



Central University of  
Technology, Free State

CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE  
SENTRALE UNIVERSITEIT VIR TEGNOLOGIE, VRYSTAAT  
YUNIVESITHI E BOHARENG YA THEKENOLOJI, FOREISTATA

Department of Information Technology

INSTRUCTIONAL OFFERING	DATABASE SYSTEMS IV
SUBJECT CODE	DBS41AB
EXAMINATION	CONTINUES EVALUATION (ASSIGNMENTS and TWO PRACTICAL ASSESSMENTS)
CREDITS	10
NQF LEVEL	7
TYPE OF LEARNING	VOCATIONAL TRAINING

UNIT	SPECIFIC OUTCOME	ASSESSMENT CRITERIA	CREDITS	NOTIONAL HOURS	WEEKS
1	Demonstrate an understanding of the Architecture of a database	<ul style="list-style-type: none"><li>Describe the key components of the Oracle10g</li><li>Compare server-side installation options</li><li>Compare client-side installation options</li><li>Use the oracle Universal installer</li><li>Describe OFA (Optimal Flexible Architecture)</li><li>Discuss the file naming standards</li></ul>	1	10	1
2	Demonstrate an understanding of Database Administrator (DBA) Tools	<ul style="list-style-type: none"><li>Explain the overview of the DBA Tools</li><li>Configure Oracle Net Services to connect to the database.</li><li>Connect a user, running a program from a client to the database</li><li>List the details of connecting to the database</li><li>Start and configure the Enterprise Manager Console</li><li>Display the features of the enterprise manager</li></ul>	1	10	1

UNIT	SPECIFIC OUTCOME	ASSESSMENT CRITERIA	CREDITS	NOTIONAL HOURS	WEEKS
3	Demonstrate an understanding of Creating an oracle instance	<ul style="list-style-type: none"> <li>• Configure the initial settings to create a database</li> <li>• Implement different Authentication methods</li> <li>• Create a new database using the database configuration assistant (DBCA).</li> <li>• Connecting the new database to OEM using, OEM, Net Manager and by editing tnsnames.ora file.</li> <li>• Delete a database using DBCA</li> <li>• Start and stop a database with Instance Manager</li> <li>• Start and stop a database manually</li> <li>• Create Scripts that can be executed to create a database.</li> <li>• Create a PFile that can be used if the SPFile get damaged.</li> <li>• Create a new password file.</li> </ul>	1	10	1
4	Demonstrate an understanding of Data Dictionary Views and Control Files	<ul style="list-style-type: none"> <li>• Managing and Multiplexing the Control files</li> <li>• Using OMF to Manage Control Files</li> <li>• Create a New Control File</li> <li>• Create a script that can be used to create Control Files if all Control Files has been damaged.</li> <li>• Creating new Control Files if all Control Files are damaged.</li> <li>• Check the Trace files for explanations on errors that occurred</li> <li>• Manage the Redo Log Files, Groups and Members.</li> <li>• Describe and configure Diagnostic files</li> </ul>	1	10	1
5	Demonstrate an understanding of Basic Storage Components and Settings	<ul style="list-style-type: none"> <li>• Differentiate between the Logical Structure and the Physical Structure</li> <li>• Create many types of table spaces</li> <li>• Differentiate between the table spaces and the data files</li> <li>• Implement automatic undo management</li> </ul>	1	10	1
6	Demonstrate an understanding of Querying a Database	<ul style="list-style-type: none"> <li>• Write Queries to get data from Database tables, using</li> <li>• Where, order by, group by and Joins</li> </ul>	1	10	1

UNIT	SPECIFIC OUTCOME	ASSESSMENT CRITERIA	CREDITS	NOTIONAL HOURS	WEEKS
7	Demonstrate an understanding of Table Management	<ul style="list-style-type: none"> <li>Describe the different types of tables and their storage methods</li> <li>Create relational and temporary tables</li> <li>Create tables containing varrays and nested tables</li> <li>Create object and partitioned tables</li> <li>Viewing Object Metadata using SQL*Plus</li> <li>Viewing Object Metadata using the Console</li> <li>Viewing Object Metadata using the Database Control</li> </ul>	1	10	1
8	Demonstrate an understanding of Advanced Table Management	<ul style="list-style-type: none"> <li>Create tables with large objects (LOB) columns and tables that are index-organized</li> <li>Understand the tasks involved in table management</li> <li>Do a Table Flashback Recovery</li> <li>Use data dictionary views to find information about tables and their underlying structures.</li> </ul>	1	10	1
9	Demonstrate an understanding of Constraint, Indexes and Other Specialized Objects	<ul style="list-style-type: none"> <li>Discuss the types of integrity constraints</li> <li>Know how to create and maintain integrity constraints</li> <li>Create constraints using the create table command</li> <li>Create or change constraints using the alter table command</li> <li>Write practical exams of working with constraints</li> <li>Add or remove a not null constraints</li> <li>Add or modify a primary key constraints</li> <li>Add or modify a unique key constraints</li> <li>Create and manage the different types of indexes and explain their uses</li> <li>Use the data dictionary information on indexes</li> <li>Monitor indexes usage and know when to drop an index</li> </ul>	1	10	1

UNIT	SPECIFIC OUTCOME	ASSESSMENT CRITERIA	CREDITS	NOTIONAL HOURS	WEEKS
10	Demonstrate an understanding of Data Management	<ul style="list-style-type: none"> <li>• Use the DML and DDL efficiently</li> <li>• Controlling transactions using: COMMIT ROLLBACK SAVEPOINT SET TRANSACTION LOCK TABLE</li> <li>• Coding SQL into Programs with PL/SQL</li> <li>• execute bulk Imports and Exports Using Data Dump</li> <li>• execute bulk Data loads Using Data Loader</li> </ul>	1	10	1