

**CSC-406 Database Administration Syllabus**  
**Tribhuvan University**  
**Institute of Science and Technology**  
**Bachelor of Computer Science and Information Technology**  
**Soch College of Information Technology**

**Course Title:** Database Administration

**Course no:** CSC-406 ----- **Full Marks:** 60+20+20

**Credit hours:** 3 ----- **Pass Marks:** 24+8+8

**Nature of course:** Theory (3 Hrs.) + Lab (3 Hrs.)

**Course Synopsis:** DBA Roles, DB backup, restoration and recovery, Tuning of database

**Goal:** The course covers about: principles of DBA Roles, DB backup, restoration and recovery, Tuning of database and overall DB administration which could be useful for administrator in the future.

**Course contents:**

**Unit 1**----- 5 Hrs

Introduction: DBMS architecture and data independence, DBA roles and responsibilities, SQL

\*PLUS Overview: SQL Plus Fundamentals, Producing more readable outputs, Accepting values at runtime, Using iSQL \*Plus.

**Unit 2**----- 5 Hrs

Control and Redo Log Files: Managing the control files, Maintaining and monitoring redo log files.

**Unit 3**-----10 Hrs

Managing Users and Security: Profiles, Managing users, managing privileges, managing roles, querying role information, Database Security and Auditing, Creating and managing DB's , tables, indexes, triggers, views, stored procedures, Advanced Stored Procedures, analysis and integration services.

**Unit 4**-----10 Hrs

Backup and Recovery Overview, Database backup, restoration and recovery, defining a backup and recovery strategy, Testing the backup and recovery plan, parallel instance recovery , recovering from non-critical loses

**Unit 5**----- 5 Hrs

Database corruption, automatic database management, automatic storage management, RMAN

**Unit 6**-----10 Hrs

Introduction to performance tuning: brief overview of Tuning methodology, general tuning concepts, AADM (Automatic Database Diagnostic Monitor) and SQL Tuning Advisor.

Virtual Private Database: policy types, selective columns, column masking.

Laboratory works: labs should cover all the chapters using Oracle/SQL-Server or any other database server tools.

**Reference Books:**

1. C.J. Date, Database Systems, Addison Wesley, 2000
2. Introduction to Database Administration, by O'reilly
3. ORACLE DBA handbooks