Oracle DBA Syllabus

◆ Exploring the Oracle Database Architecture

- List the architectural components of Oracle Database
- Explain the memory structures
- Describe the background processes
- Explain the relationship between logical and physical storage structures

◆ Oracle Database Management Tools

- Use database management tools

◆ Oracle Database Instance

- Understand initialization parameter files
- Start up and shut down an Oracle database instance
- View the alert log and access dynamic performance views

◆ Configuring the Oracle Network Environment

- Configure Oracle Net Services
- Use tools for configuring and managing the Oracle network
- Configure client-side network
- Configure communication between databases

◆ Managing Database Storage Structures

- Describe the storage of table row data in blocks
- Create and manage tablespaces

◆ Administering User Security

- Create and manage database user accounts
- Grant and revoke privileges
- Create and manage roles
- Create and manage profiles

◆ Managing Space

- Explain how Oracle database server automatically manages space
- Save space by using compression
- Proactively monitor and manage tablespace space usage
- Use the Segment Advisor
- Reclaim wasted space from tables and indexes by using the segment shrink functionality
- Manage resumable space allocation

◆ Managing Undo Data

- Explain DML and undo data generation
- Monitor and administer undo data
- Describe the difference between undo data and redo data
- Configure undo retention

◆ Managing Data Concurrency

- Describe the locking mechanism and how Oracle manages data concurrency
- Monitor and resolve locking conflicts

◆ Implementing Oracle Database Auditing

- Explain DBA responsibilities for security and auditing
- Enable standard database auditing and unified auditing

◆ Backup and Recovery Concepts

- Identify the importance of checkpoints, redo log files, and archive log files

◆ Backup and Recovery Configuration

- Configure the fast recovery area
- Configure ARCHIVELOG mode

◆ Performing Database Backups

- Create consistent database backups
- Backup your database without shutting it down
- Create incremental backups

- Automate database backups
- Manage backups

◆ Performing Database Recovery

- Determine the need for performing recovery
- Use Recovery Manager (RMAN) and the Data Recovery Advisor to perform recovery of the control file, redo log file, and data file

◆ Moving Data

- Describe ways to move data
- Use SQL*Loader to load data from a non-Oracle database
- Use external tables to move data via platform-independent files
- Explain the general architecture of Oracle Data Pump
- Use Data Pump Export and Import to move data between Oracle databases

◆ Performing Database Maintenance

- Manage the Automatic Workload Repository (AWR)
- Use the Automatic Database Diagnostic Monitor (ADDM)
- Describe and use the advisory framework
- Set alert thresholds
- User server-generated alerts
- Use automated tasks

◆ Managing Performance

- Use Automatic Memory Management
- Use the Memory Advisor to size memory buffers

◆ Managing Performance: SQL Tuning

- Manage optimizer statistics
- Use the SQL Tuning advisor
- Use the SQL Access Advisor to tune a workload

◆ Managing Resources Using Database Resource Manager

- Configure the Database Resource Manager
- Access and create resource plans
- Monitor the Resource Manager

◆ Automating Tasks by Using Oracle Scheduler

- Use Oracle Scheduler to simplify management tasks
- Use job chains to perform a series of related tasks
- Use Scheduler jobs on remote systems
- Use advanced Scheduler features to prioritize jobs

◆ Installing, Upgrading and Patching the Oracle Database

- Oracle Software Installation Basics
- Plan for an Oracle Database software installation
- Installing Oracle Grid Infrastructure for a Standalone Server
- Configure storage for Oracle Automatic Storage Management (ASM)
- Install Oracle Grid Infrastructure for a standalone server
- Installing Oracle Database Software
- Install the Oracle Database software
- Creating an Oracle Database Using DBCA
- Create a database by using the Database Configuration Assistant (DBCA)
- Generate database creation scripts by using DBCA
- Manage database design templates by using DBCA
- Configure database options by using DBCA
- Using Oracle Restart
- Use Oracle Restart to manage components
- Upgrading Oracle Database Software
- Describe upgrade methods
- Describe data migration methods
- Describe the upgrade process
- Preparing to Upgrade to Oracle Database 19c
- Describe upgrade requirements when certain features or options are used in Oracle Database
- Use the pre-upgrade information tool before performing an upgrade
- Prepare the new Oracle home prior to performing an upgrade
- Upgrading to Oracle Database 19c
- Upgrade the database to Oracle Database 19c by using the Database Upgrade Assistant (DBUA)

- Perform a manual upgrade to Oracle Database 19c by using scripts and tools
- Performing Post-Upgrade Tasks
- Migrate to unified auditing
- Perform post-upgrade tasks
- Migrating Data by Using Oracle Data Pump