

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Diploma Engineering			Branch		INFORMATION TECHNOLOGY		
Semester		IV			Version		1.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2018	
Subject code		1CE2401	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	3	0	1	0	4	Theory	40	60	100
Hours	3	0	2	0	5	Practical	30	20	50

Pre-requisites:
Basic knowledge of Computer

Course Learning Outcomes:
<p>The course content should be taught and implemented with an aim to develop different skills leading to the achievement of the following competencies and course learning outcomes:</p> <p>T1. To understand relational model and constraints in relational model</p> <p>T2. To implement concept of normalization in database design.</p> <p>T3. To develop PL/SQL Blocks and cursor.</p> <p>T4. To implement and create various database objects</p> <p>T5. To understand and develop triggers in pl/sql.</p> <p>The practical should be carried out in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor and effective domain to demonstrate course learning outcomes.</p>

Course Content				
Name of UNIT	Unit Content	Unit Learning Outcomes	Marks	Hrs
UNIT 1 Relational Model	1.1. Relational Model Concepts: Domain, Attributes, Tuples and Relations. Relational constraints and relational database schemes; 1.2. Domain constraints, Key constraints and constraints on Null. 1.3. Relational databases and relational database schemes, Entity integrity, referential integrity and foreign key	1.1. Comprehended about relational models and its terms, various constraints	8	8
UNIT 2 Functional dependencies and Normalization	2.1. Concept of Normalization, Need of Normalization, Non-loss decomposition and functional dependencies, 2.2. Trivial and Non Trivial	2.1. Describe normalization technique and types 2.2. Understand Functional dependency and its concepts	10	9

	dependencies, Closure of a set of dependencies and attributes. 2.3. Normalization: First, Second and Third normal forms, 2.4. Boyce/Codd normal form.			
UNIT 3 Stored procedures and User defined functions	3.1. PL/SQL basics , advantages of PL/SQL, PL/SQL block ,control structures , Conditional structures, looping structures, Exception handling 3.2. stored procedures, user defined functions, packages 3.3. cursor , types of cursor ,example	3.1. Learn pl/sql block structures and programming 3.2. Executes stored procedures ,packages and functions in pl/sql	22	13
UNIT 4 Indexes, Views and Security	4.1. Guidelines for creating and using indexes, synonyms, sequences 4.2. creating and using views, advantages and disadvantages of views, security system of database engine, 4.3. Database security, roles, authorization: grant, deny, and revoke statements.	4.1. Executes different database objects 4.2. Understating database security and roles, granting and revoking permissions	12	9
UNIT 5 Triggers	5.1. Introduction to triggers. 5.2. Different types and levels of triggers , audit trails and examples	5.1. Define triggers and execute triggers ,Understanding audit trail	8	6

List of Practical		
No.	Unit	Name of Practical
1	4	Perform queries for DCL Commands and Locks
2	4	Implement authorization, authentication, and privileges on database.
3	4	Perform queries to Create synonyms, sequence and index
4	4	Perform queries to Create, alter and update views
5	3	Implement PL/SQL programmes using control structures
6	3	Implement PL/SQL programmes using Cursors
7	3	Implement PL/SQL programmes using exception handling
8	3	Implement user defined procedures and functions using PL/SQL blocks
9	3	Perform various operations on packages
10	5	Implement various triggers
11	2	Practice on functional dependencies
12	2	Practice on Normalization – using any database perform various normal forms

List of Instruments / Equipment / Trainer Board	
1	Hardware: Computer with minimum PIV processor and 1 GB Ram

2	Software: DBMS software.
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List of Reference Books			
No	Title of Reference Books	Authors	Publication
1	An Introduction to Database Systems	C J Date	Pearson Education India
2	SQL/ PL-SQL	Ivan Baryons	Bpb publication
3	Database System Concepts,	Korth	Mcgraw hill publication
4	Database Systems Concepts, design and Applications	Singh, S. K	Pearson Education, New Delhi, 2012

Link of Learning Web Resource	
1	https://www.tutorialspoint.com/dbms/
2	https://www.studytonight.com/dbms/overview-of-dbms.php
3	https://beginnersbook.com/2015/04/dbms-tutorial/