VISUAL PROGRAMMING AND DBMS

Semester	Subject Code	Category	Lecture Hrs		Theory Hrs		Practical		Credits
			Per week	Per Sem	Per week	Per Sem	Per week	Per Se m	
III		Core Paper – 3	6	90	5	90	–	–	4

COURSE OBJECTIVE

➢ The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve – efficiently, and effectively – information from a DBMS.

➢ It also develop the students about Data Base Creation and Manipulation, along with Application development in Visual Basic 6.0 with database connectivity.

COURSE OUTCOME

On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1 – K4)
CO1	Explain the structure and model of the relational database system	**K2**
CO2	Design a database based on a data model considering the normalization to a specified level	**K3**
CO3	Explain the basics of Oracle and PL/SQL.	**K1**
CO4	Learn to use Visual basic Integrated Development Environment and language basics.	**K2**
CO5	Learn the concept of Arrays, Objects and Database connectivity.	**K3**

Knowledge Level – K1 – Remember, K2 – Understand, K3 – Apply, K4 – Analyze

MAPPING WITH PROGRAMME OUTCOME

COS	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	M	M	S	S	S	S
CO2	S	S	S	M	S	S
CO3	S	S	M	M	S	M
CO4	S	S	S	S	S	M
CO5	S	S	S	M	S	M

S – Strong **M – Medium** **L – Low**

SYLLABUS

UNIT I – BASICS OF DBMS AND RELATIONAL ALGEBRA 18Hrs

Purpose of Database – Overall system Structure – Entity Relationship Model – Mapping Constraints – Keys – E – R Diagram. Relational Algebra – Tuple And Domain Relational Calculus.

UNIT II – NORMALIZATION AND SQL 18 Hrs

Normalization Using Functional Dependencies – First Normal Form – Second Normal Form – Third Normal Form – Fourth Normal Form and BCNF. Structured Query Language – Basic Structure – Set Operation – Aggregate Function.

UNIT III – BASICS OF ORACLE 17 Hrs

Introduction to ORACLE – ORACLE Commands: DDL – DML and DCL Statements – ORACLE Built– in Functions – PL/SQL: Blocks – Control statements – Loops – Cursor Management – Triggers – Functions & Procedure – Data types – Exception Handling.

UNIT IV – VB INTEGRATED DEVELOPMENT ENVIRONMENT 17 Hrs

IDE Integrated Development Environment – Creating Controls and Properties – Variables and Data types – Message box–List box – Combo box – Control and Loop structures – Procedures and Functions

UNIT V – ARRAYS AND ODBC 20 Hrs

Arrays – Records – Control Arrays – MS Flex Grid Control– VB objects – Menus – Mouse Events– Dialog boxes – MDI form – Do events and sub main – Error trapping – File Handling

– File System control – ODBC using RDO and DAO – OLE fundamentals

Distribution of Marks: Theory: 75% and Applications :25%

TEXT BOOKS

S.No	Authors	Title	Publishers	Year of Publication
1.	Abraham Silberschartz, H.F. Korth and S.Sudarshan	Database System Concepts	McGrawHill Publication.	1986
2	Gary Cornell	VB6 from the ground up	McGrawHill Publication.	1999

REFERENCE BOOKS

S.No	Authors	Title	Publishers	Year of Publication
1.	Singh	DatabaseSystems: Concepts, Design & Applications,	Pearson Education	2009
2.	Gerald V.Post	DBMS-Designing and Business Applications	McGraw Hill Publications.	2001
3.	Deitel and Deitel	VB6 How To Program	Person Education	1998
4.	Dan Rahmel	Visual Basic Programmer's Reference	McGraw Hill Publications.	2009
5.	Noel Jerke	VB6:The Complete Reference	McGraw Hill Publications.	1999
6.	Raghu Ramakrishnan	Database Management Systems	McGraw Hill Publications.	2009

7.	Mark L Gillenson	Fundamentals of Database Management Systems	Mark L Gillenson John Wiley & Sons, Inc.	2004
8.	Seyed M. Tahaghoghi	Learning MySQL	O'Reilly Media, Inc.	2006

WEB RESOURCES

1. https://www.capterra.com/database-management-software/
2. https://www.vbtutor.net/vbtutor.html
3. https://docs.microsoft.com/.../get-started/visual-basic/tutorial-console

TEACHING METHODOLOGY

- Class room teaching.
- Group discussions
- Seminars
- Demo using systems
- Chart/Assignment
- Smart Class room

SYLLABUS DESIGNERS

1. Mrs. G.Sangeetha Lakshmi, Assistant Professor and Head, Dept of Computer Applications.
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