VIDHYADEEP UNIVERSITY
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SECOND-YEAR DIPLOMA COMPUTER ENGINEERING SYLLABUS

Semester: 3TH

Course Code: 002204305 **Type of Course:PCC-7**

Course Name: Introduction to DBMS

Course Prerequisites: Basic knowledge of DBMS

COURSE OBJECTIVE(S):

Students will understand how database systems must provide for the safety of the stored information, despite system crashes or attempts at unauthorized access. If data are to be shared among several users, the system must avoid possible anomalous results due to multiple users concurrently accessing the same data.

TEACHING & EXAMINATION SCHEME:

Teaching Scheme (Hrs/Week)				Examination Scheme					
Theory	Tutorial	Practical	Credit	SEE		CA			Total
				Th	Pr	MSE	PLE	LA	
3	0	0	3	60	00	20	20	00	100

Th: Theory; Pr: Practical; FA: Final Assessment; CAT: Continuous Assessment Theory; CAP: Continuous Assessment Practical;

*TOTAL Theory Hours: No. of Th. and Tut.Hrs/Week*15 = 45*

COURSE CONTENT(S):

Unit No.	Content	Hours	Weightage (%)
Unit–I	**Introduction to Database Management System** • Introduction to DBMS and it's advantage • Data Abstraction or Data Independence • Component of Database • DBMS Architecture • Metadata Database languages, Data storage and querying.	8	20%
Unit – II	**ER Model and Relational Algebra** • Basic concepts of E-R Model • Different types of Data model in DBMS • Mapping Cardinality • Keys in DBMS • Structure of Relational Databases • Operations and Queries of Relational algebra • The Select Operation, The Project Operation, The Union Operation, The Cartesian Product Operation.	10	20%

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Unit–III	**Normalization** • Database Anomalies. • Functional Dependency. • Rules for Functional Dependency • Types of Functional Dependency. • Types of Normalization : 1NF, 2NF,3NF,4NF &BCNF • Advantages and Disadvantages of Normalization.	8	20%
Unit–IV	**Structured Query Language** • Concept of Structure Query Language (SQL). • Data types in SQL: Integer, Float, Double, Char, Varchar, number, Date, Time. • DDL Command: CREATE, ALTER, DROP, RENAME, TRUNCATE, COMMENT. • DML Command: SELECT, INSERT, UPDATE, DELET, MERGE, CALL, EXPLAIN PLAN, LOCK TABLE. • DCL Command: GRANT, REVOKE. • TCL Command: COMMIT, ROLLBACK, SAVE POINT, SET TRANSACTION. • Using where clause with operator. • Constrain. • SQL function: Aggrigate function, scalar function SQL Join.	12	25%
Unit–V	**Transaction Management** • Apply transaction concepts • Serializability of transactions • Concurrent executions of transactions and related problems Locking mechanism	7	15%
	Total	**45**	**100%**

Text Book(s):

Title of the Book	Author(s)	Publication
Introduction to DBMS	Bharat v Chavda	ATUL PRAKASHAN

Reference Book(s):

Title of the Book	Author(s)	Publication
Database Management System	Das Gupta & Radha Krishna	PHI
Oracle 9 PL/SQL Programming	Scott Urman	Oracle Press
SQL, PL/SQL :The Programming	Ivan Bayross	BPB

SECOND-YEAR DIPLOMA COMPUTER ENGINEERING SYLLABUS

Language Of Oracle		
Database System Concepts	HenryKorth	Tata McGraw Hill, New Delhi,978-9390727506
SQL/Pl-SQL	Ivan Bayross	BPB Publications, Delhi978-8176569644

Web Material Link(s):

a) https://boonsuen.com/process-scheduling-solver
b) http://cpuburst.com/ganttcharts.html
c) https://codepen.io/faso/pen/zqWGQW
d) https://www.tutorialspoint.com
e) www.w3schools.com
f) https://nptel.ac.in/courses/106106144
g) https://nptel.ac.in/courses/106105214
h) https://nptel.ac.in/courses/106102132
i) http://beginner-sql-tutorial.com/sql.htm

Equivalent/Corresponding Course on NPTEL (SWAYAM):

NPTEL course on
https://onlinecourses.nptel.ac.in/noc21_cs02/preview
https://nptel.ac.in/courses/106/105/106105151/

COURSE EVALUATION:

Sr. No.	Activity	Marks	Weightage
1	Semester End Examination (External Th)	60	60%
2	Internal Examination	40	40%
2(a)	Mid Semester Examination	20	
2(b)	Attendance	10	
2(c)	Assessment Types (Any One from 2(c).1 to 2(c).7)	10	
2(c).1	Subject (Course) based Mini-Project		
2(c).2	Industry/Site Visit & Report		
2(c).3	Assignment		
2(c).4	Seminar		
2(c).5	Case Study		
2(c).6	Surprise Class Quiz		
2(c).7	Design Exercise		
2(c).7	Presentation		
2(d)	Practical (if Applicable)		

* For 4 Credit Subjects

1 Credit = 25 Marks
Theory: 3 Credits = 75 Marks
Practicals: 1 Credit = 25 Marks
SEE Evaluation will be of 100 marks and converted to 50 Marks (75 Th + 25 Pr)

SECOND-YEAR DIPLOMA COMPUTER ENGINEERING SYLLABUS

CA Evaluation will be of 100 Marks and converted to 50 Marks. (75 Th + 25 Pr)

Distribution of Marks for Theory Evaluation as per Bloom's Taxonomy Level:

Level	Remember	Understand	Apply	Analyse	Evaluate	Create
% Weightage	10%	20%	30%	10%	15%	15%

COURSE OUTCOMES:*(in the range of 4 to 6)*

CO1	Concepts of databases..
CO2	Design database using Entity relationship approach.
CO3	Concepts of normalization to design an optimal database.
CO4	SQL Commands for creating, manipulating and controlling databases.
CO5	Transaction management concepts for concurrent use of database.