMS Concepts
    c) SQL Server features
    d) SQL Server Architecture
    e) SQL Server Database usage
    f) Datatypes, Quality Attributes
3) Data Modelling
    a) Conceptual Data Model
    b) Logical Data Model
    c) Physical Data Model
4) SQL Server Hands-on
    a) Creating a DB, Tables
    b) Relation b/w the tables
    c) Temp tables
5) Relational Database and Joins
    a) Nested Queries
    b) Joins
    c) Indexes
    d) SP, UDF & Views
    e) Helping the team to understand the topics by running the queries
6) Performance tuning
    a) Query optimization
    b) SQL Profiler
    c) Data Tuning Advisor (DTA)
    d) Tips and Tricks for Query tuning
    e) SQL Best practices
7) SQL and NoSQL databases
    a) Document based,
    b) RDBMS,
    c) Columnar Storgae,
    d) Key-value stores,
    e) In-Memory

Agile

1) Introduction to Agile
    a) Agile 4 Values and Principles
2) Introduction to Scrum Framework
3) Scrum Values and Pillars
4) Scrum Ceremonies
5) Scrum Artifacts

OOPS, UML

1) Introduction
    a) Software Development Process
    b) Object Oriented Analysis & Design
    c) Object Oriented Modeling
2) Objects and Classes
    a) What is an object?
    b) Characteristics & behavior
    c) Communication
    d) What is a class?
    e) Template
    f) UML Class Diagram
3) Requirements Gathering: Use Cases
    a) Static modeling & dynamic modeling overview
    b) What is analysis?
    c) Requirements gathering
    d) Problem domain
    e) Use Cases
    f) Determining actors
    g) Narrow potential objects to business objects
    h) Narratives, scenarios, and conversations
    i) Use case formats.
4) Object-Oriented Core Concepts/Principals
    a) Why OO?
    b) Encapsulation
    c) Inheritance
    d) Polymorphism
    e) Abstraction
5) Class Relationships & Basic UML
    a) Association and Link relationships
    b) Roles
    c) Inheritance

    d) Composition
    e) Aggregation
    f) Constraints
    g) Multiplicity
    h) Dependencies
6) UML
    a) Class Diagrams
    b) Sequence Diagrams
    c) ER Diagram
7) Object-Oriented Design Principles
    a) Cohesion
    b) Coupling
    c) Single Responsibility Principle
    d) Open Close Principle
    e) Liskov's Substitution Principle
    f) Interface Segregation Principle
    g) Dependency Inversion Principle

Core Java

1) Introduction, Installation & Setup
    a) Java Environment
    b) Installing JDK and IntelliJ CE IDE
    c) Java Program Development
    d) Java Source File Structure
    e) Language and Platform Features
    f) Program Life Cycle
    g) The Java SE Development Kit (JDK), JRE, JVM
2) A First Look
    a) A Simple Java Class
    b) Java's "Hello World" Program
    c) The Java Shell
3) Coding Best Practices & IntelliJ Overview
    a) Java Coding Best Practices
    b) Understanding IntelliJ Editor
    c) Plugins in IntelliJ
    d) Handling Code Quality with the SonarQube plugin
4) Class and Object Basics
    a) The Object Model and Object-Oriented Programming
    b) Classes, References, and Instantiation
    c) Adding Data to a Class Definition
    d) Adding Methods (Behavior)
5) More on Classes and Objects
    a) Accessing data, the "this" variable
    b) Encapsulation and Access Control, public and private Access
    c) Constructors and Initialization
    d) static Members of a Class
    e) Type Inference (Java 10+)
    f) Scopes, Blocks, References to Objects
6) Flow of Control
    a) Branching: if, if-else, switch

b) Iteration: while, do-while, for, break, continue

7) Strings, Arrays, BigDecimal and Dates/Times
    a) String, StringBuffer, StringBuilder
    b) Arrays, Arrays of Reference Types
    c) Working with BigDecimals
    d) Local Date/Local Time (Java 8+)
8) Packages and Modules
    a) Package Overview - Using Packages to Organize Code
    b) Import statements
    c) Creating Packages, package Statement, Required Directory Structure
    d) Java 9 Module Overview
    e) Defining Modules, Requires, and Exports
    f) Module Path and Class path - Differences and Coexistence
9) Composition and Inheritance
    a) Using Composition to Deal with Complexity
    b) Composition/HAS-A, Delegation
    c) Using Inheritance and Polymorphism to share commonality.
    d) IS-A, extends, Inheriting Features, Overriding Methods, Using Polymorphism
    e) Method Overriding, @Override
    f) Constructor Chaining
    g) Abstract Classes
10) Interfaces
    a) Using Interfaces to Define Types
    b) Interfaces and Abstract Classes
    c) Default Methods and static Methods (Java 8)
    d) Functional Interfaces
11) Java Beans
    a) Writing Java Beans
    b) Getters & Setters
    c) toString, hashCode and equals method.
12) Working with Enums
    a) What are Enums

b) Creating Enums and using them
c) Type safe Enums

13) Exceptions
a) Exceptions and the Exception Hierarchy
b) Exceptions vs Errors
c) Try, catch, finally
d) Handling Exceptions
e) Program Flow with Exceptions
f) Using throws
g) Creating & throwing custom Exceptions

14) Collections & Generics
a) Collections Overview
b) The Collections Framework and its API
c) Collections and Java Generics
d) Generics and Type-Safe Collections
e) Diamond Operator
f) Lists, Sets, and Maps
g) Interfaces and Contracts
h) Iteration and Autoboxing
i) Utility Classes - Collections and Arrays
j) Using ArrayList, HashSet, and HashMap
k) for-each Loop
l) Processing Items with an Iterator
m) Sorting with Collections

AWS

1) Introduction to AWS
    a) Introduction to AWS
    b) Introduction to Cloud Computing
    c) Introduction to Virtualization
2) Virtual Private Cloud (VPC)
    a) VPC
    b) Subnets
    c) Route Tables
    d) Internet Gateway
    e) NAT Gateway
    f) ACL
    g) Security Groups
3) Elastic Cloud Compute (EC2)
    a) Elastic Cloud Compute
    b) AMI
    c) EBS Volumes
    d) Instance Types & Lifecycle
    e) Regions & AZs
4) ELB and Autoscaling
    a) Elastic Load Balancing
    b) Autoscaling
    c) Internet-facing Load Balancer
    d) Internal Load Balancer
5) AWS Storage Services
    a) S3, CloudFront and Snowball
    b) Storage services and EBS
    c) Storage Gateway
    d) Glacier
    e) EFS
6) Management Tools
    a) CloudFormation

b) CloudWatch

c) Route 53

d) Elastic Beanstalk

Shell Scripting

1) Introduction to Linux
    a) Open Source, GUI, CLI, Kernel, Distros
2) Overview of root level directories
    a) home, lib, bin, sbin,dev, etc, boot, root,usr var
3) Overview of psuedo file directories
    a) proc, dev, sys
4) Help features.
    a) man, info.
5) Environment
    a) locale, pwd echo, env , type, timedate, timedatectl
6) Working with File System
    a) cd, ls, mkdir, vi, nano, touch, cp, mv, rm, tar, clear, history, chmod, cat, gzip, head, tail, find, diff
7) Useful Commands
    a) kill, grep, ps, wc, ipconfig, yum, wget, apt-get, curl, ping, ssh, telnet, crontab.
8) Scripts
    a) "Introduction to Shell (different types of bash, z shell, korn shell etc),
    b) .SH files,
    c) User Input,
    d) Variables,
    e) Flow control,
    f) jq(JSON handling)"