

**H. N. G. University , Patan**  
**M.Sc.(CA & IT) – Semester - IV**  
**405: Advance Database Architecture**

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**Unit: 1** **[25%]**

**The Oracle Instance Architecture**

Introduction  
Defining the Instance  
Creating the Instance

**The Oracle Database Architecture**

Defining the Database  
The SYS and SYSTEM Schemas  
Understanding the Components of the Database  
Understanding Database Segments  
Oracle Data Dictionary  
Other Database Objects

**Exploring the oracle Environment**

Creating the Oracle Environment  
Designing an Optimal Flexible Architecture  
Creating Your First Database

**Unit: 2** **[25%]**

**SQL Plus for Administrators**

Administering SQL Plus  
Using the SQL Plus COPY Command  
Using SQL to Create SQL  
Tracing SQL Statements

**Oracle Enterprise Manager**

Understanding the Enterprise Manager Architecture  
Using the Database Administration Tools

**PL/SQL**

Index, View, Sequence, Trigger, Procedure, Function, Package, Cursor, Exception Handling

**Unit: 3** **[25%]**

**IMPORT/EXPORT**

Understanding Import/Export  
Controlling & Configuring Import/Export  
Walkthrough of Import/Export Sessions  
Using SHOW & INDEXFILE Options

**SQL\*Loader**

Components of SQL Loader  
Looking at SQL Loader Examples  
Conventional and Direct Path Loading

**Unit: 4** **[25%]**

**Managing Database Storage**

Administering Database Objects  
Understanding Database Fragmentation  
Managing Rollback Segments  
Identifying Storage Problems  
Administering Growing Database

**Integrity Management**

Introduction  
Implementing Locks  
Analyzing v\$lock  
Monitoring Locks on the System  
Avoiding Locks: Possible Solutions  
Implementing Locks with Latches

**BackUp and Recovery**

Types of Backup  
Database Backup in offline and online mode  
Database recovery

**Performance Tuning fundamentals**

Understanding Why You Tune  
Knowing the Tuning Principles  
Tuning Goals  
Using the Return on Investment Strategy

**Text Books:**

1. William Page & Nathan Hughes : Using Oracle8/8i Special Edition, Prentice Hall India.

**Reference Books:**

1. Oracle Unleashed,
2. Oracle10g Complete Reference, Kevin Loney , Tata McGraw-Hill,2004.
3. Oracle Bible,
4. Oracle Architecture, Oracle Press.
5. Oracle Database 10g DBA Handbook, Kevin Loney & Bob Bryla , Tata McGraw-Hill,2005