YADAVA COLLEGE

(* An Autonomous Co-Educational Institution *
** Re-Accredited with "A" Grade by NAAC **
*** Affiliated to Madurai Kamaraj University ***)

Govindarajan Campus, Thiruppalai, Madurai – 625014.

DEPARTMENT OF COMPUTER APPLICATIONS

CBCS (2018-2019)

COURSE CONTENT

DEPARTMENT OF COMPUTER APPLICATIONS
YADAVA COLLEGE (AUTONOMOUS)
CHOICE BASED CREDIT SYSTEM SYLLABUS PLAN (2018-2019 onwards)

UNDERGRADUATE PROGRAMME

B.C.A. (BACHELOR OF COMPUTER APPLICATIONS)

Semester	Part Code	Subject Code	Title of the Paper	Teaching	
				Hours	Credits
I	I		Tamil	5	3
	II		English	5	3
	Core		Programming in C	5	5
	Allied		Discrete Mathematics	5	4
	Core Lab I		Programming in C - LAB	3	2
	Core Lab II		Office Automation - LAB	3	2
	IV ENS		Environmental Studies	2	2
	V SBE		Skill Based Elective	2	2
II	I		Tamil	5	3
	II		English	5	3
	Core		Object Oriented Programming with C++	5	5
	Allied		Statistics	5	4
	Core Lab III		Programming in C++ - LAB	3	2
	Core Lab IV		Desktop Publishing - LAB	3	2
	IV VAE		Value Education	2	2
	V SBE		Skill Based Elective	2	2

III	I		Tamil	5	3
	II		English	5	3
	Core		Database Management System	5	5
	Allied		Digital Principles and its Applications	5	4
	Core Lab V		Data Base Management System – Lab	3	2
	Core Lab VI		Multimedia – Lab	3	2
	IV TAB		NME: Fundamentals of Computers	2	2
	V SBE		Skill based elective	2	2
	Self-study		Multimedia	--	3
IV	I		Tamil	5	3
	II		English	5	3
	Core		Programming in Java	5	5
	Allied		Financial Accounting	5	4
	Core Lab VII		Programming in Java - Lab	3	2
	Core Lab VIII		Web Designing – Lab	3	2
	IV TAB		NME: Desktop Publishing	2	2
	V SBE		Skill based elective	2	2
	Self-study		Scripting Language	--	3

V	Core		ASP .Net Programming	5	4
			Operating System	5	3
			Data Structures	5	4
			Computer Graphics	5	4
	Core Lab IX		ASP .Net Programming – Lab	2	2
	Core Lab X		Advanced Java Programming – Lab	2	2
	Elective I		1. Data Mining 2. Client Server Technology 3. E – Commerce	4	3
	V SBE		Skill based elective	2	2
	Self-study		Computer Organization	--	3
VI	Core		Programming in PHP	5	4
			VB .Net Programming	5	4
			Computer Networks	5	3
			Software Engineering	5	3
	Core Lab XI		Programming in PHP – Lab	2	2
	Core Lab XII		VB. Net Programming – Lab	2	2
	Elective II		1. System Software 2. Software Testing 3. Mobile Computing	4	3
	IV SBE		Skill based Elective	2	2
	V		PE/NCC/NSS/EXT	--	1
	Self-study		Wireless Technology	--	3
TOTAL				**180**	**152**

BLUE PRINT OF THE QUESTION PAPER

B.C.A (BACHELOR OF COMPUTER APPLICATIONS)

Section	Type of Questions	No. of Questions	No. of Questions to be answered	Marks of each Questions	Total
A	Short answer Questions (Open choice)	15	10	2	20
B	Paragraph Questions (Either or Choice)	5 (Either or Choice)	5	5	25
C	Essay type Questions (Open Choice)	5	3	10	30
Total					75

EVALUATION TECHNIQUES

Title	Evaluation		Exam Duration	Total
	Internal	External		
Theory	25	75	3 Hours	100
Practical	40	60	3 Hours	100

DEPARTMENT OF COMPUTER APPLICATIONS

YADAVA COLLEGE (AUTONOMOUS)

CHOICE BASED CREDIT SYSTEM SYLLABUS PLAN (2018-2019 onwards)

UNDER GRADUATE PROGRAMME

B.C.A (BACHELOR OF COMPUTER APPLICATIONS)

Nature of subject		Title	Hours	Credit
Part I		Tamil	20	12
Part II		English	20	12
Part III	1	Programming in C	5	5
Core theory	2	Object Oriented Programming with C++	5	5
	3	Data Base Management System	5	5
	4	Programming in Java	5	5
	5	Asp.Net Programming	5	4
	6	Operating System	5	3
	7	Data Structures	5	4
	8	Computer Graphics	5	4
	9	Programming in PHP	5	4
	10	Vb. Net Programming	5	4
	11	Computer Networks	5	3
	12	Software Engineering	5	3
Core practical	1	Programming in C	3	2
	2	Office Automation	3	2
	3	Programming in C++	3	2
	4	Desktop Publishing	3	2

	5	Data Base Management System	3	2
	6	Multimedia	3	2
	7	Programming in Java	3	2
	8	Web Designing	3	2
	9	Asp.net Programming	2	2
	10	Advanced Java Programming	2	2
	11	Programming in PHP	2	2
	12	Vb.Net Programming	2	2
Allied	1	Discrete Mathematics	5	4
	2	Statistics	5	4
	3	Digital Principles and its Applications	5	4
	4	Financial Accounting	5	4
Elective	I	1. Data Mining 2. Client Server Technology 3. E-Commerce	4	3
	II	1. System Software 2. Software Testing 3. Mobile Computing	4	3
PartIV	**1**	ENS	2	2
	2	VAE	2	2
	3	TAB/TAA/NME	4	4

4	SBE		12	12
5	PE/NCC/NSS/EXT		--	1
6	Self Study		--	12
	TOTAL		180	152

PROGRAMMING IN C

Semester: I   **Subject Code:**

Hours/Week: 5   **Credit: 5**

UNIT – I

Overview of C: History of C –Importance of C – Basic Structure – Simple Programs – Constants, Variables, and Data Types: C Tokens – Keywords and Identifiers – Constants – Variables – Data Types – Declaration of Variables-Operators and Expressions: Introduction-Arithmetic Operators-Relational Operators-Logical Operators-Assignment Operators-Increment and Decrement Operators-Conditional Operators

Decision Making and Branching: Introduction-Decision Making with IF statement-Simple IF Statement-The IF ..ELSE Statement-Nesting of IF..ELSE Statements-The ELSE IF Ladder-The Switch Statement-The? : Operators-The GOTO Statement-Decision Making and Looping: Introduction-The WHILE Statement-The Do Statement-The For Statement-Jumps in LOOPS.

UNIT – II

Arrays and Strings: Introduction – One Dimensional Array – Declaration of One Dimensional Arrays – Initialization of One Dimensional Arrays – Two Dimensional Arrays – Initializing Two Dimensional Arrays-Multi-dimensional Array –Dynamic Arrays- String Functions

UNIT – III

Functions and Pointers: Introduction – User Defined Functions - Multi-function – Elements of User defined functions – Definition of function – Return values and types – Function Calls – Declaration – Category of Functions – No Arguments and no return values-Arguments but no Return values-Arguments with Return a value-No Arguments but Return a values-Functions that return Multiple values-Nesting of Functions – Recursion.

Pointers: Introduction-Understanding Pointers-Accessing the Address of a Variable–Declaring Pointer variables –Initialization of pointer variables-Accessing a variable through its

pointer-chain of pointers- Pointers Expression – Pointers and Arrays – Pointers to Functions – Pointers to Structures- Function returning pointers.

UNIT – IV

Structures and Unions: Introduction – Defining a Structure – Declaring structure variables – Accessing structure members – Structure initialization –Array of Structures – Structures within structures – Structures and Functions – Unions – Size of structures – Bit Fields

UNIT – V

File Management: Introduction – Defining a File - Opening a File – Closing a file – I/O operations on Files – Error Handling during I/O operations – Random Access Files – Command Line Arguments.

TEXT BOOK:

Programming in ANSI C - E.Balagurusamy, 7th Edition, McGraw Hill Education(India) Pvt. Ltd., 2017.

Unit I - Chapter 1, 2,3,5,6

Unit II - Chapter 7, 8

Unit III - Chapter 9, 11

Unit IV - Chapter 10

Unit V - Chapter 12

REFERENCE BOOK:

1. Schaum's Outline of **Programming with C** - B. Gottfried, 3rd Edition, Tata McGraw Hill,2010.

2. **C: The Complete Reference** - H. Schildt, 4th Edition, TMH Edition, 2000.

DISCRETE MATHEMATICS

Semester: I   **Subject Code:**

Hours/Week: 5   **Credit: 4**

UNIT – I

Set Theory : Introduction – Sets – Notation And Description Of Sets – Subsets – Venn – Euler Diagram –Operation On Sets – Properties Of Set Operation – Verification Of The Basic Laws Of Algebra By Venn Diagram – The Principle Of Duality.

UNIT - II

Logic: Introduction – TF Statement– Connectives – Atomic And Compound Statement – Well Formed Formula – Truth Table Of Formula – Tautology – Tautology Implication And Equivalence Of Formula – Replacement Process

UNIT - III

Matrix Algebra: Introduction-Matrix Operations-Inverse Of A Square Matrix-Elementary Operations And Rank Of a Matrix- Simultaneous Equations-Eigen Values And Eigen Vectors.

UNIT - IV

Lattices : Some Properties Of Lattices – New Lattice – Modular And Distributive Lattices – Boolean Algebra

Graph Theory : Basic Concepts - Matrix Representation Of Graphs - Spanning Tree - Shortest Path Problems - Directed Tree - Binary Tree

TEXT BOOK:

Discrete Mathematics – M.Venkataraman, N.Sridharan and N.Chandrasekaran – The National Publishing Company, May 2009.

Unit I-Chapter 1, Section 1 to 9

Unit II-Chapter 9, Section 1 to 9

Unit III-Chapter 6, Section 1 to 5, 7

Unit IV-Chapter 10, Section 1 to 5

Unit V- Chapter 11, Section 1 to 6

RFERENCE BOOKS:

1. **Discrete Mathematics and its Applications** – Kenneth H. Rosen

2. **Invitation to Graph Theory** – S.Arumugam and S.Ramachandran

PROGRAMMING IN C LAB

Semester: I   **Subject Code:**

Hours/Week: 3   **Credit: 2**

1. Write a program in C to find Standard Deviation

2. Write a program in C for Prime Number Checking

3. Write a program in C for Adam Number Checking

4. Write a program in C for Perfect Number Checking

5. Write a program in C to print Pascal triangle

6. Write a program in C for Matrix Addition and Subtraction using Switch

7. Write a program in C to find Sum of the Digit

8. Write a program in C to find Magic Square

9. Write a program in C to Sort Numbers using Array

10. Write a program in C for String Functions

11. Write a program in C for Recursive Function

12. Write a program in C to Swap values using Function

13. Write a program in C to find EB Bill Calculation

14. Write a program in C to find Mark Sheet Preparation

15. Write a program in C to find Factorial of a number

16. Write a program in C to find NCR value using function

17. Write a program in C for Student Details using Pointers

18. Write a program in C for Employee Details using Structure

19. Write a program in C for File Creation

20. Write a program in C to read and Write Characters in a file

OFFICE AUTOMATION LAB

Semester: I   **Subject Code:**

Hours/Week: 3   **Credit: 2**

MS-WORD

1. Create a word document with page number, Header and Footer and format the text.

2. Draw Border lines, Chart, shapes and color it.

3. Create a page with text watermarking, picture watermarking and change the page color.

4. Create a table and use their properties.

5. Create a paragraph and implement

    (a) Find and replace concept.   (b) Newspaper Format with Drop cap.

6. Implement Word art and symbols.

7. Send an invitation using Mail Merge.

8. Create a Hyperlink and open already existing file

9. Implementation of Quick Parts.

MS-EXCEL

10. Create the following Worksheet in Excel:

S. No.	Reg.No.	Name	Age	Eng	Tam	Mat	Total	Average	Result
1.	121	Ram	20	45	40	53			
2.	153	Raj	19	50	52	63			
3.	110	Balu	21	87	76	62			
4.	140	Suresh	22	38	60	65			

(a)Find the Total, Average and Result for the previous worksheet.

(b)Sort the content of the table by Reg. No. (c)Sort the content of the table by Name.

(d) Sort the content of the table by Age. (e) Find the Maximum mark for each subject.

(f)Find the Minimum mark for each subject. (g) Filter the Candidates whose Reg.No. >= 140

(h)Filter the Candidates whose Name = "Suresh" (i) Filter the Candidates whose Eng >60.

11. Create the following worksheet in Excel:

YEAR	SALES	EXPENSE
1990	20	25
1991	25	12
1992	35	18
1993	42	25

 (a)Draw the Graph and mention the Appropriate Headings (b)Experiment with other types of graphs by changing your selections. (c)Include more columns with data values and create different types of graphs.

12. Create a worksheet for Hotel Management

13. Create a worksheet for Hostel Management

14. Create a worksheet for Electricity Bill Calculation

MS-POWER POINT

 15. Create a power point presentation about Computers

 (a) Insert clip arts and pictures. (b) Insert new slides. (c) Use of design templates. (d)Change the Slide Layout. (e) Animation Effects.

16. Create a power point presentation for any organization.

17. Create a PowerPoint presentation and implement hyperlink and navigation between slides.

18. Create a photo album using PowerPoint.

19. Create a PowerPoint Presentation with video and sound.

20. Create a power point Presentation with Smart art Graphics.

21. Use objects in PowerPoint Presentation and insert MS-Word application to the presentation.

MS-ACCESS

22. Create Address Table with following Fields

Field Name	Data Type
Name	Text
Age	Number
Gender	Text
Street	Text
City	Text
Pin code	Number

(a)Add 10 Records. (b)Display the fields Name, Street alone on the Screen. (c)Display the records for Age > 20 (d) Display the records for Age < 20 and City = "Chennai". (e)SORT the table in the ascending order of Name.

23. Create Student Table with the following fields:

Field Name	Data Type
Name	Text
Age	Number
Gender	Text
Degree	Text
Percentage	Number

(a)Add some records (b)Display the records for Gender = "M" and Degree = "MCA"

(c)Display the records for Gender = "F" and percentage between 70 and 80

(d)Display the records for Degree = "MCA" and Name like "M"

(e)Sort the table in the Descending order of Percentage.

24. Create SALE Table with the following fields

Field Name	Data Type
Name	Text
Gender	Text
Sales Code	Number
Sales Amount	Number

(a)Add Some Records using FORMS (b)Display the records for Sale Amount > 5000 and gender = "M" (c)Display the records for Sex = "F" and Sale Amount BETWEEN 5000 and 10000 (d)Display the records for Sale Amount <= 5000 (e)Sort the table DESENDING order of Sale Amount. (f)Modify the structure of table.

25. Create Library Table with the following fields

Field Name	Data Type
Book No.	Number
Title	Text
Author	Text
Price	Number
Publisher	Text
Branch	Text

(a)Display the records for Title = "Office Automation" and Author like "M"

(b)Display the records for Book Number = 500 and Branch = "CS"

(c)Display the records for Publisher = "PHI" or Publisher = "BPB" and Price between 300 and 900. (d)Sort the table in ASCENDING order of Book Number.

OBJECT ORIENTED PROGRAMMING WITH C++

Semester: II   **Subject Code:**

Hours/Week: 5   **Credit: 5**

Unit - I

Introduction : Software Crisis – Software Evolution – Basic Concepts of Object-Oriented Programming – Benefits of OOP – Object-Oriented Languages - Applications of OOP – Application of C++ - Structure of a C++ Program – Tokens – Keywords – Identifiers – Basic Data Types – User- defined Data types – Derived data types – Symbolic constants – Type compatibility – Declaration of variables – Dynamic initialization of variables –Reference variables – Operators in C++ - Manipulators – Type cast operator – Expressions and their types- Implicit conversions – Control structures – The main function – Function prototyping – inline functions – Function overloading.

Unit - II

Classes and Objects : Specifying a class – Defining member functions – Making an outside function inline – Nesting of member functions – Private member functions – Array within a class – Memory allocation for objects – Static data members – Static member functions – Array of objects - Objects as function arguments – Friendly functions – Returning objects – Constant member functions – Constructors – Parameterized constructor – Multiple constructors in a class – Constructors with default arguments – Dynamic initialization of objects – Copy constructor – Destructors.

Unit - III

Operator Overloading : Defining operator overloading – Overloading unary operators – Overloading binary operators – Overloading binary operators using friend function – Rules for overloading operators

Inheritance : Defining derived classes – Single inheritance – Making a private member inheritable – Multilevel inheritance – Multiple inheritance – Hierarchical inheritance – Hybrid

inheritance - Virtual base classes – Constructors in derived class – Member classes: Nesting of classes.

Unit - IV

Pointer : Pointer to objects – this pointer – Pointers to derived classes – Virtual functions – Pure virtual functions – C++ Stream classes – Unformatted I/O operations – Managing output with manipulators.

Unit - V

File : Classes of file stream operations – Opening and Closing files – Detecting end of file – More about open() function – File modes, File pointers and their manipulation – Sequential input and output operations – Command line arguments- Templates - class templates and function templates.

TEXT BOOK:

Object Oriented Programming with C++ - E. Balagurusamy, McGraw Hill Education (India) Private Limited, New Delhi, Sixth Edition-2013

Unit I : Chapter 1, Chapter 2 , Chapter 3 and Chapter 4

Unit II : Chapter 5, Chapter 6

Unit III: Chapter 7 and Chapter 8

Unit IV: Chapter 9 and Chapter 10

Unit V: Chapter 11 and Chapter 12

REFERENCE BOOKS:

1. **C++ - The Complete Reference,** Herbert Schildt, TMH, 1998.

2. **Object Oriented Programming with ANSI & Turbo C** ++ - Ashok N.Kamthane, Pearson Education, 2006.

STATISTICS

Semester: I   **Subject Code:**

Hours/Week: 5   **Credits: 4**

UNIT – I

Introduction : Meaning And Definition Of Statistics - Importance Functions, Limitations - Misuse Of Statistics, Statistical Survey And Collection Of Data-Sampling And Sampling Design-Classification-Tabulation-Diagrams-Graphic Representation.

UNIT – II

Curve Fitting : Principles Of Least Squares – Fitting Straight Line. A Second Degree Parabola – Fitting Curves Of The Exponent Form.

UNIT - III

Measures of Central Tendency : Mean, Median Quartiles, Mode, Geometric Mean And Harmonic Mean - Weighted Average - Measure Of Dispersion – Range - Quartile Deviation - Mean Deviation - Standard Deviation - Lorenz Curve - Co-Efficient Of Variation.

UNIT - IV

Correlation : Correlation Analysis-Grouped And Ungrouped Data-Karl Pearson's Co-Efficient Of Correlation-Rank Correlation Co-Efficient And Co-Efficient Of Concurrent Deviation-Linear Regression Analysis-Multiple Regression.

UNIT - V

Index Numbers : Aggregate-Average Of Price Relative-Weighted Index Numbers-Weighted Average Of Price Relative-Cost Of Living Index Number-Conversion Of CBI To FBI

TEXT BOOKS:

1. Business Statistics – R.S.N. Pillai & Bagavathi S. Chand & Co., New Delhi.

   Unit I - Chapter 1, 2, 3, 4, 5, 6, 7, 8

   Unit III - Chapter 9

   Unit IV - Chapter 12, 13

   Unit V - Chapter 14

2. Statistics - Arumugam & Isaac, New Gamma Publishing House, Palayamkottai.

   Unit II - Chapter 5

REFERENCE BOOKS:

   1. Statistics - S.P.Gupta, S. Chand & Sons.

   2. Introduction to Mathematical Statistics - Robert V. Hogg and Allen T. Craig, Collier Macmillan International Edition.

PROGRAMMING IN C++ LAB

Semester: II   **Subject Code:**

Hours/Week: 3   **Credit: 2**

1. Write a program in C++ Using Class.

2. Write a program in C++ for Inheritance & Virtual Function.

3. Write a program in C++ for Multiple Inheritance.

4. Write a program in C++ for Multilevel Inheritance.

5. Write a program in C++ for Hybrid Inheritance.

6. Write a program in C++ for Hierarchical Inheritance.

7. Write a program in C++ for Operator Overloading(+,*,/,-).

8. Write a program in C++ for '++' Operator To Overload.

9. Write a program in C++ for Friend Function.

10. Write a program in C++ for Constructor & Destructor.

11. Write a program in C++ for Function Overloading.

12. Write a program in C++ to Implement Stack.

13. Write a program in C++ to Implement Queue.

14. Write a program in C++ for Matrix Addition Using Operator Overloading.

15. Write a program in C++ for Matrix Multiplication Using Operator Overloading.

DESKTOP PUBLISHING LAB

Semester: II   **Subject Code:**

Hours/Week: 3   **Credit: 2**

COREL DRAW

1. Create Logo design.

2. Create Letter Pad design.

3. Create College Application Form.

4. Create a Visiting card.

PAGE MAKER

5. Create a Resume.

6. Create a Feedback Form.

7. Create a Book Cover.

8. Design a Photo effect.

9. Create a Question paper.

10. Create a Marriage Invitation.

11. Create a Green card in word to import PageMaker.

12. Create a Prospectus for an Institution.

PHOTOSHOP

13. Create a Sport Day Invitation for a College.

14. Create Annual Day Invitation for a College.

15. Create a department function (Glitz'11) invitation.

16. Create an invitation for Technical Seminar.

17. Modify photo effect in Photoshop.

18. Create a text design and use different colors.

19. Create a Greeting Card for Birthday.

20. Create a Wall Paper.

DATABASE MANAGEMENT SYSTEM

Semester: III   **Subject Code:**

Hours/Week: 5   **Credit: 5**

UNIT- I

Introduction: Data-Information – Definition Of Information- History Of Information- Quality Of Information-Information Processing - Introduction Of Database Management System- Characteristics Of Data In A Database - Database Management System-Types Of Database Management System – Hierarchical Model – Network Model – Relational Model – Object Oriented Model – Object Relational Model- Deductive / Inference Model -Entity Relationship Model: Introduction – E-R Model – Components Of An E-R Model - ER Diagram Conventions – Relationships- Entity List- ER Diagrams(ERDs)- Basic Concepts-Design Issues-Mapping Constraints-Keys.

UNIT- II

Introduction: SQL- The Basic Parts Of Speech In SQL – Creating Table- Using SQL To Select Data From Tables – Select From Where And Order By – Logic And Value – Another Use For Where: Sub Queries – Combining Tables – Creating A View.

SQL & SQL * PLUS: Building A Simple Report – Other Features – Checking The SQLPLUS Environment – Getting Text Information & Changing It – Playing The Numbers-Single Value Functions – Group Value Functions- List Functions- Finding Rows With MAX Or MIN – Dates: Then, Now & The Difference Date Arithmetic – Dates In Where Clauses – Conversion & Transformation Functions.

UNIT- III

SQL *PLUS Commands : Grouping Things Together: The Use Of Group By And Having – Views Of Groups – The Power Of Views In Groups-   One Query Depends Upon Another : Advanced Sub Queries-Outer Joins – Natural And Inner Joins – UNION,INTERSECT And MINUS

Building a Report in SQL * PLUS : Advanced Formatting - Changing Data: Insert, Update, Merge & Delete – Rollback, Commit And Auto Commit Multi Table Inserts– Advanced

Use Of Functions And Variables – DECODE And Case - If The, And Else In SQL - If, Then, Else-Replacing Values Via Decode- Decode Within Decode- Greater Than And Less Than In Decode – Using CASE- Creating , Dropping , And Altering Tables And Views - Index ,Clusters, Sequences.

UNIT- IV

PL/SQL: An Introduction To PL/SQL – Declaration Section – Executable Command Section – Exception Handling Section – Triggers –Required System Privileges- Required Table Privileges- Types Of Triggers- Trigger Syntax - Enabling And Disabling Triggers – Replacing Triggers – Dropping Triggers –Procedures Functions & Packages.

UNIT- V

Object Relational Databases : Implementing Object Views - Methods – Collectors: Varying Arrays – Nested Tables – Management Issues For Nested Tables And Varying Arrays – Using Large Objects: Available Data Types – Specifying Storage For LOB Values – Advanced Object Oriented Concepts: Row Object Vs. Column Objects – Object Tables And OIDs- Object Views With Refs – Objects In The Database.

TEXT BOOK:

1. **Database Management System** -   Alexis Leon, Matthews Leon

   Unit I-Chapter 1, 5

2. **Oracle 9i The Complete Reference** - Kevin Loney, George Koch & The Exports at JUSC, 2002, Tata McGraw Hills Publications, New Delhi.

   Unit II-Chapter 5 -11

   Unit III-Chapter 12,13,15- 17

   Unit IV-Chapter 21,24-27

   Unit V-Chapter 29-31

REFERENCE BOOKS

1. **Oracle 8 The Complete Reference** - George Koch, Kevin Loney, 1998, Tata McGraw Hill, New Delhi.

2. **Database Management Systems** - Raguramakrishnan, 2002, Tata McGraw Hill, New Delhi.

DIGITAL PRINCIPLES AND ITS APPLICATIONS

Semester: III   **Subject Code:**

Hours/Week: 5   **Credit: 4**

UNIT – I

Number system Conversions : Binary to Decimal - Binary to octal - Binary to Hexa Decimal – Decimal to Binary - Decimal to octal - Decimal to Hexa Decimal – Octal to Binary - Octal to Decimal -Octal to Hexa Decimal to Binary - Hexa Decimal to Decimal - Hexa Decimal - Hexa Decimal to octal – Excess 3 code –Gray code – Binary addition – Binary Subtraction – Complement : 1's- 2's – 9's – 10's.

UNIT – II

Logic Circuits: Basic gates – AND, OR, NOT – Universal gates – NAND, NOR – Special gates – XOR , XNOR- Combinatorial Logic Circuits: Boolean Laws and Theorems. - Sum of Products method - Truth table to Karnaugh Map – Pairs, Quads, Octets – Don't Care Conditions- Product-of sums method -Product-of sums Simplifications. Data Processing Circuits: Multiplexers – Demultiplexers-1-of-16 Decoder – BDC-to-decimal Decoders – Seven-segment Decoders – Encoders – Exclusive-OR Gates- Parity Generators and Checkers.

UNIT - III

Arithmetic Circuits : 2'S Complement Arithmetic – Arithmetic Building Blocks. Data Processing Circuits: Multiplexers – De multiplexers – Nibble multiplexers – Decoder – Encoder – BCD to Decimal Decoders – Seven segment Decoders.

UNIT - IV

Flip Flops: RS Flip Flop – JK Flip Flop – JK Master Slave Flip Flop – D Flip Flop – T Flip Flop, D/A and A/D Conversion : D/A Convertor – A/D Convertor.

UNIT – V

Shift Registers : Types of Registers – Serial in Serial out - Serial in Parallel out – Parallel in Serial out – Parallel in Parallel out – Counters :Asynchronous Counters - Ring counter – Synchronous Counter – Shift Counter.

TEXT BOOK:

Digital Principles and Applications – Donald P Leach, Albert Paul Malvino, GoutamSaha, 8th edition , McGraw-Hill Education, 2015.

Unit I - Chapter 4

Unit II-Chapter 1,2

Unit III -Chapter 3

Unit IV-Chapter 8

Unit V-Chapter 10, 11

REFERENCE BOOKS:

1. **DIGITAL DESIGN** - R.AnanthaNatarajan, PHI Learning, 2015.

2. **DIGITAL CIRCUITS AND DESIGN** - S. Salivahanan and S. Arivazhagan, Vikas Publishers, 2005.

DBMS LAB

1. Data Definition Language (DDL) Commands in SQL.
2. DML and DCL   commands
3. High –level language extension with cursors.
4. High-level language extension with Triggers.
5. Creating Tables for Different Applications using DDL.
6. Solving Queries-Date Functions, Numeric Functions, Group Functions.
7. Set Operators-Union, Union All, Intersect, Minus.
8. Simple Join, Table Aliases Self-join, Outer join, Sub Queries, Multiple sub queries.
9. Procedures and Functions.
10. Design and implementation of Payroll Processing System.
11. Design and implementation of Banking System.
12. Design and implementation of Library Information system.
    a. PL/SQL
13. Creating PL/SQL block using all the control statements.
14. Creating PL/SQL block using EXPLICIT & IMPLICIT CURSOR.

MULTIMEDIA LAB

Semester: III   **Subject Code:**

Hours/Week: 3   **Credit: 2**

1. Flash Fade In and Fade Out Effect
2. Creating a Simple Animation in Flash CS5
3. Create an Animated Car Banner using Flash CS5
4. Check board Transition Effect in Flash
5. Bouncing Effect in Flash
6. Gorgeous Page Roll Image Transition Effect in flash
7. Creating a Rotating 3D Planet in Flash
8. Traffic light Effect in Flash
9. Wave Effect in Flash
10. simple website using DW
11. Employee Registration form using DW
12. shopping cart website using DW
13. college website using DW
14. social network website using DW
15. Email Registration form using DW

NME

FUNDAMENTALS OF COMPUTERS

Semester: III   **Subject Code:**

Hours/Week:2   **Credit: 2**

UNIT - I

Introduction : Introduction to computers – Evolution – Generation of computers – Computers Hierarchy – Applications of computers

UNIT - II

Windows Basics : Introduction to word – Editing a document – Move and Copy text – Formatting text & Paragraph – Enhancing document – Columns, Tables and other features.

UNIT - III

Introduction to Worksheet and Shell : Getting started with Excel – Editing cell & using commands and functions – Moving & Copying, Inserting and Deleting rows and columns – Printing worksheet.

UNIT - IV

Creating Charts : Naming ranges using statistical, math and financial functions, database in a worksheet – Additional Formatting Commands and Drawing Toolbar – Other Commands and Functions – Multiple Worksheet and Macros.

UNIT - V

Overview of Power Point : Presenting shows for corporate and commercial using power point – introduction to desktop publishing – computer viruses – introduction to internet – web features.

TEXT BOOK :

PC Software for windows 98' made simple – R.K. Taxali – Tata McGraw Hill Publishers, 2005.

UNIT I – Chapter 1

UNIT II – Chapter 4

UNIT III – Chapter 5

UNIT IV – Chapter 6

UNIT V – Chapter 7

REFERENCE BOOK

1. **Digital Circuit & Design** – S. Salivahanan, S. Arivazhagan – Vikas Publishing House Pvt. Ltd., 2002

2. **Computer Fundamentals** – Raja Raman – Prentice Hall of India 2004.

SELF STUDY

MULTIMEDIA

Semester: III   **Subject Code:**

Hours/Week: **Credit: 3**

UNIT – I

Objectives : History of multimedia - Resources for multimedia developers -Types of products –Multimedia Architecture-Software Library - Drivers.

UNIT – II

Text and Graphics : Elements of text - Text data files - Using text in multimedia application - Hypertext-Elements of graphics - Images and Color - Graphics Files and Application Formats - Using Graphics in Applications.

UNIT – III

Audio and Video : Characteristics of sound and digital audio-Digital Audio Systems-MIDI-Audio File Formats-Using Audio in Multimedia Applications -Background as video-Characteristics Of Digital Video- Video Capture And Playback Systems-Computer Animation.

UNIT – IV

Tools : Building Blocks-Classes Of Products-Content Organizational Strategies-Multimedia Tool Selection-Tool Features-Categories Of Authoring Tools-Selecting The Right Authoring Paradigm.

UNIT – V

Internet : HTML And Web Authoring- Multimedia Considerations For Internet - Design Considerations For Web Pages.

TEXT BOOK:

1.Multimedia Technology and Applications - David Hillman, Galgotia Publications Pvt Ltd., 1998.

UNIT I – Chapter 1, 2

UNIT II – Chapter 4

UNIT III – Chapter 6

2.Multimedia make it work - Tay Vaugan, ,Vth Edition, Tata MCGraw Hill Publishing Company Ltd.,2001.

UNIT IV – Chapter 4

UNIT V – Chapter 5

REFERENCE BOOK :

Multimedia System Designs – Prabhat K.Andleigh, Kiran Thakrar, Pearson Education, 2008.

PROGRAMMING IN JAVA

Semester: IV   **Subject Code:**

Hours/Week:5   **Credit: 5**

UNIT- I

Introduction : Object Oriented Paradigm – Basic Concepts Of Object Oriented Paradigm Benefits Of Oops – Application Of Oops – Java Evolution: Java History -Java Features- How Java Differs From C And C++ - Java And Internet – Java And World Wide Web – Web Browser – Hardware And Software Requirements – Java Environment. Overview Of Java Language: Java Program Structure – Java Tokens – Java Statements –Implementing A Java Program – Java Virtual Machine – Command Line Argument – Constants – Variables – Data Types – Declaration Of Variables – Scope Of Variables.

UNIT- II

Decision Making and Branching: Decision Making With If Statement – Simple If Statement – If…Else Statement – Nesting Of – If…Else Statement – Else If Ladder – Switch Statement - :?: Operator – Decision Making And Looping : While Statement –Do Statement – For Statement – Jumps In Loops.

Classes, Objects And Methods: Defining A Class – Method Declaration - Creating Objects – Accessing Class Members - Constructors–Method Overloading- Static Member – Nesting A Methods –Inheritance – Overriding Methods – Final Variables And Methods – Final Classes- Final Methods – Abstract Methods & Classes - Visibility Control.

UNIT- III

Arrays, Strings and Vectors: One Dimensional Array – Creating An Array – Two Dimensional Array – Strings – Vectors – Wrapped Classes – Enumerated Types.

Interface: Defining Interface – Extending Interface – Implementing Interface – Accessing Interface Variables.

UNIT- IV

Packages : Java API Packages- Using System Packages- Creating Packages- Accessing Packages-Adding Class To A Packages.

Multithreaded Programming: Creating Threads – Extending Thread Class – Stopping And Blocking A Thread- Life Cycle Of Thread – Using Thread Methods – Thread Exception – Thread Priority – Synchronization – Implementing Runnable Interface

Managing Error And Exceptions: Types Of Errors – Exception – Multiple Catch Statement – Using Finally Statement – Throwing Our Own Exceptions

UNIT- V

Applet Programming: Introduction-How Applet Differs From Applications – Preparing To Write Applets – Building Applet Code – Applet Life Cycle – Creating An Executable Applet – Applet Tag – Adding Applet To HTML File – Running The Applet – More About Applet – Passing Parameters To Applet – Aligning The Display – More About HTML Tags.

Graphics Programming: Graphics Class –Lines And Rectangles – Circles And Ellipses – Drawing Arcs – Drawing Polygons – Managing I/O Files In Java: Concept Of Streams – Stream Classes – Byte Stream Classes – Character Stream Classes.

TEXTBOOK:

Programming with Java - E.Balagurusamy, Tata McGraw-Hill Publishing Company, New Delhi, 3rd Edition.

Unit I – Chapter 1, 2, 3, 4

Unit II – Chapter 6, 7, 8

Unit III – Chapter 9, 10

Unit IV – Chapter 11, 12, 13

Unit V – Chapter 14, 15

REFERENCE BOOK:

1. **Object Oriented Programming Through JAVA** - P.Radha Krishna, University Press, 2007.

2. **The Complete Reference Java2 -** Herbert Schildt, Tata McGraw Hill, Fifth Edition, 2002.

FINANCIAL ACCOUNTING

Semester: IV   **Subject Code:**

Hours/Week:5   **Credit: 4**

UNIT - I

The accounting structure: Basic accounting concepts and conventions-meaning of accounting-groups interested in accounting information.

UNIT- II

Journal and Ledger: Introduction of Journal and Ledger, Trial balance preparation (simple problems)

UNIT – III

Final Accounts: Trading account, Profit and loss account, Balance sheet(simple problems).

UNIT - IV

Depreciation Accounting : Meaning of depreciation – methods of providing depreciation- Fixed percentage on original cost –Fixed percentage on diminishing balance (simple problem).

UNIT - V

Single Entry : Meaning, Features, Defects, Differences between Single Entry and Double Entry System – Statement of Affairs Method – Conversion Method.

TEXT BOOK :

   Financial Accounting – T.S.Reddy & Murthy

REFERENCE BOOKS:

  1. **Financial Accounting** – S.P.Jain & K.L.Narang

  2. **Advanced Accountancy-**Gupta R.L,S.chand,Delhi.

PROGRAMMING IN JAVA LAB

Semester: IV   **Subject Code:**

Hours/Week:3   **Credit: 2**

1. Accept a number and then print the number in words.

2. Find rank of student.

3. Multiplication table using words.

4. Number sorting using arrays.

5. Perform the following string operations

     a. reverse a given string (b) copy a string (c) concatenate two string (d)compare
         two strings (e)length of string.

6. Implement bank transaction using interface.

7. One thread to generate perfect number between the given ranges, another thread to
    generate the twin prime number between the given range

8. (e.g. 11 & 13,17&19--- twin prime numbers).

9. Find the exception marks out of bounds.

10. Find the exception number format error.

11. 10.create exception.

12. Our national flag(animate chakras).

13. Continuously scrolling a given message in both directions.

14. 13.load a image file continuously in a applet viewer with certain time interval.

15. Design a webpage for a computer centre using applets.

16. Design an application form. It includes text field check box, radio button, text area and
     choice list. From the percentage of marks obtained in ug courses can be allocated.(if the
     percentage is below then allocate any course according to the percentage of marks.)

WEB DESIGNING LAB

Semester: IV   **Subject Code:**

Hours/Week:3   **Credit: 2**

1. Using simple tags.

2. To design a page using background color and font color

3. To scroll a message using marquee tags.

4. Using hyperlink to link web pages.

5. Using link tag to link a section in a page.

6. Using ordered list, Using unordered list, Using definition list

7. To create table with and without border.

8. To prepare time table

9. To display image in table.

10. To design bio-data form

11. To create railway reservation form

12. For email id creation form

13. To design college web page.

14. To design jewellery web page.

15. To design google home page.

NME

DESKTOP PUBLISHING

Semester: IV   **Subject Code:**

Hours/Week:2   **Credit: 2**

UNIT-I

Introduction: H/W Requirement- Software Requirement DTP Operators Arsenal I/O Devices & Storage – Fonts - Drop caps – Character & paragraph level formatting – Hyphenation – Alignments – Indentation – Single & Double sided documents – headers & footers – footnotes & endnotes – Select Text & Graphics – Graphic file formats – Half tone images – Clear Half tone images – Generic Process.

UNIT - II

CorelDraw: Introduction – Opening a existing Drawing – the Dialog box open Drawing – Status bar – Cartesian Coordinates – Property Bar – Creating a Text file – Basic Terms – Toolbox – page & Paste Board – Std Tool bar – handle Shapes using property bar – Rotating objects – Line & arrows – Page & Doc setup – Dockers windows – Using text – Using Library of clip arts & bitmap images – fun with Artistic media tool

UNIT - III

Photoshop : Introduction – Opening an Image – Saving an Image – Closing an Image & Shutdown Photoshop – Creating a new Image- Using Toolbox – Tool Options bar – Using layers – seek help – Fascinating colors – Insert text Images – Printing Images – Filter to import Images

UNIT - IV

PageMaker: Introduction – Creating new Publications in PageMaker – Dialog box open Publication – Text Blocks – Handling Pages – Flow of Text in Linked Text Blocks – Using Toolbox – Using Toolbar – Importing Text Pictures and Wrapping around Pictures - Character

Level & Paragraph Level Formatting – Opening Multiple Publication Window – Using Story Editor – Spelling find & Change - Using Styles – Using Document – Master Pages

UNIT – V

Flash: Introduction – Explore User Interface – Work with workspace – save, open, close, flash Document – Drawing Modes - Working with drawing tools – Working with Colors – Adding Filters – Working with objects & text – Creating Animation.

TEXT BOOKS:

1. **DTP Course** - Shirish Chavan, Kogent Learning Solutions Inc.,2011.

Unit – I : Chapter 1

Unit – II : Chapter 2

Unit – III : Chapter 4,5

Unit – IV : Chapter 6,7

2. **Flash CS5 in simple steps** - Kogent Learning Solutions Inc.,2011.

Unit – V : Chapter 2

REFERENCE BOOK :

Desktop Publishing and Design – Roger C.Parker , Dreamtech Press, 2011.

SELF STUDY

SCRIPTING LANGUAGE

Semester: IV   **Subject Code:**

Hours/Week: **Credit: 3**

UNIT- I

Introduction : Need of scripting language – overview of HTML document – Head Section – Prologue – Link – Meta – Script – Body Section – Headers – Paragraphs – Text Formatting – Tables – Frames – HTML Forms

UNIT- II

VB SCRIPT: Introduction – Embedding VB script code in an HTML document – Comments – Variables – operators – Procedures – Conditional Statements – Looping – Objects and VB script – Cookies – Cookie variable – creating a cookie – A cookie with multiple values – Reading cookie value

UNIT- III

JAVA SCRIPT: Introduction – Language Elements – Identifiers – Expressions – Java script keywords – Operators – Statements – Functions – Objects of Javascript – Window object – Document object – Forms object – select object – Other objects – Arrays

UNIT- IV

ACTIVE SERVER PAGE(ASP): Introduction - Advantages – ASP script – Variables and Constructs – ASP Cookies –Retrieving a cookie value – cookie with keys – ASP objects – Response object – Request object – Application object –Server object – Session object – Asp Error object

UNIT -V

JAVA SERVER PAGE(JSP) : Introduction – Advantages of JSP – Components of JSP – Directives – JSP Declaratives – Scriplets – Expressions – Standard Action – Custom Tags – JSP Session – Cookies.

TEXT BOOK:

WEB TECHNOLOGY - N.P. Gopalan , J.Akilandeswari

UNIT I – Chapter 1

UNIT II – Chapter 4

UNIT III – Chapter 6

UNIT IV – Chapter 5

UNIT V – Chapter 8

REFERENCE BOOK :

1. **Internet Technology and Web design -** Ramesh Bangia, Firewall Media, (An imprint of Lakshmi Publications Pvt. Ltd.), Third Edition, 2011.

2. **Fundamentals of Information Technology -** Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd., Revised Edition.

ASP.NET PROGRAMMING

Semester: V   **Subject Code:**

Hours/Week:5   **Credit: 4**

UNIT- I

Introduction : The .Net Framework—The .Net Programming Framework-VB.NET Versus Vb script And Visual Basic 6-The Common Language Runtime-The .NET Class Library-ASP.NET-Visual Studio

.**Net Learning The .NET Languages:** The .Net Language Basic-Basic Differences Between –Data Types-Declaring Variables-Initializers-Arrays-Enumerations-Scope And Accessibility-Variables Operations- Advanced Math Operations-Type Conversions-Object Based Manipulations-The String Object-The Date Time And Time Span Object-The Array Object-Conditional   Structures-Loop Structures-Functions And Subroutines-Parameters-Procedure Overloading-Delegates.

UNIT- II

Basic about classes: Shared Members-A Simple Class-Adding Properties-A Basic Method-A Basic Event-Constructors-Value Types And Reference Type - Assignment Operations-Equality Testing.

Setting Up ASP.NET And IIS: IIS Manager - Creating A Virtual Directory-Virtual Directories-And Application-Folder Setting-Adding A Virtual Directory To Your Neighborhood -Installing ASP.NET - Getting The Sample-Migrating From ASP.NET - Run ASP Applications Alongside ASP.NET-Replace ASP Pages With Similar ASP.NET Pages-Replace ASP Pages With Redesigned Asp.Net Pages.

UNIT- III

ASP.NET Applications: ASP.NET Applications-ASP.NET File Type-The Bin Directory-Application Updates-A Simple Application From Start To Finish –Line By Line With Hello World .aspx-Behind The Scenes With Hello World .aspx-Code –Behind - Web From Inheritance -Compiled Code –Behind Files-Compiling Multiple Files Into One Assembly-

Importing Namespaces-Assessing Code Behind-Three Ways To Code Web Form-The Global. asax Application File:Global Behind-The Global .asax Code Behind- Application Events-Understanding ASP.NET Classes-The MSDN Reference-ASP.Net Configuration - The Web Config File-Nested Configuration-Storing Custom Setting In the Web Config File.

UNIT- IV

Web Controls: Stepping Up To Web Controls-Web Control Classes Tags-Web Control Classes: The Web Control Base Class-Units-Enumerated Values-Colors-Fonts-List Controls-Table Controls-Auto Post Back And Web Control Events:-How Postback Events Work-The Page Life Cycle.

UNIT- V

Overview of ADO.NET: Introducing Ado.Net And Data Management-A Quick Overview Of Databases-Database Access In The Internet World-Characteristics Of Ado.Net-Disconnected Access -Comparing Ado And Ado.Net-The Ado.Net Object Model - Data Namespaces-ADO.NET Objects-The Data Object-The Data Source Interaction Object-ADO.NET Data Access - About The ADO.NET-Obtaining The Sample Database-SQL Basics-Experimenting With SQL-The SQL Select Statement.

Accessing Data The Easy Way: Simple Data Access-Simple Data Updates-Importing The Namespaces-Creating Connections - The Connection String – SQL Server Integrated Authentication-Other Connection String Values-Connection String Tips-Making The Connection.

TEXT BOOK:

The Complete Reference ASP.NET – Matthew MacDonald, The McGraw−Hill Companies,2002.

Unit I- Chapter 1, 2

Unit II-Chapter 3, 4

Unit III-Chapter 5

Unit IV Chapter 7, 9

Unit V-Chapter 12,13.

REFERENCE BOOKS:

1. **ASP.NET Programming Black Book** - Steven Holzner, DreamTech Press, 2010.

2. **Programming ASP .NET** - Dave Grundgeiger Publisher: O'Reilly First Edition January 2002.

OPERATING SYSTEM

Semester: V   **Subject Code:**

Hours/Week:5   **Credit: 3**

UNIT –I

Introduction: What is an operating system-Early System–Simple Batch System- Multi programmed Batched system-Time-sharing Systems-Personal-Computer Systems-Parallel System-Distributed System-Real-Time System-Computer –System Structures: Computer-System Operation-I/O Structure-Storage Hierarchy- Hardware Protection-General-System Architecture-Operating-System Structures: System Components-Operating –System Services-System Calls-System Program-System Structure-Virtual Machine-System Design and Implementation-System Generation

UNIT –II

Process: Process Concept-Process Scheduling-Operation on Processes –Cooperating Processes-Inter process Communication- CPU Scheduling: Basic Concepts-Scheduling Criteria-Scheduling Algorithms-Multiple-Processor Scheduling-Real-Time Scheduling-Algorithm Evaluation

UNIT –III

Process Synchronization: Background-The Critical –Section Problem-Synchronization Hardware- Semaphores-Classical Problem of synchronization-Critical Regions-Monitors-Synchronization in Solaris 2-Atomic Transaction

Deadlock: System Model-Deadlock Characterization-Methods for Handling Deadlock-Deadlock Prevention- Deadlock Avoidance- Deadlock Detection-Recovery from Deadlock

UNIT – IV

Memory Management: Background –Logical versus Physical Address Space-Swapping-Contiguous Allocation-Paging-Segmentation- Segmentation with Paging-Virtural

Memory - Background-Demand Paging-Performance of Demand Paging –Page Replacement - Page Replacement Algorithms-Allocation of Frames –Thrashing-Demand Segmentation

UNIT –V

File-System Interface: File Concept-Access Methods- Directory Structure-Protection-Consistency Semantics-File-System Implementation - File-System Structure-Allocation Methods-Free-Space Management-Directory Implementation-Efficiency and Performance-Recovery-Secondary-Storage –Structure-Disk Structure-Disk Scheduling-Disk Management-Swap-Space Management-Disk Reliability-Stable-Storage Implementation

TEXT BOOK:

Operating System Concepts -Abraham Silberschatz and peter Galvin, V Edition, Addison Wesley,1998.

UNIT I – Chapter 1,
UNIT II – Chapter 2, 3
UNIT III – Chapter 5
UNIT IV – Chapter 7
UNIT V – Chapter 10

REFERENCE BOOK:

1**. Operating System** -Millan Milenkovi.C,Tata McGraw Hill Publishing Company Ltd.,1997.

2. **Modern Operating System** -Andrew S.Tenanbeum,II Edition,Addison Wesley,2001.

DATA STRUCTURES

Semester: V   **Subject Code:**

Hours/Week:5   **Credit: 4**

UNIT - I

Introduction: Overview-How To Create Programs-How To Analyze Programs-Reference And Selected Reading-Arrays: Axiomatization-Ordered Lists-Sparse Matrices-Representation Of Arrays-Stacks And Queues - Fundamentals-A Mazing Problem-Evaluation Of Expressions-Multiple Stacks And Queues.

UNIT – II

Stacks, Queues, Recursion: Introduction-Stacks-Array Representation Of Stacks-Linked Representation Of Stacks-Stack As ADT-Arithmetic Expressions-Polish Notation-Application Of Stacks-Recursion -Linked Representation Of Queues-Queues As ADT-Circular Queues-De Queues-Priority Queues-Application Of Queues.

UNIT – III

Linked List: Introduction- Linked Lists-Representation Of Linked Lists In Memory-Traversing A Linked List-Searching A Linked List-Memory Allocation: Garbage Collection – Insertion Into A Linked List-Deletion From A Linked List-Header Linked List-Circular Linked List-Two Way List.(Double)-Sorting And Searching: Introduction-Sorting-Insertion Sort-Selecting Sort-Merging Sort-Merge Sort-Shell Sort-Radix Sort- Searching And Data Modification-Hashing.

UNIT – IV

Trees: Introduction-Binary Trees-Representing Binary Trees In Memory-Traversing Binary Trees-Traversal Algorithms Using Stacks-Traversal Algorithms Using Stacks-Header Nodes-Threads-Threaded Binary Tress-Searching And Inserting In Binary Search Trees-Deleting In A Binary Search Tree-Balanced Binary Trees.

UNIT – V

Graphs And Their Applications: Introduction-Graph Theory Terminology-Sequential Representation Of Graphs: Adjacency Matrix - Shortest Paths-Linked Representation Of A Graph-Operation O Graphs-Traversing A Graph-Topological Sorting-Spanning Trees.

TEXT BOOK :

Fundamentals of Data Structures - ELLIS HOROWITZ & SARTAJ SAHANI, , Galgotia Book Source Publishers.

UNIT I – Chapter 1,2

 UNIT II – Chapter 3

UNIT III – Chapter 4

UNIT IV – Chapter 7

UNIT V – Chapter 8

REFERENCE BOOKS :

1. **Data Structures using C -** Tanaenbaum A.S.,Langram Y. Augestein M.J, Pearson Education , 2004.

2. **Data structures** - Seymour Lipschutz, Tata Mc-Graw Hill, 2006

COMPUTER GRAPHICS

Semester: V   **Subject Code:**

Hours/Week: 5   **Credit: 4**

UNIT - I

Introduction : Computer-Aided Design-Presentation Graphics-Computer Art-Entertainment-Education And Training-Visualization-Image Processing-Graphical User Interfaces-Overview Of Graphics System: Video Display Devices-Refresh Cathode-Ray Tubes-Raster Scan Displays-Random Scan Display- Color CRT Monitors-Direct-View Storage Tubes-Flat Panel Displays

UNIT - II

Output Primitives : Points And Lines-Line Drawing Algorithms DDA Algorithm-Bresenham's Line Algorithm-Filled Area Primitives-Scan Line Polygon Fill Algorithm –Inside Outside Tests-Scan Line Fill Of Curved Boundary Areas-Boundary Fill Algorithm –Flood Fill Algorithm.

UNIT - III

Attributes Of Output Primitives : Line Attributes-Line Type-Line Width-Pen And Brush Options-Line Color-Curve Attributes-Color And Grayscale Levels-Color Tables-Grayscale-Area Fill Attributes-Fill Styles-Pattern Fill-Soft Fill-Character Attributes-Text Attributes-Marker Attributes-Bundled Attributes- Bundled Line Attributes-Bundled Text Attributes-Bundled Text Attributes-Bundled Marker Attributes-Inquiry Functions.

UNIT - IV

2D Transformations: Basic Translation –Translation- Rotation –Scaling – Matrix Representation And Homogeneous Coordinates – Composite Transformations-Translations-Rotation-Scaling-General Pivot Point Rotation-General Fixed Point Scaling-General Scaling Directions-Concatenation Properties-General Composite Transformations And Computational Efficiency-Other Transformations-Reflection-Shear-Two Dimensional Viewing: The Viewing

Pipeline-Viewing Coordinate Reference Frame-Window To Viewport Coordinate Transformation-Two Dimensional Viewing Functions.

UNIT - V

Clipping : Introduction – Clipping Operations-Point Clipping-Line Clipping- Cohen Sutherland Line Clipping- Line Clipping Using Nonrectangular Clip Windows- Polygon Clipping-Sutherland Hodgman Polygon Clipping- Other Polygon Clipping Algorithms-Curve Clipping- Text Clipping –Exterior Clipping.

TEXT BOOK :

COMPUTER GRAPHICS – Hearn D and Baker M.P, 2ndEdition, Pearson Education, 2004.

UNIT I – Chapter 1

UNIT II– Chapter 2

UNIT III – Chapter 6

UNIT IV – Chapter 7

UNIT V – Chapter 8

REFERENCE BOOK :

1. Computer Graphics, Multimedia and Animation – Malay K. Pakhira, Prentice Hall Of India Pvt. Ltd. , New Delhi – 2008.

2. Fundamentals Of Computer Graphics And Multimedia – D. P. Mukherjee, Prentice Hall Of India Pvt. Ltd. , New Delhi – 1999.

ASP.NET PROGRAMMING LAB

Semester: V   **Subject Code:**

Hours/Week:2   **Credit: 2**

1. Display the welcome message.

2. Get the name and designation of an employee from the user and display the name and designation entered by the user.

3. Perform arithmetic operation.

4. Display current date and time.

5. Calculate simple interest.

6. 7.prompts users to select the material and enter the quantity they need.the file should give the unit price of the item and the total amount of purchase.the file should display date and time using an application variable declared and initialized in the global.

7. Create electricity bill.

8. Maintain a book details.

9. To enter the correct secret code to enable access to a restricted zone.

10. Caches the dynamic output for 120 seconds and reuse cached copy for request that have the same query string values as the cached copy.

11. Write two web methods-one for listing the car brands and another for searching and displaying price list.

12. The web services, it should provide a dropdown list box to populate the car brands and a data grid to display the price list.

13. Connect database using wizard.

14. Database without using wizard.

15. Generate a report.

ADVANCED JAVA PROGRAMMING LAB

Semester: V   **Subject Code:**

Hours/Week:2   **Credit: 2**

1. Print a Message using JSP
2. String Palindrome using JSP
3. Fibonacci Series using JSP
4. Drop a table using JSP
5. Comparison using Servlet
6. Simple Banking System Servlet
7. Online Polling system Servlet
8. To set session and cookies using JSP
9. Simple Gmail Registration using JSP
10. String store Employee Details using with JDBC Connectivity
11. To store Student Details using with ODBC Connectivity
12. Print Student Details using Servlet
13. Content Management System using Servlet
14. Simple Chatting System Using RMI

ELECTIVE – I

1. DATA MINING

Semester: V   **Subject Code:**

Hours/Week:4   **Credit: 3**

UNIT I

Introduction-What Is A Data Warehouse?-Definition-Multidimensional Data Model-OLAP Operations-Warehouse Schema-Data Warehousing Architecture –Warehouse Server –Metadata-OLAP Engine –Data Warehouse Backend Process –Other Features

UNIT-II

Introduction-What Is Data Mining?-Data Mining: Definitions-KDD Vs.Data Minning –DBMS Vs DM-Other Related Areas-DM Techniques-Other Mining Problems-Issues And Challenges In DM-DM Application Areas-Dm applications-Case Studies-Conclusion

UNIT-III

Introduction –What Is An Association Rule?-Methods To Discover Association Rules -APirori Algorithm-Partition Algorithm –Pincer-Search Algorithm- Dynamic Item set Counting Algorithm-FP-Tree Growth Algorithm –Eclat And Declat -Rapid Association Rule Mining-Discussion On Different Algorithms –Incremental Algorithm-Border Algorithm- Generalized Association Rule-Association Rules With Item Constraints

UNIT-IV

Introduction-Clustering Paradigms-Partitioning Algorithms-K- Medoid Algorithms –CLARA-CLARANS-Hierarchical Clustering-DBSCAN-BRICH-CURE-Categorical Clustering Algorithms-STIRR-ROCK-CACTUS.

Unit-V

Introduction-Web Mining-Web Content Mining-Web Structure Mining-Web Usage Mining-Text Mining-Unstructured Text-Episode Rule Discovery For Text-Hierarchy Of Categories-Text Clustering.

TEXT BOOK :

DATA MINING TECHNIQUES - Arun K. Pujari, Second Edition

Unit I – Chapter 2

Unit II – Chapter 3

Unit III – Chapter 4

Unit IV – Chapter 5

Unit V – Chapter 9

REFERENCE BOOK:

DATA MINING CONCEPT AND TECHNIQUES - Jiawei Han and Micheline Kamber ELSEVIER, Second Edition

ELECTIVE – I

2. CLIENT SERVER TECHNOLOGY

Semester: V   **Subject Code:**

Hours/Week:4   **Credit: 3**

UNIT- I

Introduction To Client Server Computing - Main Frame-Centric Client/Server Computing -Downsizing And Client/Server Computing.

UNIT- II

Client/Server Development Tools-Advantage Of Client/Server Computing-Connectivity -User Productivity- Reduction In Network Traffic-Faster Delivery Of System.

UNIT- III

Components Of Client/Server Applications - The Client-The Role Of The Client-Client Services-Request For Service-Dynamic Data Exchange (DDE)-Object Linking And Embedding (OLE).

UNIT- IV

Common Object Request Broker Architecture (CORBA) - Component Of Client/Server Application - Role Of The Server - Server Functions - Network Operating System - Novell Netware -LAN Manager - IBM LAN Server.

UNIT- V

Banyan VINES-PC Network File Services-Server Operating Systems: Netware, OS/2,Windows NT, Unix-System Application Architecture(SAA)

TEXT BOOK:

　　　1.Patrick Smith and Steve Guengerich, Clint/Server Computing,Prentice Hall of India,II Edition,1997.

UNIT I – Chapter I

UNIT II – Chapter 2

UNIT III – Chapter

UNIT V – Chapter 4

UNIT V – Chapter 6

REFERENCE BOOK:

1. **CLIENT SERVER COMPUTING** - Dewire and Dawana Travis, McGraw Hill,1993.

2. **AN INTRODUCTION TO CLIENT SERVER COMPUTING** - Subash Chandra Yadav& Sanjay Kumar Singh, New Age International (P) Limited, Publishers, New Delhi, 2009.

ELECTIVE – I

3. E-COMMERCE

Semester: IV   **Subject Code:**

Hours/Week: 5   **Credit: 4**

UNIT- I

Introduction : Traditional Commerce And E-Commerce-Internet And WWW-Role Of WWW-Value Chains-Strategic Business And Industry Value Chains-Role Of E-Commerce.

UNIT - II

Packet Switched Network : TCP/IP Protocol Script-Internet Utility Programmers-SGML,HTML And XML-Web Client/Server Architecture-Internet And Extranets.

UNIT - III

Web Server : Performance Evaluation-Web Server Software Feature Sets-Web Server Software And Tools-Web Protocol-Search Engines-Intelligent Agents-Web Hosting.

UNIT - IV

Computer Security : Classification-Copy Right And Intelligent Property-Electronic Commerce Threats-Protecting Client Computers-Electronic Payment System-Electronic Cash-Strategies For Marketing-Sales And Promotions-Cryptography-Authentication.

UNIT - V

Design Issues : Definition And Capabilities-Security-Web Based Marketing-Engines And Directory Registration-Online Advertisements-Website Design Issues.

TEXT BOOKS :

1. **Electronic Commerce** - Gary P Schneider Thomson learning & James T Peny Cambridge USA,2001

   UNIT I – Chapter 1

UNIT II– Chapter 2

UNIT III – Chapter 3, 4

2. **Electronic Commerce** - Marlyn Greenstein and Miklos McGraw-Hill,2002.

UNIT IV – Chapter 5

UNIT V – Chapter 7

REFERENCE BOOK:

1. **Frontiers of Electronic Commerce -** Ravi Kalakota& Andrew Whinston, B., Perarson Education, New Delhi, 1996.

2. **E-Commerce and its applications -** Dr. U.S. Pandey, Rahul Srivastava, SaurabhShukla, S. Chand & Company Ltd., New Delhi, 2008.

SELF STUDY

ENTERPRISE RESOURCE PLANNING

Semester: V   **Subject Code:**

Hours/Week: **Credit: 3**

UNIT - I

Introduction To ERP – Common ERP Myths – History Of ERP – Evolution – Growth Of ERP – Advantages Of ERP – Expectations In ERP – Role Of CIO – ERP Packages – Future ERP Packages

UNIT - II

Basic ERP Concepts – Importance Of ERP – Create ERP Value – ERP Investments – Benefits Of ERP – Other Factors - Risks Of ERP – Implementation Issues – Operation And Maintenance Issues

UNIT - III

ERP Technology – Business Process Reengineering – Data Warehousing – Data Mining – Online Analytical Processing(OLAP) – Product Life Cycle Management(PLM) – Supply Chain Management(SCM) – Customer Relationship Management(CRM)

UNIT- IV

Business Intelligence – Reasons For Business Intelligence – Benefits – Factors – Technology – Business Intelligence And ERP – Future Business Intelligence - Techniques

UNIT- V

Ecommerce And E Business – Evolution – Growth – E Commerce To E Business – E Business.

TEXT BOOK:

ERP demystified - Second Edition, Tata McGraw Hill

UNIT I – Chapter 1

UNIT II – Chapter 2, 3

UNIT III – Chapter 4

UNIT IV – Chapter 5

UNIT V – Chapter 6

PROGRAMMING IN PHP

Semester: VI   **Subject Code:**

Hours/Week: 5   **Credit:4**

UNIT – I

Introduction : PHP – Basic development Concepts – Creating first PHP Scripts – Using Variable and Operators – Storing Data in variable – Understanding Data types – Setting and checking variables Data types – Using Constants – Manipulating Variables with Operators.

UNIT – II

Controlling Program Flow: Writing Simple Conditional Statements - Writing More Complex Conditional Statements – Repeating Action with Loops – Working with String and Numeric Functions.

UNIT – III

Working with Arrays: Storing Data in Arrays – Processing Arrays with Loops and Iterations – Using Arrays with Forms - Working with Array Functions – Working with Dates and Times.

UNIT – IV

Using Functions and Classes: Creating User - Defined Functions - Creating Classes – Using Advanced OOP Concepts. Working with Files and Directories: Reading Files- Writing Files- Processing Directories.

UNIT –V

Working with Database and SQL: Introducing Database and SQL - Using My SQL - Adding and modifying Data - Handling Errors – Using SQL lite Extension and PDO Extension - Introduction of XML - Simple XML and DOM Extension.

TEXT BOOK:

PHP A Beginner's Guide - VIKRAM VASWANI, Tata McGraw-Hill

Unit I – Chapter 1, 2

Unit II – Chapter 3

Unit III – Chapter 4

Unit IV – Chapter 5

Unit V – Chapter 7, 8

REFERENCE BOOK

1. **The PHP Complete Reference** – Steven Holzner– Tata McGraw - Hill Edition.

2. **Spring into PHP 5** – Steven Holzer, Tata McCraw Hill Edition.

VB.NET PROGRAMMING

Semester: VI   **Subject Code:**

Hours/Week: 5   **Credit: 4**

UNIT-I

Introduction to .NET : Overview of .NET Framework -Common Type System , Common Language Specification-Common Intermediate Language-Just in time compiler-Virtual Execution System-.NET Framework class library-Namespace-Variable-Variable Declaration-Data types, Constants, operators, control statements-Loop statement.

UNIT-II

Arrays : Types of Arrays- Re dim Statement-List box control-Combo box Control-Procedures and structure: Subroutine procedure-Function procedure functions-Return statement-Calling a Function-Call by reference- Sub procedure - Structure-Nested structure-Message box - Input box function- Menu - MDI forms - Context menu-Rich textbox.

UNIT-III

Object oriented concepts in VB.Net : Boxing and un boxing- Read only and write only properties-Adding methods to classes-classes with constructor-Inheritance-Polymorphism-Events, Delegates and Exception handling Delegates-Exception-Try-catch-Finally-End Try-Try-Catch-Multiple catch-Nested Try-Try finally.

UNIT-IV

Library functions in VB.NET: String shared method-Instance Method-Starts with and Ends with-Index Of and Last Index Of - Pad Left and Pad Right-Replace and Substring-Split-Uppercase, Lowercase and Trim-String Builder class-Append-Append Format-Insert-Remove-Math Function-Data Function.

UNIT-V

Data Access with ADO.NET: Database-Relational Database-Special Features of ADO.NET-Connection-Commands-Data Reader-Data Set-Using a Data Grid

Graphics: GDI- GDI+- GDI+ Namespaces - System.Drawing.Design Namespace-System.Drawing.ImagingNamespace-System.Drawing.Printing Namespace -System. Drawing. Text Namespace.

TEXT BOOK:

VB.NET - P.RadhaGanesan, Scitech Publications, 2002.

Unit I – Chapter 1, 3, 4

Unit II – Chapter 5, 6, 7

Unit III – Chapter 8, 9

Unit IV – Chapter 14

Unit V – Chapter 10, 15

REFERENCE BOOKS:

1. **VB.Net Seeds** – K.Krishnaveni, S.Sasikala, S.Pradeep Kumar Kenny, KK Publications, 2013.

2. **Visual Basic.Net The complete Reference** – Jeffrey R.Shaprio, Tata McGraw Hill Companies, 2002.

COMPUTER NETWORKS

Semester: V   **Subject Code:**

Hours/Week:5   **Credit: 3**

UNIT - I

Introduction To Computer Networks: Business Applications-Home Applications-Mobile Users-Social Issues-Network Hardware: Local Area Networks-Metropolitan Area Networks-Wide Area Networks-Wireless Networks-Home Networks-Internetworks-Network Software: Protocol Hierarchies-Design Issues For The Layer-Connection Oriented And Connectionless Services-Service Primitives -Reference Models: The OSI Reference Model-The Tcp/Ip Reference Model.

UNIT- II

The Physical Layer: Guided Transmission Media: Magnetic Media-Twisted Pair-Coaxial Cable-Fiber Optics-Wireless Transmission: The Electromagnetic Spectrum-Radio Transmission-Microwave Transmission-Infrared And Millimeter Waves- Lightwave Transmission-Communication Satellites: Geostationary Satellites-Medium Earth Orbit Satellites-Low Earth Orbit Satellites-Satellites Versus Fiber-The Public Switched Telephone Network : Structure Of The Telephone System- The Mobile Telephone System: First Generation Mobile Phones: Second Generation Mobile Phones - Third Generation Mobile Phones

UNIT - III

The Data Link Layer Design Issues: Services Provided To The Network Layer-Framing-Error Control- Flow Control- Error Correcting Codes-Error Detecting Codes-Elementary Data Link Protocols: An Unrestricted Simplex Protocol-A Simplex Stop And Wait Protocol-A Simplex Protocol For A Noisy Channel-Sliding Window Protocols: A One Bit Sliding Window Protocol-A Protocol Using Go Back N –A Protocol Using Selective Repeat. The Channel Allocation Problem -Static Channel Allocation In LANS And Mans – Dynamic Channel Allocation In LANs And MANs-Multiple Access Protocols: Aloha-Carrier Sense Multiple Access Protocols-Collision Free Protocols- Wavelength Division Multiple Access Protocols-Wireless LAN Protocols Repeaters, Hubs, Bridges Switches, Routers And Gateways.

UNIT - IV

The Network Layer: Network Layer Design Issues: Store And Forward Packet Switching-Services Provided To The Transport Layer-Implementation Of Connectionless Service-Implementation Of Connection Oriented Service-Comparison Of Virtual Circuit And Datagram Subnets-Routing Algorithms: The Optimality Principle-Shortest Path Routing Flooding-Distance Vector Routing-Link State Routing-Hierarchical Routing-Broadcast Routing-Multicast Routing

The Transport Layer: The Transport Service: Services Provided To The Upper Layers-Transport Service-Primitives-Berkeley Sockets-An Example Of Socket Programming: An Internet File Server-Elements Of Transport Protocols-Addressing-Connection Establishment-Connection Release-Flow Control And Buffering-Multiplexing-Crash Recovery.

UNIT - V

The Application Layer: DNS The Domain Name System: The DNS Name Space-Resource Records-Name Servers-Electronic Mail-Architecture And Services-The User Agent-Message Formats-Message Transfer-Final Delivery-The World Wide Web: Architectural Overview-Static Web Documents-Dynamic Web Documents-HTTP-The Hypertext Transfer Protocol- The Wireless Web

Network Security: Introduction To Cryptography-Substitution Ciphers-Transposition Ciphers-One Time Pads-Two Fundamental Cryptographic Principles-Symmetric Key Algorithms: DES-The Data Encryption Standard- AES-The Advanced Encryption Standard-Cipher Modes-Other Ciphers-Cryptanalysis-Public Key Algorithms: RSA –Other Public Key Algorithms.

TEXT BOOK :

Computer Networks - A.S.Tanenbaum ,V Edition,PHI Publication.

Unit I- Chapter 1

Unit II-Chapter 2

Unit III-Chapter 3,4

Unit IV- Chapter 5,6

Unit V-Chapter 7.

REFERENCE BOOKS:

1. **Telecommunication Network Design Algorith"**-Aaron Kershenbaum, McGraw Hill.

2. **Data and Computer Communicatio"**-William Stalling, PHI.

SOFTWARE ENGINEERING

Semester: VI   **Subject Code:**

Hours/Week:5   **Credit: 3**

UNIT - I

Introduction : Size Factors - Quality & Productivity Factors - Managerial Issues-Planning A Software Project - Defining The Problem - Developing A Solution Strategy - Planning The Development Process - Planning An Organizational Structure - Other Planning Activities.

UNIT - II

Software Cost Estimation : Software Cost Factors-Software Cost Estimation Techniques-Staffing Level Estimation-Estimating Software Maintenance Costs-Software Requirements Specification-Formal Specification Techniques Languages & Processor For Required Specification.

UNIT - III

Software Design : Introduction-Fundamentals-Modules& Modularization Criteria-Design Notations-Design Techniques-Detailed Design Considerable-Real Time & Distributed System Design-Test Plans-Milestones, Walkthrough & Inception.

UNIT- IV

Verification And Validation Techniques : Quality Assurance-Walk Through & Inceptions-Static Analysis Symbolic Execution Unit Testing And Debugging-System Testing-Formal Verification.

UNIT - V

Software Maintenance : Enhancing Maintainability During Development-Managerial Aspects Of Software Maintenance-Configuration Management-Source Code Metrics-Other Maintenance Tools And Techniques.

TEXT BOOK:

      SOFTWARE ENGINEERING CONCEPTS - Richard Fairley ,Tata McGraw Hill-Edition 1997.

UNIT I – Chapter 1

UNIT II – Chapter 2

UNIT III – Chapter 3

UNIT IV – Chapter 4

 UNIT V – Chapter 5

REFERENCE BOOK:

1.**Fundamentals of Software Engineering** – Rajib Mall, Prentice Hall of India Pvt. Ltd., New Delhi, 2003.

2. **Software Engineering a Practitioner's Approach -** Roger S Pressman, Tata McGraw-Hill book Company, 6th edition, 2005

PROGRAMMING IN PHP LAB

Semester: VI   **Subject Code:**

Hours/Week:2   **Credit:2**

1. Display students details in a table .

2. Display bus route .

3. Display the details of employees .

4. Display the course table .

5. List the books in the library .

6. Login page .

7. Application form for a college .

8. Application form for a school .

9. Apply for voter id .

10. Apply for driving license.

11. Create an email id with the validation of mandatory field.

12. Reserve railway ticket with the validation of mandatory fields.

13. Reserve air ticket with the validation of mandatory fields.

14. Application form for pan card .

15 Application for bank .

VB.NET PROGRAMMING LAB

Semester: VI   **Subject Code:**

Hours/Week:2   **Credit: 2**

1. Generate Students mark list.

2. Generate Telephone Bill.

3. Generate Multiplication Table.

4. Calculate Simple and Compound interest using Drop down list boxcontrol.

5. Calculate Employee gross pay.

6. Create a login page.

7. EB bill.

8. Generate inventory control (store details).

9. Maintain a Hotel details.

10. Create an application form to create an ID and Password.

11. Generate a bill for a bouquet shop.

12. Generate Adam numbers.

13. Generate prime number series.

14. Generate Armstrong numbers series.

15. Create a database connection.

ELECTIVE – II

1. SYSTEM SOFTWARE

Semester: VI   **Subject Code:**

Hours/Week:4   **Credit: 3**

UNIT - I

Introduction : System Software and Machine Architecture – Simplified Instructional Computer (SIC) – SIC Machine Architecture – SIC/XE Machine Architecture- Traditional (CISC) Machine – Pentium Pro Architecture – RISC Machine Ultra SPARC Architecture- Cray T3E Architecture.

UNIT- II

Assemblers : Basic Assembler Function – A simple SIC Assembler- Assembler Algorithm and Data Structure – One pass Assemblers – Multi –pass Assemblers.

UNIT - III

Loaders and Linkers : Basic Loader Functions – Design of Absoulte Loader – Simple Bootstrap Loader – Machine Dependent Loader features.

UNIT - IV

Macro processor : Basic macro processor function – Machine independent macro processor features.

UNIT - V

Other System Software : Text Editors – Interactive Debugging Systems.

TEXT BOOK:

An Introduction to System Programming - Leland L. Becl, , 3rd Edition, Pearson Education Asia ,2000.

UNIT I - Chapter 1

UNIT II - Chapter 2

UNIT III - Chapter 3

UNIT IV - Chapter 4

UNIT V - Chapter 7

REFERENCE BOOKS:

1.**System Programming and Operating System** - D.M. Dhamdhere, Second Edition , Tata McGraw-Hill, 1999.

2. **System Programming** - John J.Donovan Tata McGraw-Hill Edition, 1972.

ELECTIVE – II

2. SOFTWARE TESTING

Semester: VI   Subject Code:

Hours/Week:4   Credit: 3

UNIT - I

Software Development Lifecycle Model: Phases Of Software Project-Quality Assurance And Quality Control-Testing Verification And Validation Process Models To Represent Different Phases-Life Cycle Models.

UNIT - II

White Box Testing : What Is White Box Testing?-State Testing-Structural Testing-Challenges An White Box Testing. Black Box Testing-What Is Black Box Testing

UNIT - III

Integration Testing : What Is Integration Testing-Integration Testing As Type Of Testing- Integration Testing As Phase Of Testing-Scenario Testing-Defect Bash.

UNIT - IV

System and Acceptance Testing : System Testing Overview-Functional Versus Non-Functional Testing-Functional System Testing-Non Functional Testing-Acceptance Testing-Summary Of Testing Phases.

UNIT - V

Performance Testing: Factors Governing Performance Testing-Methodology For Performance Testing-Tools For Performance Testing-Tools For Performance Testing-Process For Performance Testing.

Regression Testing: Definition-Types Of Regression Testing-How To Do Regression Testing-Best Practices In Regression Testing.

TEXT BOOK:

Software Testing Principles and Practices -Srinivasan Desikan and Gopalaswamy Ramesh, Pearson Education.

Unit I – Chapter 2

Unit II – Chapter 3, 4

Unit III – Chapter 5

Unit IV – Chapter 6

Unit V – Chapter 7,8

REFERENCE BOOKS:

1. **Effective Methods For Software Testing** -William Perry, John Wiley & sons.

2. **Software engineering Concepts** - Richard E.Fairly, McGraw Hill Edition.

SELF STUDY

WIRELESS TECHNOLOGY

Semester: VI   **Subject Code:**

Hours/Week: **Credit: 3**

UNIT - I

Overview of Wireless Networks: Introduction – Different generations of Wireless Networks - Principle of Wireless Networks: Wireless Network Topologies – Cellular Topology – Cell fundamentals.

UNIT- II

Wireless Networks Operation: Mobility management – Radio Resources and power management – Security in Wireless Networks.

UNIT- III

GSM and TDMA Technology: Introduction – What is GSM? – Mechanism to support a mobile Environment – Communication in the Infrastructure.

UNIT - IV

CDMA Technology: Reference Architecture for North American Systems – What is CDMA? – IMT-2000.

UNIT - V

Mobile Data Networks : The Data Oriented CDPD Network – GPRS and Higher Data Rates – Short messaging Service in GSM – Mobile Application Protocols.

TEXT BOOK:

PRINCIPLES OF WIRELESS NETWORKS - Kaveh Pahlavan, Prashant Krishnamurthy PHI Learning Private Limited.