

TEACHING PLAN (TP)

Academic Year: **2026-27**

Institute Code and Name: 0078- K. K. Wagh Polytechnic, Nashik

Programme and Code: Information Technology (IF)

Course and Code: Database Management System (DMS)

Name of Faculty: Ms. S. P. Chivate

Scheme: K

CLASS: SYIF (Param)

Semester: Third

Course Index: 302

Course Code: 313302

Allocated Hrs. 45

COURSE LEVEL LEARNING OUTCOMES (COS)

- CO1 - Explain concept of database management system.
- CO2 - Design the database for given problem.
- CO3 - Manage database-using SQL.
- CO4 - Implement PL/SQL codes for given application
- CO5 - Apply security and backup methods on database.

TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	Course Title	Abbr	Course Category	Learning Scheme						Credits	Paper Duration	Assessment Scheme										Total Marks
				Actual Contact Hrs./Week			SLH	NLH	Theory				Based on LL & TSL Practical				Based on SL					
				CL	TL	LL			FA-TH			SA-TH	Total		FA-PR		SA-PR		SLA			
													Max	Max	Max	Min	Max	Min	Max	Min	Max	
313302	Database Management System	DMS	DSC	3	1	4	2	10	5	3	30	70	100	40	50	25	25#	10	25	10	200	

Total IKS Hrs. for Sem.: 2 Hrs.

Abbreviations: CL- Classroom Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH- Notional Learning Hour FA -Formative Assessment, SA -Summative assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment Legends: @ Internal Assessment, # External Assessment, *# On Line Examination , @\$ Internal Online Examination

SUGGESTED COS - POS MATRIX FORM

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes (PSOs)	
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO- 1	PSO- 2
CO1	3	-	-	-	1	-	1	1	2
CO2	2	2	3	2	1	2	1	2	2
CO3	1	2	2	2	-	2	1	2	2
CO4	1	3	3	2	1	3	2	1	1
CO5	1	1	2	2	2	2	1	2	2

Legends :- High:03, Medium:02,Low:01, No Mapping: -

*PSOs are to be formulated at institute level

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Unit No. (Allotted Hrs.)	CO (Mention only Number)	TLO Mention only Number	Unit Name and Learning Content Title/ Details	Plan No. of Lecture		Actual Execution		Teaching method/ Media	Remarks	
				From	To	From	To			
1(6)	CO1		Unit - I Introduction To Database System						Chalk, Board, PPT, Learn Live, Videos, Google Classroom	
		TLO 1.1	1.1 Database concepts:- Data, Database, Database management system, File system Vs. DBMS, Applications of DBMS, Data Abstraction, Data Independence, Database Schema, The Codd’s rules, Overall structure of DBMS	3 Lectures						
				02/07/2026	06/07/2026					
TLO 1.2, TLO 1.3	1.2 Architecture:- Two tier and Three tier architecture of database.1.3 Data Models:- Hierarchical, Networking, Relational Data Models	3 Lectures								
		07/07/2026	13/07/2026							
2(8)	CO2		Unit - II Relational Data Model						Chalk, Board, PPT, Learn Live, Videos, Google Classroom	
		TLO 2.1, TLO 2.2, TLO 2.3	2.1 Relational Structure :- Tables (Relations), Rows (Tuples),Domains, Attributes, Entities 2.2 Keys: - Super Keys, Candidate Key, Primary Key, Foreign Key. 2.3 Data Constraints :- Domain ,Referential Integrity Constraint	4 Lectures						
				14/07/2026	23/07/2026					
TLO 2.4, TLO 2.5	2.4 Entity Relationship Model : - Strong Entity set, Weak Entity set, Symbols for ER diagram 2.5 Normalization : Normal forms , 1NF,2NF, 3NF	4 Lectures								
		23/07/2026	30/07/2026							

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				From	To	From	To				
3(12)	CO3		Unit - III Interactive SQL and Performance Tuning						Chalk, Board, PPT, Learn Live, Videos, Google Classroom		
		TLO 3.1	3.1 SQL: -Data-types, Data Definition Language (DDL), Data Manipulation language (DML), Data Control Language (DCL), Transaction Control Language (TCL).	3 Lectures							
				03/08/2026	06/08/2026						
		TLO 3.2	3.2 Clauses & Join: Different types of clauses - Where, Group by, Order by, Having Joins: Types of Joins, Nested queries.	3 Lectures							
				10/08/2026	13/08/2026						
		TLO 3.3, TLO 3.4	3.3 Operators: Relational, Arithmetic, Logical, Set 3.4 Functions: Numeric, Date and time, String functions, Aggregate Functions.	4 Lectures							
				14/08/2026	20/08/2026						
		TLO 3.5	3.5 Views, Sequences, Indexes: -Views: Concept, Create, Update Drop Views. Sequences :- Concept ,Create, Alter ,Drop, Use of Sequence in table, Index: Concept ,Types of Index , Create ,Drop Indexes	2 Lectures							
				24/08/2026	25/08/2026						

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Unit No. (Allotted Hrs.)	CO Mention only Number	TLO Mention only Number	Unit Name and Learning Content Title/ Details	Plan No. of Lecture		Actual Execution		Teaching method/ Media	Remarks		
				From	To	From	To				
4(12)	CO4		Unit - IV PL/SQL Programming						Chalk, Board, PPT, Learn Live, Videos, Google Classroom		
		TLO 4.1, TLO 4.2	4.1 Introduction of PL/SQL: -Advantages of PL/SQL,PL/SQL Block Structure, PL/SQL Data Types, Variable ,Constant 4.2 Control Structure: - Conditional Control, Iterative Control, And Sequential Control.	4 Lectures							
				27/08/2026	03/09/2026						
		TLO 4.3, TLO 4.4	4.3 Exception handling: -Predefined Exception, User defined Exception. 4.4 Cursors:- Implicit and Explicit Cursors, Declaring , opening and closing cursor ,fetching a record from cursor	4 Lectures							
				07/09/2026	11/09/2026						
		TLO 4.5, TLO 4.6	4.5 Procedures:- Create, Execute and Delete a Stored Procedure 4.6 Functions:- Advantages, Create, Execute, Delete Function	2 Lectures							
				15/09/2026	17/09/2026						
		TLO 4.7	4.7 Database Triggers :- Use of Database Triggers, Types of Triggers, Create Trigger, Delete Trigger	2 Lectures							
				21/09/2026	22/09/2026						
		5 (7)	CO5	TLO 5.1, TLO 5.2	Unit - V Database Administration						Chalk, Board, PPT, Learn Live, Videos, Google Classroom
5.1 Introduction to database administration : - Types of database users, Create and delete users, Assign privileges to users 5.2 Transaction: States of Transaction	3 Lectures										
	24/09/2026				29/09/2026						

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				From	To	From	To		
5 (7)	CO-5	TLO 5.3	5.3 Database Backup: Types of Failures, Causes of Failure, Database backup introduction, types of database backups: Physical & Logical	2 Lectures				Chalk, Board, PPT, Learn Live, Videos, Google Classroom	
				01/10/2026	05/10/2026				
		TLO 5.4, TLO 5.5	5.4 Data Recovery – Recovery concepts , recovery techniques 5.5 Overview of Advanced database concepts:- Data Warehouse , Data lakes , Data mining, Big data ,	2 Lectures					
				06/10/2026	08/10/2026				

ASSESSMENT METHODOLOGIES/TOOLS

A. Formative assessment (Assessment for Learning) (FA-TH)

- Continuous assessment based on process and product related performance indicators.
- Each practical will be assessed considering 60% weightage to process, 40% weightage to product.
- A continuous assessment based term work.

B. Summative Assessment (Assessment of Learning)

- End semester examination, Lab performance, Viva voce

SUGGESTED LEARNING MATERIALS / BOOKS

Sr. No	Author	Title	Publisher
1	Henry F. Korth	Database System Concepts	McGraw Hill Education ISBN : 9780078022159
2	Ivan Bayross	SQL, PL/SQL – The Programming Language of Oracle	BPB Publication ISBN 10: 8170298997 BPB Publication ISBN 13: 9788170298991
3	ISRD	Introduction to Database Management Systems Group	McGraw Hill Education ISBN 10: 0070591199 McGraw Hill Education ISBN-13 : 978-0070591196

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• **LEARNING WEBSITES & PORTALS**

Sr. No	Link /Portal	Description
1	https://nptel.ac.in/courses/106105175	Data Base Management System
2	https://www.w3schools.com/sql/	SQL Tutorial
3	https://www.tutorialspoint.com/sql/index.htm	SQL Programming Language

Ms. S. P. Chivate
(Name & Signature of Staff)

Ms. M. S. Karande
(Name & Signature of HOD)