

## SEMESTER I

CODE	COURSE TITLE
18CMPC103	RELATIONAL DATABASE MANAGEMENT SYSTEM

Category	CIA	ESE	L	T	P	Credit
Core	25	75	100	5	-	4

### Preamble

- To prepare the students to understand how to design, manipulate and manage databases and encourage the usage of database management systems for effective data management.

### Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the database Management System and trace its historical development.	K2
CO2	Analyse the relational database model in terms of its data structure which helps in understanding queries.	K3
CO3	Identify the entity- relationship model and understand the needs of normalization.	K3
CO4	Compare the file organization methods, access methods to store the data and evaluates the queries.	K3, K5
CO5	Apply the basic concepts of Data warehouse, Data Mining techniques and applications of database.	K4

### Mapping with Programme Outcomes

CO <sub>s</sub>	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	S
CO2	S	S	M	S	S
CO3	M	M	M	S	M
CO4	S	S	S	S	S
CO5	S	S	M	S	S

S-Strong; M-Medium

## Syllabus

### UNIT I (21 Hrs.)

Database Management System: Introduction – database system applications – purpose of database systems – view of data – database languages – relational databases – **Data base users and administrator** – History of Database systems.

### UNIT II (21 Hrs.)

Relational Databases: Relational model – Structure of relational databases – fundamental, additional, extended relational algebra operations – modifications of databases. SQL: Background – data definition – basic structure of SQL queries – **set operations** – aggregate functions – Embedded SQL – Dynamic SQL.

### UNIT III (21 Hrs.)

Database Design: Overview of the design process – **E-R model** – constraints – **E-R diagrams** – Database design for banking enterprise. Relational Database Design: Features of good relational designs – **Normal form** – Decomposition – more normal forms – modeling temporal data.

### UNIT IV (21 Hrs.)

Data Storage: Storage and file structure – magnetic disks – file organization – data dictionary storage. Query Processing: Overview – **sorting – join operation** – evaluation of expressions.

### UNIT V (21 Hrs.)

Data Analysis And Mining: Decision support systems – OLAP – **Data warehousing – Data mining**. Advance Data Types And New Applications: Motivation – spatial and geographic data – multimedia databases – mobility and personal databases.

## Text Books

Sl.No.	Author Name	Title of the Book	Publisher	Year and Edition
1.	Silberschatz, Henry F.Korth, S.Sudarshan , Abraham	Database System Concepts	McGraw-Hill International Edition	2006, 5 <sup>th</sup> Edition

## Reference Books

Sl.No.	Author Name	Title of the Book	Publisher	Year and Edition
1.	Date.C.J.	An Introduction to Database System	Narosa Publishing House	2002, 3 <sup>rd</sup> Edition
2.	Bipin C. Desai	An Introduction to Database System	Tata MC Graw Hill Publications	2002, 1 <sup>st</sup> Edition
3.	Jeffrey D.Ullman	Principles of Database Systems	Galgotia Publications	2001, 2 <sup>nd</sup> Edition
4.	Naveen Prakash	Understanding DBMS	Tata MC Graw Hill Publications	1984

## Web Resources

- <https://books.google.co.in/books?id=Jsp9CwAAQBAJ&printsec=frontcover&dq=rdbms+books&hl=en&sa=X&ved=0ahUKEwj87s3Mv-vaAhXLbbwKHQvIAKoQ6AEINDAC#v=onepage&q&f=false>
- <http://maths-people.anu.edu.au/~steve/pdcn.pdf>
- <https://www.slideshare.net/venkat000/unit01-dbms-2>

## Pedagogy

- Lecture, PPT, Assignment, Group Discussion, Seminar

### SEMESTER III

CODE	COURSE TITLE
18CMPC310	VISUAL BASIC.NET

Category	CIA	ESE	L	T	P	Credit
Core	25	75	85	5	-	3

#### Preamble

- To design and develop a Windows-based business applications using Visual Basic.NET programs that meet commercial programming standards.

#### Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Develop a basic structure of visual basic.net simply by revealing variables and data types in the program environment.	K1
CO2	Determine logical alternatives of decision structures in VB.Net.	K2
CO3	Formulate a loop structures to perform repetitive tasks and apply sub-procedures and functions to create viable code.	K3
CO4	Declare and initialize array data structures for accessing the individual elements of arrays.	K3, K5
CO5	Create applications that use ADO.NET in database concepts.	K4

#### Mapping with Programme Outcomes

CO <sub>s</sub>	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	M
CO2	S	M	S	S	S
CO3	M	S	M	S	S
CO4	S	S	S	M	S
CO5	M	S	S	S	S

S-Strong; M-Medium

## Syllabus

### UNIT I (20 Hrs.)

Introduction to Visual Basic.Net: Getting started in Visual Basic- Adding an Event Procedure- Adding Controls- Focus on Program Design & Implementation. **Data and Operations:** Data types- Arithmetic Operations and Strings - Variables and Declaration statements- Named Constants- Assignment Statements only.

### UNIT II (15 Hrs.)

Controlling Input & Output: Interactive user Input. **Selection:** Selection Controls- Logical operators- The if- Then- Else structure- The Select Case Structure.

### UNIT III (20 Hrs.)

Repetition structures: Do while Loop-, The Do until Loop- For/Next Loops- Nested Loops. Sub and Function Procedures: Sub procedures- Passing Arguments by Value and by Reference- Function Procedures.

### UNIT IV (15 Hrs.)

Structured Data: One-Dimensional Arrays- Dynamic Arrays- Multi-Dimensional Arrays – Menu- Menu Items & Context Menus- File Dialog Controls.

### UNIT V (20 Hrs.)

Accessing Databases: Introduction to Databases- Using ADO.NET with Visual Basic- Updating a Dataset- Creating Dataset using SQL.

## Text Books

Sl.No.	Author Name	Title of the Book	Publisher	Year and Edition
1.	Gary J.Bronson, David Rosenthal	Introduction to Programming with Visual Basic.NET	Viva books, India	2008, 1 <sup>st</sup> Edition

## Reference Books

Sl.No.	Author Name	Title of the Book	Publisher	Year and Edition
1.	CourseKit VikasGupta & KogentSolutions.Inc,	Comdex.Net Programming	DreamtechPress, NewDelhi.	2011
2.	Radhaganesan.P	VB.NET	Scitech Publication Pvt. Ltd.	2008
3.	Steven Holzner	Visual Basic.NET Programming	Black Book, Dreamtech press, New Delhi	2008, 1 <sup>st</sup> Edition

## Web Resources

- <http://www.informit.com/articles/article.aspx?p=31092>
- [https://www.tutorialspoint.com/vb.net/vb.net\\_strings.htm](https://www.tutorialspoint.com/vb.net/vb.net_strings.htm)
- [https://en.wikipedia.org/wiki/Visual\\_Basic\\_.NET](https://en.wikipedia.org/wiki/Visual_Basic_.NET)
- <https://www.vbtutor.net/lesson1.html>

## Pedagogy

- Lecture, PPT, Assignment, Seminar

### SEMESTER III

CODE	COURSE TITLE
18CMPCP03	COMPUTER APPLICATIONS PRACTICAL – III - VB.NET

Category	CIA	ESE	L	T	P	Credit
Core	40	60	-	-	90	3

#### Preamble

- The students will use visual basic.net to build windows applications and exposed to concepts and skill at an introductory level to analyze program requirements.

#### Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Design, formulate and construct applications with VB.Net.	K3
CO2	Create VB.Net programs using forms, modules, menus and multiple arrays.	K4
CO3	Implement lists and loops with VB.NET controls and iteration.	K4

#### Mapping with Programme Outcomes

CO <sub>s</sub>	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	S	M	S	S
CO3	S	M	S	S	S

S-Strong; M-Medium

## Syllabus

1. Design a form to calculate the value of goodwill of a firm by super profit method by using function concept.
2. Create an application using common dialog control to open and save file.
3. Design a form to purchase department of a company using ADO control.
4. Design a purchase form for a bookshop using ADO control and create database using SQL.
5. Design a notepad using menus.
6. Design a project to generate the annual report of a company using crystal report.
7. Develop a simple project on loan management using combo box.
8. Create a railway reservation using group box.
9. Develop a simple project for automatic banking operations.
10. Create a project for an inventory details using array.

## Pedagogy

- Demonstration