



**SOURASHTRA COLLEGE, MADURAI- 625004**  
(An Autonomous Institution Re-accredited with 'B' grade by NAAC)  
**B.Sc – INFORMATION TECHNOLOGY- SYLLABUS**  
(Under CBCS w.e.f. 2017 – 2018 onwards & 2016-17 Batch )

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**III SEMESTER(2016-17 Batch Only)**

Sl. No.	Sub. Code	Nature	Subject Title	Hrs/Week	Exam Hrs	CA	SE	Tot	Crd
1	14UACT31/ H31/S31	Part-I	TAMIL/ HINDI/ SANSKRIT	6	3	25	75	100	3
2	14UACE31	Part-II	ENGLISH	6	3	25	75	100	3

**III SEMESTER(2017-18 onwards)**

Sl. No.	Sub. Code	Nature	Subject Title	Hrs/Week	Exam Hrs	CA	SE	Tot	Crd
1	17UACT31/ H31/S31	Part-I	TAMIL/ HINDI/ SANSKRIT	6	3	25	75	100	3
2	17UACE31	Part-II	ENGLISH	6	3	25	75	100	3

**III SEMESTER(2016-17 batch and 2017-18 onwards)**

Sl. No	Part	Subject Code	Subject Title	Hrs/week	Exam hrs	CA	SE	Tot	Crd
3.	III Core	16UITC31/ 17UITC31	Relational Database Management System and Sql	4	3	25	75	100	4
4.	III Core	16UITCP3/ 17UITCP3	Oracle Lab	4	3	40	60	100	3
5.	III Allied	16UITA31/ 17UITA31	Resource Management Techniques	4	3	25	75	100	4
6	IV SBS	16UITSP1/ 17UITSP1	Multimedia Lab	3	3	40	60	100	3
7	IV NME	16UITN31/ 17UITN31	Foundation of Information Technology	2	3	25	75	100	2
			Total	30					22

Passed in the BOS Meeting  
held on 15-3-2017

Signature of Chairman/HOD



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<b>PART - III</b>	<b>Title : RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)</b>	<b>Subject Code : 17 UITC31/ 16 UITC31</b>
<b>CORE</b>		
<b>Semester : III</b>	<b>HOURS : 4 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To understand about the concept of Data and Information.
2. To understand about the Relational Data base Management.
3. To learn the PL/SQL programming concepts.

**UNIT-I: Introduction to Database Management Systems:** (Introduction, Why a Database, Characteristics of Data in a Database, Database Management System, Why DBMS, Types of DBMS) – Introduction to RDBMS (Domain Constraints, Entity Integrity, Reference Integrity, Operational Constraints) – Database Architecture and Data Modeling.

**UNIT-II: E-R Modeling:-** ( Introduction, E-R Model, Components of an E-R Model, E-R Modeling Symbols) – Data Normalization (1NF, 2NF,3NF, Boyce-codd Normal Form(BCNF), 4NF, 5NF, Domain Key Normal Form(DKNF),Demoralization).

**UNIT-III: Introduction to SQL-** Tables, Views and Indexes:- ( Creating a Table, Modifying a table, Deleting a Table) –Insert, update and delete operations ( Insert statement, Bulk inserts of Data, Update statement, delete statement).

**UNIT-IV: Queries and Sub queries :-** (Queries and Sub queries) – Aggregate functions ( Introduction, General rules, Count(),Count(\*),SUM(),AVG(),MAX() and MIN())-Joins and Unions – Evolution of Computing models.

**UNIT-V: Data Integrity** – Transaction management and concurrency control (COMMIT, ROLLBACK and SAVEPOINT commands). **Introduction to PL/SQL:-** Introduction, PL/SQL variables, Character Set, PL/SQL sentence structure, Comments, PL/SQL Data Types, Control Structures, Iterative Control statements, PL/SQL Blocks.

**TEXT BOOK(S):**

1. Alexis Leon and Mathews Leon “Data base Management System” Leon Vikas Publishing Chennai,2002

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

- Unit- I Chapter 1: Pg.No: 1- 6,Chapter 5: Pg.No:99-117, Chapter 7:Pg.No:159-165  
 Unit-II Chapter 8: Pg.No: 117-186,Chapter 9: Pg.No:195-212,Chapter 11:Pg.No:241-254  
 Unit –III Chap 14: Pg.No:296-310,Chapter 15: Pg.No:319-322, Chapter 19:Pg.No:395-398  
 Unit-IV Chap 17: Pg.No: 355-378,Chapter 18: Pg.No:385-390,Chapter 21:Pg.No:413-426  
 Unit-V Chapter 28: Pg.No: 567-575,Chapter 29: Pg.No:605-606, Chapter 46.D:Pg.No:933-953

**REFERENCE BOOKS:**

1. Raghu Ramakrishanan & Johannes Gehrke “Database Management Systems” 2<sup>nd</sup> edition, McGraw Hill international Edition,2003
- 2.C.J.Date, An introduction to Database Systems, Pearson education 8<sup>th</sup> edition

Web site Links: (E-learning resources)

<http://www.studytonight.com/dbms/rdbms-concept.php>

<https://www.tutorialspoint.com/sql>



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<b>PART - III</b>	<b>Title : ORACLE LAB</b>	<b>Subject Code : 17 UITCP3/</b>
<b>CORE</b>		<b>16 UITCP3</b>
<b>Semester : III</b>	<b>HOURS : 4 hours / Week</b>	<b>CREDITS : 3</b>

**OBJECTIVES:**

1. To Understand the knowledge about Simple, Join Queries
2. To Understand the knowledge about Constraints
3. To Understand the knowledge about PL/SQL programming skills.

**SQL Queries:**

1. Interfacing with Database systems-SQL-DML Command Querying the Database
2. Creation of Database Using Integrity constraints and Making Queries.
3. Learning Built in Commands and Functions.
4. Conversion functions, miscellaneous functions and groups functions.
5. Processing of sub Queries.

**PL/SQL**

1. Program using Iterative controls and Sequence Controls.
2. Program using Exception Handling
3. Program using Implicit Cursors and Explicit Cursors.
4. Application development programs like Payroll, EB bill report generation, students Details.
5. Program to join the tables.
6. Programming with Triggers



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<b>PART - III ALLIED</b>	<b>Title :RESOURCE MANAGEMENT TECHNIQUES</b>	<b>Subject Code : 17 UITA31/ 16 UITA31</b>
<b>Semester : III</b>	<b>HOURS : 4 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

To solve many application problems like Traveling salesman problem, Graphical method, Least cost method, Vogel's approximation method, using various techniques.

**UNIT-I:** Definition of OR - Development of OR – History of OR – Mathematical Modeling - Characteristics & Phases - Tools, Techniques & Methods - Scope of OR – Uses of OR.

**UNIT-II: Linear Programming Problem** - Formulation of LPP – Managerial Problems in LPP – Different forms of LPP – Matrix Form, Standard Form, Canonical Form, and Slack & Surplus Variables - Graphical Solution: General, No Feasible, Unbounded Problems.

**UNIT-III : Solving the Linear Programming Problem with three variables:** Simplex Method - Computational Procedure – Artificial Variables Technique – Big M Method with two variables only.

**UNIT-IV: Mathematical formulation of Assignment problem** - Method for solving the assignment Problem.- Hungarian Algorithm method – Balanced Assignment problem – Unbalanced Assignment problem – Traveling Salesman Problem.

**UNIT-V: Mathematical Formulation of Transportation Problem** – Balanced Transportation Problem – Unbalanced Transportation Problem – Finding the Initial Basic Feasible Solution – North West Corner Rule, Column Minima Method, Row Minima Method, and Matrix Minima Method - Vogel's Approximation Method, Finding Optimality for Transportation Problem

**TEXT BOOK(S):**

Resource Management Techniques – Prof.V.Sundaresan,K.S.Ganapathy Subramanian, K.Ganesan A.R.Publications

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

- Unit I - Chapter 1(1.1 to 1.7)
- Unit II - Chapter 2(2.1,2.2,2.3,2.5), Chapter 3(3.1 , 3.2)
- Unit III- Chapter 3(3.3, 3.4, 3.2,3.2.1)
- Unit IV- Chapter 8(8.2, 8.3, 8.5, 8.6, 8.7, 8.9)
- Unit V - Chapter 7(7.1 to 7.5)

**REFERENCE BOOKS:**

1. Arumugam and Issac, Linear Programming Problem, Prentice Hall 2002.
2. Kanti and Swarap, Manmohan, Operation Research, Harvard University Press, 2001.

Web site Links: (E-learning resources)



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<b>PART - IV</b>	<b>Title : FOUNDATION OF INFORMATION TECHNOLOGY</b>	<b>Subject Code : 17UITN31/ 16UITN31</b>
<b>NME</b>		
<b>Semester : III</b>	<b>HOURS : 2 hours / Week</b>	<b>CREDITS : 2</b>

**OBJECTIVES:**

1. To understand about basic of computer.
2. To understand about the hardware and software.
3. To understand about programming and network

**UNIT-I: Introduction of Information**

Introduction – Characteristic of Information, Uses of information , Flow of Information , Levels of Information , Categories of Information – Classification of Computers(Analog , Digital , Hybrid , General , Special , Micro , Mini , Mainframe , Laptop, Portable )

**UNIT-II: Basic principles of operation of Digital Computer**

Input Unit ( Magnetic Tape, Disk, Floppy Disk, MICR, OCR, BAR CODE READER, OMR, Keyboard, Mouse, Joystick, Touch screen, Video Display Unit) – CPU – Output unit ( Impact Printer and Non-Impact Printer)

**UNIT-III: Hardware and Software**

Computer System – Hardware – Software ( System Software and Application Software ) – Generation of Computer ( First to Fifth)

**UNIT-IV: Data and File**

Data processing concepts – Data processing Cycle – Objectives – Steps – Operation – File Organisation ( Elements of File , Objective of File ,Sequential,Direct and Indexed File Organisation).

**UNIT-V: Programming and Network**

Problem solving and Programming – concept of Programming – Programming Tools – Types Network( LAN, WAN,MAN)

**TEXT BOOK(S):**

Text book of Information Technology- R.Saravana kumar, R.parameshwaran, and T.Jeyalakshmi-S, CHAND and company Ltd.

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

- Unit-I : Chapter 1: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 3.1
- Unit-II : Chapter 3: 3.2
- Unit-III : Chapter 3: 3.3, 3.5.2
- Unit-IV : Chapter 4: 4.1, 4.2, 4.3, 4.4, 4.5, Chapter 5: 5.2
- Unit-V : Chapter 6: 6.1, 6.2, 6.3, Chapter 7: 7.2.1, 7.2.2, 7.2.3

**REFERENCE BOOKS:**

1. Introduction to Computers, Peter Norton, sixth edition, Mc-Graw Hill Companies.
2. Fundamental of Computer, V.Rajaraman Fifth edition, Kindle Edition

**Web site Links: (E-learning resources)**

- [https://www.tutorialspoint.com/computer\\_fundamentals](https://www.tutorialspoint.com/computer_fundamentals)
- <http://ecomputernotes.com/fundamental/input-output-and-memory/list-various-input-and-output-devices>



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<b>PART - III</b> <b>SBS</b>	<b>Title : MULTIMEDIA LAB</b>	<b>Subject Code : 17UITSP1/ 16UITSP1</b>
<b>Semester : III</b>	<b>HOURS : 3 hours / Week</b>	<b>CREDITS : 3</b>

**OBJECTIVES:**

1. To understand about basic tools usage in photoshop.
2. To understand about basic of usage of multimedia.
3. To understand about the basic techniques usages.

**Photoshop:**

1. Write the procedure for cloning the image to another image using clone object tool.
2. Write the procedure to change the text to 3d-text in photoshop.
3. Write the procedure for lighting and lens effect photoshop.
4. Write the procedure for merging two picture in photoshop.
5. Write the procedure for rain effect in photoshop.
6. Write the procedure for making photo gallery in photoshop.

**Flash:**

1. Write the procedure for moving an object in flash.
2. Write the procedure for moving an object. Also use guide layer to move the object in the same area in flash.
3. Write the procedure for morphing an object in flash.
4. Write the procedure for animating a given text in flash
5. Write the procedure for masking a text in flash.



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**IV SEMESTER(2016-17 Batch Only)**

Sl. No.	Sub. Code	Nature	Subject Title	Hrs/ Week	Exam Hrs	CA	SE	Tot	Crd
1	14UACT41/ H41/S41	Part-I	TAMIL/ HINDI/ SANSKRIT	6	3	25	75	100	3
2	14UACE41	Part-II	ENGLISH	6	3	25	75	100	3

**IV SEMESTER(2017-18 onwards)**

Sl. No.	Sub. Code	Nature	Subject Title	Hrs/ Week	Exam Hrs	CA	SE	Tot	Crd
1	17UACT41/ H41/S41	Part-I	TAMIL/ HINDI/ SANSKRIT	6	3	25	75	100	3
2	17UACE41	Part-II	ENGLISH	6	3	25	75	100	3

**IV SEMESTER(2016-17 batch and 2017-18 onwards)**

Sl. No	Part	Subject Code	Subject Title	Hrs/ week	Exam hrs	CA	SE	Tot	Crd
3.	I	16UITC41/ 17UITC41	Visual Basic	5	3	25	75	100	4
4.	II	16UITCP4/ 17UITCP4	VB and . Net Lab	5	3	40	60	100	3
5.	III Allied	16UITA41/ 17UITA41	Numerical Methods	4	3	25	75	100	4
6.	IV SBS	16UITSP2/ 17UITSP2	Shell Programming and Linux Lab	3	3	40	60	100	3
7.	IV NME	16UITN41/ 17UITN41	Software Presentation	2	3	25	75	100	2
8	V		EXTENSION ACTIVITY	0					1
			Total	30					23

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<b>PART - III</b> <b>CORE</b>	<b>Title : VISUAL BASIC</b>	<b>Subject Code : 17UITC41/ 16UITC41</b>
<b>Semester : IV</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To understand about objects in VB.
2. To understand about statements in VB.
3. To understand about function and graphics usage in VB

**UNIT-I: Starting a new project** – The properties of window – Common form properties – Scale properties – Color Properties – Making a form responsive – Printing a visual representation of a form – types – creating standalone windows programs – The toolbox – creating controls – The name(Control name) property – properties of command buttons – simple event procedures for command buttons – access keys – Image controls – Textboxes – labels – Navigating between controls – Message boxes – The Grid – The ASCII representation of forms.

**UNIT-II: Statements in Visual Basics** – Variables – Setting properties with code – Data types – Working with variables – More on strings – More on numbers – Constants – Input boxes – Displaying information on a form – The format function – Picture boxes – Rich Text Boxes – The Printer Object – Determination loops – indeterminate loops – Making decisions – Select case – Nested If-Then – The GOTO – String functions – Numeric Functions – Date and Time Functions – Financial functions

**UNIT-III: Function procedures** –sub procedures – Advanced uses of procedures and functions – Using the Object Browser to Navigate among your subprograms – List : One dimensional arrays – Arrays with more than one dimension – Using Lists and Array with functions and procedures – The new array-based string – Records(User-Defined Types)

**UNIT-IV:** The With statements – Enums – Control arrays – List and Combo boxes – The Flex grid control – Code modules: Global Procedures – The DoEvents Function and Sub Main – Accessing Windows function – Error Trapping – Creating an object in Visual Basic.

**UNIT-V: Fundamentals of graphics** – Screen scales – The line and shape controls – Graphics via code – Line and Boxes – Circles, Ellipses and Pie Charts. The Mouse event procedures – Dragging and dropping operations – File commands – Sequential files – Random access files – Binary files – Sharing files – File system controls – The file system objects – The Clipboard – Running another windows program from within

**TEXT BOOK(S):**

Gary Cornell “Visual BASIC 6 from the Ground up” Tata Mcgraw Hill Edition 1999





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**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I: Chapter 3: Page No: 63-94 Chapter 4: Page No: 97-134

Unit II: Chapter 5: Page No: 148-187 Chapter 6: Page No: 193-218 Chapter 7: Page No: 220-253  
Chapter 8: Page No: 288-297

Unit III: Chapter 9: Page No: 303-333 Chapter 10: Page No: 338-374

Unit IV: Chapter 10: Page No: 378-379 Chapter 11: Page No: 384-422 Chapter 12: Page No: 438-451

Unit V: Chapter 16: Page No: 592-630 Chapter 17: Page No: 648-662 Chapter 18: Page No: 676-721  
Chapter 19: Page No: 726-739 Chapter 20: Page No: 747-752

**REFERENCE BOOKS:**

1. Paul Sheriff "Visual Basic" PHI -1999
2. Peter Norton's & Michael Groh 1998 "Guide to Visual Basic 6 Techmedia"

**Web site Links: (E-learning resources)**

<http://ecomputernotes.com/visual-basic>

<http://www.vbtutor.net/>



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<b>PART - III CORE</b>	<b>Title : VB AND .NET LAB</b>	<b>Subject Code : 17UITCP4/ 16UITCP4</b>
<b>Semester : IV</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 3</b>

**OBJECTIVES:**

1. To know about the basic programming concept.
2. To know about the various object used in programming.
3. To know about the Advance programming in .Net

**VB Lab**

1. Program for Calculating Simple and Compound Interest
2. Program for Listbox Manipulation
3. Program to Designing a Calculator
4. Program for Drive,Dir,FileBox
5. Program moving an Object using Timer Control
6. Program for creating an EDITOR
7. Program for Checking ADAM Numbers
8. Program for Generating Fibonacci Series
9. Program for Checking ARMSTRONG Number
10. Program for String Manipulation

**Console Application from .Net**

11. Calculating Sales and Commission.
12. Calculation of EB-Bill using Structure
13. Structure using Multiple Records.
14. SORTING Numbers in an given array
15. FUNCTION OVERLOADING using Switch Case

**Windows Application from .Net**

16. Creation of Class Checking ARMSTRONG & REVERSE a Number.
17. Displaying Directories Using TREEVIEW
1. Dialog Control (Open,Save,Color,Font)
2. Factorial, +ve –ve zero,Sum of series using Status and Progress Bar.
3. Retrieving Record using DATAGRID
4. Displaying Record Using ComboxBox, ListBox and DataGrid.
5. Searching and Retrieving Record.



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<b>PART - III</b> <b>ALLED</b>	<b>Title : NUMERICAL METHODS</b>	<b>Subject Code : 17UITA41/</b> <b>16UITA41</b>
<b>Semester : IV</b>	<b>HOURS : 4 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

To solve many application problems like Iteration Method, Newton Raphson Method ,Trapezoidal rule.

**UNIT-I: Algebraic & Transcendental Equations :** Errors in Numerical Computation – Iteration method – Bisection Method – Regula Falsi method – Newton Raphson method.

**UNIT-II: Simultaneous Equations :** Gauss Elimination method – Calculation of Inverse of Matrix – Gauss seidel iteration method. Curve fitting Method of Least squares.

**UNIT-III: Interpolation:** Newton's interpolation formulae – Central Differences interpolation formulae – Lagrange's interpolation formula – Inverse interpolation.

**UNIT-IV: Numerical differentiation:** Newton's Forward and Backward difference formulae – Numerical Integration: Trapezoidal rule – Simpson's rule. Eigen values and Eigen vectors of a matrix.

**UNIT-V: Numerical solution of differential equations:** Euler's method – Taylor's series method – Rangekutta methods

**TEXT BOOK(S):**

S.Arumugam and A Thanagapandi issac ,A.Somasundaram “Numerical Methods sci Tech publication Chennai 2002

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I - Chapter 3(3.0 to 3.5)

Unit II - Chapter 4(4.3, 4.5, 4.8) Chapter 2(2.4)

Unit III - Chapter 7(7.1 to 7.3, 7.6)

Unit IV- Chapter 8(8.1, 8.2, 8.5) Chapter 5(5.0 to 5.2)

Unit V - Chapter 10(10.1 to 10.4)

**REFERENCE BOOKS:**

1. Mathews J.H.” Numerical Methods for Maths,science and Engineering”PHI new Delhi 2001
2. Numerical Methods T.Veerarajan and T.Ramachandran 2<sup>nd</sup> edition TataMcGrawHill 2006



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<b>PART - IV</b> <b>SBS</b>	<b>Title : SHELL PROGRAMMING</b> <b>AND LINUX LAB</b>	<b>Subject Code : 17UITSP2/</b> <b>16UITSP2</b>
<b>Semester : IV</b>	<b>HOURS : 3 hours / Week</b>	<b>CREDITS : 3</b>

**OBJECTIVES:**

1. To understand about the commands
  2. To understand the usage of commands in program.
  3. To understand about the basic program in Linux
- 
1. Shell Script for calculating Simple Interest
  2. Shell Script for Swapping Two Numbers
  3. Shell Script for Calculating EB-BILL
  4. Shell Script for Checking +ve,-ve,zero numbers
  5. Shell Script for Checking ODD or EVEN number
  6. Shell Script for Generating ARMSTRONG Number
  7. Shell Script for Generating PRIME Numbers
  8. Shell Script for Checking ADAM Number
  9. Shell Script for Generating an Multiplication Table
  10. Shell Script for Generating Fibonacci Series
  11. Shell Script for Finding NATURAL NUMBER,REVERSED,SUM OF DIGITS
  12. Shell Script for Occurrence of a Characters



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<b>PART - IV</b> <b>NME</b>	<b>Title: SOFTWARE</b> <b>PRESENTATION</b>	<b>Subject Code : 17UITN41/</b> <b>16UITN41</b>
<b>Semester : IV</b>	<b>HOURS : 2 hours / Week</b>	<b>CREDITS : 2</b>

**OBJECTIVES:**

1. To understand about the Fundamentals of computer.
2. To understand about the Office automation
3. To Learn how present the project using office.

**UNIT-I: Fundamentals of Computers :** Early computers – Modern computer – Computer Hardware – Input devices – Output devices – Storage devices – Types of computer – Computer Software – Communication devices.

**UNIT-II: Microsoft Word –** Introduction – Menus – Creating a new blank document – Tool bars – Saving the document – Preview – Print – Editing the document – Formatting – setting margins , page numbers – Headers and footers – Tables – Mail merge.

**UNIT-III :** Microsoft Excel – work environment – Tool bars – Create , Save and closing Excel workbook – Charts – Formulas and functions – Calculate the workbook data – Common Excel Functions – Copying values – Deleting rows and columns – Inserting rows and columns – Automatic filling of entries.

**UNIT-IV: Microsoft Access –** Creating tables – Defining the primary key – Adding validations to the table – Updating tables.

**UNIT-V :** Microsoft PowerPoint – Working in Power point – create, save and working with text in slides – Formatting the text - Adding animation to slides.

**TEXT BOOK(S):**

Comdex computer course kit-Vikas Gupta, Dream Tech publishers,2005

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit- I: Chapter 1:Pg.No.16 to 26, 37 to 44

Unit-II: MS Word : Chapter 1: Pg.No. 186 to 191 Chapter 2: Pg.No. 195 to 206

Chapter 3: Pg.No. 213 to 218 Chapter 4: Full(Pg.No.222 to 243) Chapter 5: Pg.No.248 to 250, 252 to 254,256 to 264 Chapter 6: Full Pg.No.272 to 290

Unit-III: MS Excel: Chapter 1: Pg.No.300,301,305 Chapter 2: Full(Pg.No.314 to 321) Chapter 3: 325 to 330, 340 to 345.

Unit-IV: MS Access: Chapter 2: Full (Pg.No.378 to 391) Chapter 4: Full (Pg.No.394 to 412)

Unit-V: MS Power Point: Chapter 1 & Chapter 2 Full.(Pg.No.450 to 482)



**V SEMESTER**

Sl. No	Part	Subject Code	Subject Title	Hrs/ week	Exam hrs	C A	SE	Tot	Crd
1.	III Core	16UITC51/ 17UITC51	Java Programming	5	3	25	75	100	4
2.	III Core	16UITC52/ 17UITC52	Operating System	5	3	25	75	100	4
3.	III Core	16UITC53/ 17UITC53	TCP/IP	5	3	25	75	100	4
4.	III Core	16UITCP5/ 17UITCP5	Java Programming Lab	5	3	40	60	100	4
3.	III Core	16UITCP6/ 17UITCP6	Internet Lab	5	3	40	60	100	4
4.	III Elective	16UITE51/ 17UITE51*	Principles of Information Security	5	3	25	75	100	5
		16UITE52/ 17UITE52*	Introduction to Unified Modeling Language						
		16UITE53/ 17UITE53*	Biometrics						
6.	SELF STUDY	16USSS11	Soft Skills	-	-	-	-	100	-
			Total	30					25

**\*One elective subjects to be chosen from the three elective subjects.**



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<b>PART - III CORE</b>	<b>Title : JAVA PROGRAMMING</b>	<b>Subject Code : 17UITC51/ 16UITC51</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To Understand the programming knowledge in Java.
2. To Understand about the concepts of object oriented programming.
3. To Understand about the concepts of Multithread packages and exceptions.

**UNIT-I:** Fundamentals of OOP JAVA Evolution -features, comparison between C and C++ -Java and Internet -World Wide Web -Web browsers -H/W and S/W requirements -support systems - Java environment -JDK, JVM, API, IDE. Overview of Java Language -Constants -Variables Data types - Tokens -Simple Java Program Structure - Implementing Java program..

**UNIT-II:** Operators and Expressions: Arithmetic Operators – Relational, logical, assignment, Increment and decrement, conditional, Bit-wise, special operators – Arithmetic expressions, Evaluation of expressions – Type conversions - Operator precedence and associatively- Selection and Iteration– IF – IF... Else -Nested IF else - Switch Operator- While statement -Do -FOR -Jumps in loops- Labeled Loops.

**UNIT-III:** Classes-Objects -Methods -Defining a class -Adding methods. Variables - creating objects -Accessing class members- Constructors methods overloading -static members' .Nesting of methods

**UNIT-IV:** Inheritance -Overriding methods -Final variables and methods -Final classes- Finalize methods -Abstract methods and classes -Visibility control. Packages: System packages -Definition - Using system packages -Naming conventions -creating packages -Accessing a package -Using a package -Adding a class to a package.

**UNIT-V:** Multithreaded programming : creating threads – Extending thread class – Life cycle of a thread -Using thread methods - Thread Exception- Managing Errors and exceptions :Types of errors - Exceptions –Syntax of Exception handling code – Multiple Catch statements – Using Finally statement – Throwing our own exceptions.

**TEXT BOOK(S):**

E.Balagurusamy, A Primer Programming with Java, Tata McGraw -Hill Publishing Company Ltd., New Delhi, 2002

CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)

Unit I – Chapter 1(1.1 to 1.5), Chapter 2(2.1 to 2.9), Chapter 3(3.2,3.5,,3.6), Chapter 4(4.2 ,4.3,4.4)

Unit II – Chapter 5(5.2 to 5.14), Chapter 6(6.2 to 6.7), Chapter 7(7.2 to 7.6)

Unit III – Chapter 8(8.1 to 8.10)

Unit IV – Chapter 8(8.11 to 8.18), Chapter 11(11.3 to 11.8)

Unit V – Chapter 12(12.1 to 12.7), Chapter 13(13.1 to 13.7)

**REFERENCE BOOKS:**

1. Patrick Naughton & Herbert Schmidt, The Complete reference Java 2, 5<sup>th</sup> Edition, Tata McGraw Hill, 2006.
2. Jon Byous, Java Technology: The Early years, Sun Developer Network, 2005.

Passed in the BOS Meeting  
held on 15-3-2017

Signature of Chairman/HOD





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Web site Links: (E-learning resources)

[www.tutorialspoint.com/java](http://www.tutorialspoint.com/java) , <http://www.w3schools.in/java-tutorial/>

<b>PART - III CORE</b>	<b>Title : OPERATING SYSTEM</b>	<b>Subject Code : 17UITC52/ 16UITC52</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To Understand about Computer System Structure and Operating System Concepts
2. To Understand about process management, CPU scheduling, Deadlock
3. To Understand about the storage management and File system implementation

**UNIT-I: Introduction:** Definition–SimpleBatch System, Multiprogrammed – TimeSharing – Distributed System – **Computer System Structure** : Hardware Protection (Dual Mode Operation ,I/O Protection , Memory Protection , CPU Protection – **Operating System Structure:** System Components – Operating system services, Systemcalls, System programs.

**UNIT-II Process Management** :Process concepts, scheduling,operations – cooperating processes(Creation and Termination) – Interprocess communication( Message Passing System , Naming, Synchronization , Buffering ) – **Threads** : Multithreading models and issues.

**UNIT-III: CPU Scheduling and Deadlock** : Scheduling Basic Concept – Scheduling Criteria – Scheduling Algorithms (FCFS ,SJF,RR) –Multilevel Queue Scheduling - Algorithm Evaluation (Deterministic , Queuing , Simulations) -Deadlock Characterization, Prevention, Avoidance and Detection- Recovery from deadlock

**UNIT-III: CPU Scheduling and Deadlock** : Scheduling Basic Concept – Scheduling Criteria – Scheduling Algorithms (FCFS ,SJF,RR) –Multilevel Queue Scheduling - Algorithm Evaluation (Deterministic , Queuing , Simulations) -Deadlock Characterization, Prevention, Avoidance and Detection- Recovery from deadlock

**UNIT-V: File-System and Disk Scheduling** : File Concepts – Access methods – Allocation method – Directory Structure(Single Level ,Two Level,Tree Structured ) – **FileSystem Implementation** : – Allocation Methods ( Contiguous Allocation ,Linked Allocation , Indexed Allocation ) – Disk Management – Swap Space Management

**TEXT BOOK(S):**

Sliberschartz A.Galvin P.B. Gange F.,”Operating System Concepts” – 6<sup>th</sup> Edition 2012, John Wiley and Sons.

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I: Chapter 3: Page No: 63-94 , Chapter 4: Page No: 97-134

Unit II: Chapter 5: Page No: 148-187, Chapter 6: Page No: 193-218, Chapter 7: Page No: 220-253, Chapter 8: Page No: 288-297

Unit III: Chapter 9: Page No: 303-333, Chapter 10: Page No: 338-374

Unit IV: Chapter 10: Page No: 378-379, Chap 11: Page No: 384-422, Chapter 12: Page No: 438-451

Unit V: Chapter 16: Page No: 592-630, Chapter 17: Page No: 648-662,Chapter 18: Page No: 676-721,Chapter 19: Page No: 726-739,Chapter 20: Page No: 747-752

**REFERENCE BOOKS:**

1. MauriceJ.Bach “Design of Unix Operating System” Prentice Hall of India NewDelhi-2002  
 Davis Operating System Pearson education 6<sup>th</sup> edition



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Web site Links: (E-learning resources)

<http://www.ics.uci.edu/~ics143/lectures.html>, <http://www.studytonight.com/operating-system>

<b>PART - III CORE</b>	<b>Title : TCP / IP</b>	<b>Subject Code : 17UITC53/ 16UITC53</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To understand about Basic of Networks
2. To understand about the Classes of IP Address
3. To understand about DNS and DHCP

**UNIT-I: Basics of Networks**

Definition – Need for Network – Types of Network – Types of Topology – Transmission Media : Coaxial Cables , Twisted Pair Wire , Optic Fibre – Connecting Devices : Repeater , Hub , Switches , NIC – OSI Model : Layered Architecture – OSI Model – Layers in TCP/IP Protocol Suite.

**UNIT-II : Network Layer**

Switching: Circuit and Packet Switching – Connection Less and Connection Oriented Services – Network Services: Services Provided at Source Computer , Each Router , Destination Computer – Ipv4 Address: Introduction – Classful and Classless addressing.

**UNIT-III: TCP**

Transport Layer Services : Process to Process ,Addressing , Encapsulation and Decapsulation,Multiplexing and Demultiplexing ,Flowcontrol,Connection and Connection less Protocols –Simple, Stop&Wait , Go-Back N - TCP Services – TCP Connection : Error Control, Checksum, Acknowledgement, Retransmission. Client Server Paradigm : Client, Server ,Concurrency, Socket Interface.

**UNIT-IV: DHCP and DNS**

Introduction – DHCP Operation – Configuration- DNS: Need for DNS – Namespace – DNS in the Internet- DNS Msg – Types of Record.

**UNIT-V: FTP and WWW**

FTP : Connections ,Communication, Command processing, File Transfer – WWW Architecture : Hypertext and Hypermedia, Web client, Web server, Uniform Resources Locator (URL) – Web Documents: Static Documents, Dynamic Documents, Active Documents- Electronic mail : Architecture , UserAgent , SMTP Commands & Responses , Mail Transfer Phases.

**TEXT BOOK(S):**

TCP/IP Protocol Suite 4<sup>th</sup> Edition – Behrouz A.Forouzan TATA McGrawHill Edition.

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I: Page 20 – 30                      Unit II : Page 95 – 107 , 115 – 142

Unit III : Page 375-379,386,390,391,395,465,466,543-546

Unit IV: Page 569 – 579, 582-592, 598,599

Unit V: Page 630 -639, 657-659,660-663,681-686,687-691.

**REFERENCE BOOKS:**

1. Andrew S. Tanenbaum, “Computer Networks”, 4<sup>th</sup> Edition, Pearson Education,
2. E.Douglas Comer, David L. Stevens, “Internetworking with TCP/IP - Volume I II and III



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Web site Links: (E-learning resources)

<http://www.studytonight.com/computer-networks>

<http://www.techiwarehouse.com/engine/d9e99072/Basic-Networking-Tutorial>

<b>PART - III</b> <b>CORE</b>	<b>Title : JAVA PROGRAMMING</b> <b>LAB</b>	<b>Subject Code : 17UITCP5/</b> <b>16UITCP5</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To improve the creativity during problem solving.
2. To understand the concepts of Java.
3. To develop programming skills in java.

1. Program using Switch-Case statement to perform the following operations.
  - (i) Sum of natural numbers.
  - (ii) Factorial of a given number.
  - (iii) Display the cubes of numbers between 1 to 100.
2. Program to print the mark list of a student.
3. Program print the numbers in ascending order.
4. Program for Constructor Overloading
5. Program for Method Overloading.
6. Program to implement Dynamic Method Dispatch.
7. Program for User Defined Exception.
8. Program to implement Multithreading.
9. Program to print the academic and sports marks of a student using interface.
10. Program for Employee Net Pay Calculation using Parameter attribute.
11. Program to print the Employee details using Button, Label and Text Field.
12. Program to implement simple arithmetic operations using Frame Application.



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<b>PART - III CORE</b>	<b>Title : INTERNET LAB</b>	<b>Subject Code : 17UITCP6/ 16UITCP6</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To Develop Basic of Web Designing.
  2. Easy to learn JQuery.
  3. To Simply Javascript Programming
- 
1. Program to Test if jquery is loaded.
  2. Program to Scroll to the top of the page with jquery.
  3. Program to Disable right click menu in html page using jquery.
  4. Program to Disable/enable the form submit button.
  5. Program to Blink text using jquery.
  6. Program to Create a Zebra stripes table effect.
  7. Program to Print a page using jquery.
  8. Program to Limit character input in the text area including count.
  9. Program to Finds all checkbox inputs.
  10. Program to Hide all the input elements within a form.
  11. Program to Mark first word bold of all elements.
  12. Program to Create a div using jquery with style tag.
  13. Program to Add a list of elements within an unordered list element.
  14. Program to Getting the value of a textbox using jquery.
  15. Program to Left and right mouse click with jquery.



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<b>PART - III CORE</b>	<b>Title:PRINCIPLES OF INFORMATION SECURITY</b>	<b>Subject Code : 17UITE51/ 16UITE51</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

**OBJECTIVES:**

1. To understand about the basic of security
2. To understand about various Threats.
3. To understand about Security Technologies.

**UNIT-I: Information Security:**

History of Information Security – What is Security – Components of Information System - Security System Development Life Cycle – Security Professionals and the Organization – Communities of Interest – Information Security Is it an Art or Science.

**UNIT-II Why Security is Needed :**

Business Needs First – **Threats:** Deliberate Software Attacks : Virus,Worms,Trojan Horses – Deviations in Quality of Services – Forces of Natures – Human Error or Failure – Thefts – Technical Hardware Failure or Errors – Technical Software Failure or Errors. **Attacks:** Malicious Code , Hoaxes , Backdoors , Password Check , Denial of Service , Spoofing , Spam , Mail bombing , Timing Attack.

**UNIT-III: Managing IT Risk:**

Overview of Risk Management – **Risk Identification** : Plan and Organize the Process , Asset Identification and Inventory , Information Asset Valuation – **Risk Control Strategies:** Defend , Transfer ,Mitigate , Accept , Terminate – **Selecting Risk Control Strategy:** Feasibility Studies , Cost Benefit Analysis (CBA), Evaluation, Assessment and Maintenance of Risk Control.

**UNIT-IV: Plan for Security:**

**Information Security , Planning and Governance – Information Security Policy , Standards and Practices :** Definition, EISP , ISSP – **Security Education , Training and Awareness Program – Continuity Strategies :** Business Impact Analysis , Incident Response Planning. **Security Technology : Access Control** – Identification, Authentication , Authorization , Accountability.

**UNIT-V: Security Technology : Firewalls** – Firewall Processing Modes , Firewall Categorized by Generation , Firewall Categorized by Structure , Remote Access , VPN

**Scanning And Analysis Tools : Port Scanner** , Firewall Analysis Tools , Operating System Detection Tools , Vulnerability Scanners , Packet Sniffers - **Biometric Access Tools.**

**TEXT BOOK(S):**

Principles of Information Security – Michael E.Whitman and Herbert J.Mattord 4<sup>th</sup> Edition

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I: Chapter 1: Page No. 3-11,16-19, 26-32

Unit II: Chapter 2 : Page No. 39-48, 54-57,61-62, 63-68,72 (Timing attack only)

Unit III: Chapter 4: Page No. 117-132,144-153

Unit IV: Chapter 5: Page No. 168-178,203-221 Chapter 6: Page No. 238-242



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Unit v: Chapter 6: Page No. 242-255,270-277 Chapter 7: Page No. 318-326,331-333

REFERENCE BOOKS:

Computer Security Art and Science, Matt Bishop, Pearson/PHI, 2002

<b>PART - III CORE</b>	<b>Title : INTRODUCTION TO UNIFIED MODELING LANGUAGE</b>	<b>Subject Code : 17UITE52/ 16UITE52</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

OBJECTIVES:

1. To Understand about the basis of UML.
2. To Understand about the Pattern approach
3. To Understand about Modeling methodologies

UNIT I: Object Oriented Methodologies: Introduction – Survey of some of the Object oriented methodologies – Rumbaugh et al’s Object modeling technique – The booch methodology – The Jacobean et al. methodologies – patterns – frameworks – the Unified approach.

UNIT-II

Unified Modeling language – Introduction – Static and Dynamic models – why modeling – Introduction to the Unified modeling language – UMS diagrams – UML class diagram – user-case diagram – UML dynamic modeling – model management – UML extensibility – UML meta model.

UNIT-III:

Object oriented analysis process – introduction – Why analysis is a difficult activity – Business object analysis – use-case driven object oriented analysis – business process modeling – use-case model – developing effective documentation – case study.

UNIT-IV:

Object analysis: classification – classification theory – approaches for identifying classes – noun phrases approach – common class patterns approach – use-class driven approach – classes, responsibilities and collaborators – naming classes.

UNIT-V:

Identifying object relationships, attributes and methods – associations – super-sub class relationships – A part of relationships aggregation – case study – class responsibility – defining attributes for ViaNet Bank objects – Object responsibility – Defining methods for Vianet Bank objects.

TEXT BOOK(S):

Object oriented systems development using Unified Modeling Language – Ali Bahrami – TMH edition, 2008

CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)

- UNIT I: Chapter 4
- UNIT II: Chapter 5
- UNIT III: Chapter 6
- UNIT IV: Chapter 7
- UNIT V: Chapter 8





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REFERENCE BOOKS:

Object oriented analysis and design using UML – Mahesh P Matha – PHI, 2008

<b>PART - III CORE</b>	<b>Title : BIOMETRICS</b>	<b>Subject Code : 17UITE53/ 16UITE53</b>
<b>Semester : V</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

OBJECTIVES:

1. Knowledge about Finger Prints
2. Knowledge about Facial recognition Technology
3. Knowledge about Retina Scanning

UNIT-I:

**How Authentication technologies work** : What you Know-Passwords and PINs– Cards and Tokens – What you are: Biometrics – Multi-Factor authentication – Subverting the system – Deploying Authentication systems – Economics of Authentication -How **Biometrics work** : Brief History of Biometrics – Why Use Biometrics – Key Elements of Biometric System.

UNIT-II

**Fingerprint and Hand Geometry:** – History of Fingerprints – Hand Geometry - **Facial and Voice recognition:** Facial recognition application – Facial recognition Technology – Voice Verification

UNIT-III:

**Eye Biometrics:Iris and retina Scanning:** – Iris recognition technology – Applications – Retina Scanning – Accuracy. **Signature Recognition and Keystroke Dynamics:** Signature Recognition – Keystroke Dynamics

UNIT-IV:

**Esoteric Biometrics** – Vein pattern – Facial Thermography – DNA- Sweat pores – Hand Grip – Fingernail Bed – Body Odor – Ear – Gait- Skin Luminescence – Brain Wave Pattern – Footprint and Foot Dynamics – The Future.

UNIT-V:

**Biometrics in large Scale Systems-** Getting Started- Documenting the procurement process – specifying the systems – Same AFIS RFP Overview. **Biometric Testing and Evaluation:** -Who tests and Who Benefits- The three bears principle- Best practices for Biometrics testing – Types of Testing – Certification.

**Text Book:**

Biometrics – The Ultimate References, John D.Woodward, Jr.Nicholas M.Orlans , Peter T.Higgins – Dreamteach Publishers 2003

REFERENCE BOOKS:

Guide to Biometric Reference Systems and Performance Evaluation  
 Petrovska – Delacretaz , Dijana,chollet, Gerard,Dorizzi,Bernadette

**Web site Links: (E-learning resources)**

<http://www.biometric-solutions.com/fingerprint-recognition.html>





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**VI SEMESTER**

Sl. No	Part	Subject Code	Subject Title	Hrs/ week	Exam hrs	C A	SE	Tot	Cr d
1.	III Core	16UITC61/ 17UITC61	Software Engineering	5	3	25	75	100	4
2.	III Core	16UITC62/ 17UITC62	Web Designing with PHP	5	3	25	75	100	4
	III Core	16UITC63/ 17UITC63	Mobile Computing	5	3	25	75	100	4
3.	III Core	16UITCP7/ 17UITCP7	Web Design & PHP Lab	5	3	40	60	100	4
4.	III Elective	16UITE61/ 17UITE61*	Management Information System	5	3	25	75	100	5
		16UITE62/ 17UITE62*	Software Testing						
		16UITE63/ 17UITE63*	E-Commerce						
5.	III Elective	16UITEV1/ 17UITEV1	Project and Viva Voce	5	3	25	75	100	5
6.	SELF STUDY	16UGKC11	General Knowledge	-	-	-	-	100	-
			Total	30					26

\* One elective subject to be chosen from the three elective subjects.



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<b>PART - III CORE</b>	<b>Title : SOFTWARE ENGINEERING</b>	<b>Subject Code : 17UITC61/ 16UITC61</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To understand the concepts of Software Engineering.
2. To understand the concepts of Cost estimation.
3. To understand the concepts of Verification and Validation Techniques.

**UNIT-I:**

Introduction to Software Engineering Some definitions - Quality and productivity factors - Managerial issue. Planning a software project: Definition the problem - Developing a solution strategy- planning the development process - planning an organization structure - other planning activities.

**UNIT-II Software Cost Estimation:**

Software - Cost factors - software cost estimation techniques - Specification techniques – staffing -level estimation - estimating software maintenance costs.

**UNIT-III: Software requirements definition:**

The software requirements specification - format languages and processors for requirements specification.

**UNIT-IV: Software Design:**

Fundamentals Design concepts - Modules and modularizing Criteria Design Notations – Design Techniques - Detailed Design Consideration - Test plan - Mile stones walk through and inspection - Design guide lines.

**UNIT-V: Verification and validation Techniques:**

Quality Assurance - static analysis - symbolic exception - Unit testing and Debugging – System Testing - formal verification. Software maintenance: Enhancing maintainability during development – managerial aspects of software maintenance.

**TEXT BOOK(S):**

Richard E.Fairly, "Software Engineering Concepts", McGraw Hill Book Company.

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

- Unit I - Chapter 1 (1.1, 1.3, 1.4) , Chapter 2(2.1 to 2.5)
- Unit II - Chapter 3(3.1 to 3.4)
- Unit III - Chapter 4(4.1 to 4.3)
- Unit IV - Chapter 5(5.1 to 5.5, 5.7 to 5.9)
- Unit V - Chapter 8(8.1 to 8.7)

**REFERENCE BOOKS:**

Roger S.Pressman, "Software Engineering : A practitioner's approach" McGraw Hill International Book Company.

Web site Links: (E-learning resources)

[www.tutorialspoint.com/software\\_engineering/](http://www.tutorialspoint.com/software_engineering/)

[www.computernotes.com/software-engineering](http://www.computernotes.com/software-engineering)



<b>PART - III CORE</b>	<b>Title: WEB DESIGNING WITH PHP</b>	<b>Subject Code : 17UITC62/ 16UITC62</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To enable the students to understand the importance Scripting Language.
2. To become familiar with HTML .
3. To become familiar with PHP

**UNIT-I: HTML**

Introduction to HTML – Tags – Commonly used HTML commands : Structure of an HTML Program , Titles and Footer , Text Formatting , Emphasizing Materials in a Web Page – Text Styles – Types of Lists – Adding Graphics to HTML Documents – Tables – Hyperlink – Frames.

**UNIT-II Basics of PHP**

Basics of PHP: Data types – Variables – scope of variables – constants – here documents – Operators: Unary Operator, Binary Operator and Ternary Operator – Arrays – conditional statements: if statements, else if clause, switch statement.

UNIT-III: Iterations: for loop, while loop, do while loop, for each loop, infinite loop, loops within loop – Functions: User-defined Functions: Functions with arguments – multiple arguments – Accept and return Value by reference – By value.

UNIT-IV: PHP server variables: Functions for variables – Controlling script functions – Array functions – Working with Date and Time – Performing mathematical operations – Working with string functions: Finding a string – Return first occurrence – Replacing – Converting to and from ASCII – measuring string – Trimming and wrapping - changing string case.

**UNIT-V: Working with FORMS**

Form Elements: Textbox , Text Area , Password , Radio button , Checkbox , Combo box , hidden field , Image , SUBMIT and Reset Buttons – Adding Elements to a Form: Textbox , Text Area , Password Field , Radio Button , Select box , Checkbox – Error Handling in PHP.

**TEXT BOOK(S):**

HTML, Javascript, DHTML and PHP – Ivan BayRoss 4<sup>th</sup> Edition BPB Publications  
 CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)

Unit I – Chapter 2(Pg.No.19 to 25), Chapter 3(Pg.No.33 , 34), Chapter 4(Pg.No.38 to 41), Chapter 5(Pg.No.47 to 52), Chapter 6(Pg.No.58 to 63), Chapter 7(Pg.No.74 to 75)

Unit II – Chapter 17(Pg.No.278 to 315)

Unit III – Chapter 17(Pg.No.319 to 330, 332) Chapter 18(Pg.No.339 to 346)

Unit IV – Chapter 18(Pg.No.356 to 397)

Unit V – Chapter 19(Pg.No.410 to 427) Chapter 21(Pg.No.481 to 505)

**REFERENCE BOOKS:**

Web Programming unleashed – Bob BreedLove,et al

Web site Links: (E-learning resources)

<http://www.w3schools.com/html>

<http://www.javatpoint.com/php-tutorial>

<https://www.tutorialspoint.com/php/>



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<b>PART - III</b> <b>CORE</b>	<b>Title: MOBILE COMPUTING</b>	<b>Subject Code : 17UITC63/ 16UITC63</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To understand the Basic Mobile Computing
2. To understand the GPRS
3. To understand the WAP

**UNIT-I:** Introduction - Mobility of Bits and Bytes - Wireless the beginning - Mobile computing - Mobile Computing Architecture - Three tier architecture - Design consideration for mobile computing.

**UNIT-II** Evolution of Telephony - Mobile computing through telephone - Emerging Technologies - Introduction - Bluetooth - Radio Frequency Identification

**UNIT-III:** GPRS - Introduction and Packet Data Network - GPRS Network Architecture - Operations - Data services in GPRS

**UNIT-IV:**

Wireless Application Protocol - Introduction - WAP - MMS - GPRS application – CDMA

**UNIT-V:**

Wireless LAN : Introduction - wireless LAN Advantages - Wireless LAN security - Wifi Versus 3G

**TEXT BOOK(S):**

Mobile Computing Technology applications and Service creation Asoke K Talukder, Roopa R. Yavagal TMH publishing company Newdelhi 2005

**CHAPTERS and SECTIONS (For UNIT-I, II, III, IV and V)**

Unit I: Chapter 1: 1.1-1.3 Chapter 2: 2.4-2.6

Unit II: Chapter 3: 3.1-3.4 Chapter 4: 4.1-4.3

Unit III: Chapter 7: 7.1-7.5

Unit IV: Chapter 8: 8.1-8.4 Chapter 9: 9.1-9.2, 9.4-9.5

Unit V: Chapter 10: 10.1-10.2, 10.4, 10.8, 10.12

**REFERENCE BOOKS:**

Mobile Computing – Rajkamal Published by Oxford Higher Education/Oxford University Press, 2011



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<b>PART - III</b> <b>CORE</b>	<b>Title: WEB DESIGN &amp; PHP LAB</b>	<b>Subject Code : 17UITCP7/ 16UITCP7</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 4</b>

**OBJECTIVES:**

1. To Understand about the Tags.
2. To Understand about Web Page Creation
3. To Understand programming in PHP

**HTML :**

1. Design student ID card using image tag.
2. Display various Subjects using Lists.
3. Design class Timetable using Tables.
4. Display various Text styles and Colors using Frames.
5. Design Student Admission Form.

**PHP:**

6. Arithmetic operations.
7. If, Else, Else-If statements.
8. For each statement and is function statements.
9. Continue Break statements.
10. Arrays.
11. String functions.
12. Personal information using Post method.
13. Bus Ticket Reservation using Post method.
14. Employee Details using Get method.
15. Student Details using Get method.
16. Calendar function.
17. Multiplication Table.
18. Inheritance.
19. Validation.
20. Session.



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<b>PART - III ELECTIVE</b>	<b>Title: MANAGEMENT INFORMATION SYSTEM</b>	<b>Subject Code : 17UITE61/ 16UITE61</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

**OBJECTIVES:**

1. To Understand about the concept of Management, Information and System
2. To Understand about E-Commerce and E-Governance.
3. To Understand about IS Security and Threats.

**UNIT-I: Introduction of MIS**

Need for MIS – Concepts : Management, Information, Systems – Definition – Structure of MIS – Types of MIS: Hierarchical , Functional , Enterprise ,General Support Information System.

**UNIT-II Information, System Concepts**

Introduction – Definition – Type of Information – Information Quality - Dimension of Information – System: Definition – Kinds of System – System Related Concept – Element of a System.

**UNIT-III: Ecommerce, Ebusiness, EGovernance**

Introduction – E-Commerce – Ecommerce Sales Life Cycle – Ecommerce Infrastructure - Ecommerce Application , Payment system – EBusiness – EGovernance: Objectives, Delivery Models.

**UNIT-IV: IS Planning and IS Development**

Introduction: Information System Planning – Creating an IS Plan – Resource Allocation - Introduction: System Development Life Cycle – System Development Models.

**UNIT-V: Information Requirement analysis & Design , IS Security**

Introduction – System Analysis – Requirement Determination – Strategies of Requirement Determination – Structured Analysis Tools - System Design - Introduction: IS Security Threats.

**TEXT BOOK(S):**

Management Information System 4<sup>th</sup> Edition D.P.Goyal

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

Unit I : Page : 3-47

Unit II : Page: 67 – 78

Unit III : Page 239 – 250

Unit IV : Page 319 – 332, 367 – 377

Unit V : Page 389 – 400 , 475,476

**REFERENCE BOOKS:**

1. Jawadekar, W. S. (2004). Management Information Systems. Tata McGraw Hill.
2. Management Information System – Dr. S. P. Rajagopalan

**Web site Links: (E-learning resources)**

<http://ecomputernotes.com/mis/structure-and-classification/explain-mis-classification>



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<b>PART - III ELECTIVE</b>	<b>Title: SOFTWARE TESTING</b>	<b>Subject Code : 17UITE62/ 16UITE62</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

**OBJECTIVES:**

1. To understand Basic Testing Concepts
2. To understand Various Testing
3. To understand the Execution and Reporting

**UNIT-I: Software Development Life Cycle models:**

Phases of Software project – Quality, Quality Assurance, Quality control – Testing, Verification and Validation – Process Model to represent Different Phases - Life Cycle models. **White-Box Testing:** Static Testing – Structural Testing –Challenges in White-Box Testing

**UNIT-II : Black-Box Testing:**

What is Black-Box Testing? - Why Black-Box Testing? – When to do Black-Box Testing? – How to do Black-Box Testing? – Challenges in White Box Testing - **Integration Testing:** Integration Testing as Type of Testing – Integration Testing as a Phase of Testing – Scenario Testing – Defect Bash.

**UNIT-III: System and Acceptance Testing:**

System Testing Overview – Why System testing is done? – Functional versus Non-functional Testing - Functional testing – Nonfunctional Testing – Acceptance Testing – Summary of Testing Phases

**UNIT-IV: : Performance Testing:**

Factors governing Performance Testing – Methodology of Performance Testing – tools for Performance Testing – Process for Performance Testing – Challenges. **Regression Testing:** What is Regression Testing? – Types of Regression Testing – When to do Regression Testing – How to do Regression Testing – Best Practices in Regression Testing.

**UNIT-V: Test Planning, Management, Execution and Reporting:**

Test Planning – Test Management – Test Process – Test Reporting –Best Practices. **Test Metrics and Measurements:** Project Metrics – Progress Metrics – Productivity Metrics – Release Metrics  
 TEXT BOOK(S):

**SOFTWARE TESTING Principles and Practices – Srinivasan Desikan & Gopalswamy Ramesh, 2006, Pearson Education**

**CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)**

- UNIT-I: 2.1-2.5, 3.1-3.4
- UNIT-II: 4.1-4.4, 5.1-5.5
- UNIT III: 6 .1-6.7
- UNIT IV: 7.1-7.6, 8.1-8.5
- UNIT-V: 15.1-15.6, 17.4-17.7

**REFERENCE BOOKS:**

1. **EFFECTIVE METHODS OF SOFTWARE TESTING**–William E.Perry, 3rd ed,Wiley India.
2. **SOFTWARE TESTING** – Renu Rajani, Pradeep Oak, 2007, TMH

**Web site Links: (E-learning resources)**

[www.tutorialpoint.com](http://www.tutorialpoint.com)

Passed in the BOS Meeting  
 held on 15-3-2017

Signature of Chairman/HOD





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<b>PART - III ELECTIVE</b>	<b>Title: E-COMMERCE</b>	<b>Subject Code : 17UITE63/ 16UITE63</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

**OBJECTIVES:**

1. This subject deals with E-commerce concepts like E-Commerce, MCommerce, E-Security and E-payment.
2. Knowledge on E-commerce and Real World and Cyberspace problem awareness.
3. To inculcate knowledge on E-Commerce concepts in the present IT world.

**UNIT-I:**

What is e-commerce? – E-Commerce is not E-Business – the drivers – Myths You should know – Advantages and Issues in E-Commerce – Benefits and Limitations of the Internet– Role of E-Strategy – Integrating E-commerce – E-Commerce Business Models – Management Implications.

**UNIT-II Mobile-Commerce-The Business of Time:**

What is M-Commerce? – Why wireless? – How wireless Technology is employed? – Wireless LAN – Wireless application Protocol -Implications for Management.

**UNIT-III: Business-to-Business E-Commerce:**

What is B2B E-Commerce? – Supply chain Management and B2B – B2B Models – B2B Tools-EDI.

**UNIT-IV: E-Security**

Security in Cyberspace – Designing for Security – How much risk you afford? – The VIRUS – Security Protection and Recovery – Role of Biometrics - How to secure your system? – Security and Terrorism

**UNIT-V: Getting the money:** Real World Cash – Electronic Money – Requirements for Internet-Based Payments – How would you like to pay? – B2B and E-Payment – M-Commerce and M-Payment – General Guide to E-Payment.

**TEXT BOOK(S):**

**ELECTRONIC COMMERCE from Vision to Fulfillment – Elias M. Awad**, 3rd edition, PHI. (Chapters: 1, 6, 11, 13 &15)  
CHAPTERS and SECTIONS (For UNIT-I, II, III,IV and V)

**REFERENCE BOOKS:**

1. E-COMMERCE Strategy, Technologies and Applications – David Whiteley, 2001, TMH.
2. INTRODUCTION TO E-COMMERCE – Jeffrey F. Rayport, Bernard J. Jaworski, TMH.

Web site Links: (E-learning resources)

[https://www.tutorialspoint.com/e\\_commerce/e\\_commerce\\_security.html](https://www.tutorialspoint.com/e_commerce/e_commerce_security.html).



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<b>PART - III ELECTIVE</b>	<b>Title: PROJECT AND VIVA VOCE</b>	<b>Subject Code : 17UITEV1/ 16UITEV1</b>
<b>Semester : VI</b>	<b>HOURS : 5 hours / Week</b>	<b>CREDITS : 5</b>

1. A Maximum of two students can join to do the project work.
2. Students must undertake the project work under the guidance of a faculty member
3. Progressive reports have to be submitted to the guide periodically
4. The internal test marks is 40 and is divided into the following components
  - ( i ) Two Presentations – 2 x 10 = 20 Marks
  - ( ii ) Progressive Reports - 10 Marks
  - ( iii ) Internal Viva-voce - 10 Marks
5. The external examination will be jointly conducted by both the Internal and External Examiners
6. The Student must submit 3 copies ( 2 copies for students + 1 copy for the Dept.) of their project Report two week before the external examination.
7. The maximum marks for the external examinations is 60 and it may be divided into the following components
  - ( i ) Project Report - 20 marks
  - ( ii ) Project Presentation - 20 marks
  - ( iii ) Project viva-voce - 20 marks