GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications	**Branch/Spec.**	Computer Application
Semester	III	**Version**	1.0.0.2
Effective from Academic Year	2023-2024	**Effective for the batch Admitted in**	June 2022
Subject Code	P13A1ADM	**Subject Name**	Advanced Database Management System

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	2	0	2	0	4	Theory	40	60	100
Hours	2	0	4	0	6	Practical	30	20	50

Objective:

- To administer and manage various aspects of a database in a specific database tool.

Pre-requisites:

- Require the basic knowledge of DBMS and basic operational systems.

Course Outcomes :

- **1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High); "-" = No Correlation**

Name of CO	**Description**
CO1	Explain Database Architecture and Create a database with DBCA
CO2	To manage the Instance , Database Storage Structure and undo data
CO3	To study flashback Technology, its benefits and performing flashbacks
CO4	Use SQL* loader to load data from a non-oracle database (or user files). Use Data Pump Export and import to move data between databases

Mapping of CO and PO

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	3	3	3	2	3	1	1	2
CO2	3	3	3	2	3	1	1	2
CO3	3	3	3	3	3	2	2	2
CO4	3	3	3	3	3	2	2	2

Content:

Unit	**SECTION-I**	Hrs
1	**Introduction of Database and Database Configuration Assistant** **Introduction:** Overview of Database, Database Architecture, Database Structures, Database	8

	Memory Structures, Process Structures, Database Instance Management , Server Process and Database Buffer Cache, Overview of backup and recovery, Initialization Parameter Files, Simplified Initialization Parameters, Viewing and Modifying Initialization Parameters , Database Startup and Shutdown **Creating a Database:** Objectives, Planning the Database, Database Configuration Assistant (DBCA), Using DBCA to create a database, Password Management, Creating a Database Design Template, Using the DBCA to Delete a Database	
2	**Managing Database Storage Structures :**Objectives, Storage Structures, How Table Data Is Stored, Anatomy of a Database Block ,Tablespaces and Data Files, Database Managed Files, Space Management in Tablespaces, Exploring the Storage Structure, Creating a New Tablespace, Storage for Locally Managed Tablespaces, Tablespaces in the Preconfigured Database, Altering a Tablespace, Actions with Tablespaces, Dropping Tablespaces, Viewing Tablespace Information, Gathering Storage Information, Viewing Tablespace Contents, Enlarging the Database **Managing Undo Data** Managing Undo Data : Objectives, Data Manipulation, Undo Data , Transactions and Undo Data, Storing Undo Information1, Undo Data Versus Redo Data, Monitoring Undo, Administering Undo, Configuring Undo Retention, Guaranteeing Undo Retention, Sizing the Undo Tablespace, Using the Undo Advisor	7
	SECTION-II	
3	**Performing Flashback**: Objectives, Flashback Technology: Benefits, When to Use the Flashback Technology, Flashing Back Any Error, Flashback Database: Overview, Reducing Restore Time, Considerations, Enabling Flashback Database Flashback Table, Flashback Drop: Overview, Flashback Time Navigation, Flashback Query, Flashback Versions Query, Flashback Transaction Query	7
4	**Moving Data** :Objectives, Moving Data: General Architecture, Directory Object: Overview, Creating Directory Objects, SQL*Loader: Overview, Loading Data with SQL*Loader, SQL*Loader Control File, Loading Methods, Data Pump: Overview, Data Pump: Benefits, Data Pump Export and Import: Overview, Data Pump Utility: Interfaces and Modes, Fine-Grained Object Selection, Advanced Feature: Sampling, Export Options: Files, Data Pump File Locations, Scheduling and Running a Job, Data Pump File Naming and Size	8

Practical Content:

- List of programs specified by subject teacher based on above mention topics.

Text Books:

1	Oracle Database 10G, The Complete reference by kevinloney- Tata Mcgraw Hill Education Pvt. Ltd Publication ,1st edition (September 28, 2004).

Reference Books:

1	Oracle DBA Bible, by Janathan Gennick, Carol McCullough-Dieter and Gerrit- Jan Linker, WILEY-Dreamtech Publication,1st Edition 2000.
2	Using Oracle, by William G. Page - Que Pub; Special edition (March 9, 1998)

MOOC/Certification Courses:

1	https://nptel.ac.in/
2	https://docs.oracle.com/en/database/oracle/oracle-database/
3	https://www.vlab.co.in/
4.	https://nptel.ac.in/courses/106106220

Question Paper Scheme:

University Examination Duration: 3 Hours

Note for Examiner: -

(I) Questions 1 and 4 are compulsory with no options.

(II) Internal options should be given in questions 2, 3, 5 and 6.

SECTION - I

Q.1 – 8 Marks

Q.2 – 11 Marks

Q.3 – 11 Marks

SECTION - II

Q.4 – 8 Marks

Q.5 – 11 Marks

Q-6– 11 Marks