

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
(AUTONOMOUS)
DEPARTMENT OF COMPUTER TECHNOLOGY
UNDER CBCS PATTERN GUIDED BY UNIVERSITY AND TANSCH
(FOR THOSE WHO ADMITTED FROM THE ACADEMIC YEAR 2013-2014 ONWARDS)

SUBJECT CODE	PART	SUBJECTS	Ins. Hours. Per Week	EXAMINATIONS				CREDITS
				Dur hrs.	CIA	MARKS	TOTAL	
SEMESTER I								
13UTL01	I	TAMIL - I	6	3	25	75	100	3
12UHN01		HINDI - I						
12UEN01	II	ENGLISH - I	5	3	25	75	100	3
13UCT01	III	C PROGRAMMING	4	3	25	75	100	4
13UCT02		DIGITAL COMPUTER FUNDAMENTALS	4	3	25	75	100	4
13UCT03		ALLIED I: MATHEMATICAL STRUCTURE FOR COMPUTER SCIENCE	5	3	25	75	100	5
13UCT04		PROGRAMMING LAB - I ('C')	4	3	20	30	50	2
08EVS01	IV	ENVIRONMENTAL STUDIES	1	..	..	..	..	..
09HEC01		YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-I	1	3		75	75	1
TOTAL			30				625	22
SEMESTER II								
13UTL02	I	TAMIL - II	6	3	25	75	100	3
12UHN02		HINDI - II						
12UEN02	II	ENGLISH - II	5	3	25	75	100	3
13UCT05	III	OBJECT ORIENTED PROGRAMMING WITH 'C++'	4	3	25	75	100	4
13UCT06		DATA STRUCTURES	4	3	25	75	100	4
13UCT07		ALLIED II: DISCRETE MATHEMATICS	4	3	25	75	100	5
13UCT08		PROGRAMMING LAB - II (C++)	4	3	20	30	50	2
10EVS01	IV	ENVIRONMENTAL STUDIES	1	3		100	100	2
10HEC02		YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-II	1	3		75	75	1
10HECP01		YOGA PRACTICALS-1		2	..	50	50	
12UHR01		HUMAN RIGHTS	1	3		100	100	2
TOTAL			30				875	26
SEMESTER III								
13UCT09	III	JAVA PROGRAMMING	5	3	25	75	100	4
13UCT10		RDBMS AND ORACLE	5	3	25	75	100	4
13UCT11		ALLIED III: COMPUTER SYSTEM ARCHITECTURE	5	3	25	75	100	5
13UCT12		OPERATING SYSTEMS	5	3	25	75	100	4
13UCT13		PROGRAMMING LAB - III (JAVA)	4	3	20	30	50	2
13UCT14		PROGRAMMING LAB - IV (RDBMS and ORACLE)	4	3	20	30	50	2
09HEC03	IV	YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-III	1	3	..	75	75	1
13UCTSA01/ 13UCTSB01		Skill Based MAJOR ELECTIVE I	1	3		50	50	2
TOTAL			30				625	24
SEMESTER IV								
13UCT15	III	WEB TECHNOLOGY (PHP and MySQL)	5	3	25	75	100	4
13UCT16		WEB DESIGNING (HTML, DHTML, XML, JavaScript)	5	3	25	75	100	4
13UCT17		DATA COMMUNICATION AND NETWORKS	5	3	25	75	100	4
13UCT18		ALLIED IV: MICROPROCESSOR AND ALP	5	3	25	75	100	5
13UCT19		PROGRAMMING LAB - V (WEB TECHNOLOGY)	4	3	20	30	50	2
13UCT20		PROGRAMMING LAB - VI (WEB DESIGNING)	4	3	20	30	50	2
09HEC04	IV	YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-IV	1	3	..	75	75	1
09HECP02		YOGA PRACTICALS-2		2	..	50	50	
13UCTSA02/ 13UCTSB02		SKILL BASED MAJOR ELECTIVE II	1	3		50	50	2
	V	NSS/NCC/SPORTS AND GAMES						1
TOTAL			30				675	25

SEMESTER V									
13UCT21	III	J2EE TECHNOLOGIES	6	3	25	75	100	4	
13UCT22		COMPUTER GRAPHICS	6	3	25	75	100	4	
13UCT23		ELECTIVE I	6	3	25	75	100	5	
13UCT24		PROGRAMMING LAB -VII (J2EE TECHNOLOGIES)	5	3	20	30	50	2	
13UCT25		PROGRAMMING LAB - VIII (COMPUTER GRAPHICS)	5	3	20	30	50	2	
09HEC05	IV	YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-V	1	3	..	75	75	..	
08GKL01		GENERAL KNOWLEDGE AND GENERAL AWARENESS		3		50	50	2	
13UCTNA01/ 13UCTNB01		SKILL BASED NON-MAJOR ELECTIVE III	1	3		50	50	2	
TOTAL			30				575	21	
SEMESTER VI									
13UCT26	III	VB.NET PROGRAMMING	6	3	25	75	100	4	
13UCT27		ELECTIVE II	6	3	25	75	100	5	
13UCT28		ELECTIVE III	6	3	25	75	100	5	
13UCT29		PROGRAMMING LAB - IX (VB.NET PROGRAMMING)	5	3	20	30	50	2	
13UCT30		INDUSTRY ORIENTED PRACTICALS	5	3		50	50	2	
09HEC06	IV	YOGA FOR PHYSICAL AND MENTAL WELL BEING PAPER-VI	1	3	..	75	75		
09HECP03		YOGA PRACTICAL-3		2	..	50	50	2	
13UCTNA02/ 13UCTNB02		SKILL BASED NON-MAJOR ELECTIVE IV	1	3		50	50	2	
TOTAL			30				575	22	
	TOTAL		180				3950	140	

LIST OF MAJOR ELECTIVE PAPERS

ELECTIVE -I	A. Software Engineering
	B. Distributed Computing
	C. Digital Image Processing
ELECTIVE -II	A. Embedded Systems
	B. Animation Techniques
	C. Computer Installation and Servicing
ELECTIVE -III	A. Information Security
	B. Cloud Computing
	C. Data Mining

LIST OF SKILL-BASED ELECTIVE PAPERS

ELECTIVE -I (MAJOR)	A. Visual Basic
	B. Flash
ELECTIVE -II (MAJOR)	A. DreamWeaver
	B. Coreldraw
ELECTIVE -III (NON- MAJOR)	A. Introduction to HTML
	B. Multimedia Fundamentals
ELECTIVE -IV (NON-MAJOR)	A. Internet and Web Technologies
	B. Coreldraw

Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2013-14
Subject Code & Title	13UCT01 & 'C' PROGRAMMING	Semester: I
Hrs/Week:	4Hrs	Credit: 4
Objectives	On successful completion of this subject the students should have -Understood the concept of C for solving problems -Writing algorithms and programs	
Unit	Content	Hrs
Unit I	Program Development Methodologies - Programming Style – Problem Solving Techniques - Algorithm, Flowcharts, Pseudo code - Structure of a C Program. The C Declarations: The C character set - Delimiters – Keywords – Identifiers – Constants – Variables – Rules for defining variables – Data types – Declaring and Initializing Variables – Type Conversion - Operators and Expressions.	10
Unit II	Input and Output in C: Formatted and Unformatted I/O functions. Decision Statements: If- If...Else- Nested If-else - Break- Continue – Goto – Switch - Nested switch () Case - The Switch () Case and Nested If Statements. Loop Control Statements: For, Nested For, While, Do-while- the Do-While statement with While Loop.	11
Unit III	Arrays: Initialization - Definition – Characteristics - One-dimensional - Predefined Streams - Two-Dimensional - Three or Multi-Dimensional Arrays – scanf () and printf () Functions. Strings: Declaration and Initialization – Displaying Standard Functions and Applications. Pointers: Features - Declarations - Arithmetic Operations with Pointers - Pointers and Arrays, Pointers and Two Dimensional Arrays - Array of Pointers - Pointers to Pointers - Pointers and Strings - Void Pointers.	10

Unit IV	Functions: Definition – Declaration - Return Statements – Types - Call by Value and Reference - Returning more multiple values - Function as an Argument - Function with Arrays and Pointers - Recursion. Structure and Union: Features - Declaration and initialization of Structure - Structure within Structure - Array of Structures - Pointer to Structures - Structure and Functions - Typedef - Bit fields - Enumerated Data Type – Union - Union of Structures.	10
Unit V	Files: Streams and File Types - Steps for File Operation - File I/O - Structures Read and Write - Other File Function - Searching errors in Reading/Writing Files - Low Level Disk I/O - Command Line Arguments - I/O Redirection. Preprocessor Directives: #define - #include - #ifndef - #error - #line - #pragma - and Predefined Macros.	11

Text Books:

1. Ashok N Kamthane, “PROGRAMMING AND DATA STRUCTURES” – Pearson Education, First Indian Print 2004, ISBN 81-297-0327-0.

Reference Books:

1. E BalaGurusamy: “Programming in ANSI C”, Tata McGraw-Hill, 1998.
2. Pradip Dey, Manas Ghosh, “*Computer Fundamentals and Programming in C*”, Oxford, 2008.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2013-14
Subject Code & Title	13UCT02 & DIGITAL COMPUTER FUNDAMENTALS	Semester: I
Hrs/Week:	4 Hrs	Credit: 4
Objectives	On successful completion of this subject the students should have - Knowledge on digital circuits. - Interfacing of various components.	
Unit	Content	Hrs
Unit I	Number Systems and Binary Codes: Digital Electronics – Integrated circuits or Chip - Decimal System - Binary system – Octal System – Hexadecimal System – Binary addition – Binary Multiplication and Division – Double precision Numbers - Floating Point Representation – 1's Complement of a binary Number - BCD – Excess-3 Code – Gray Code – Alphanumeric codes – Weighted Codes – Parity method for error detection and correction.	10
Unit II	Boolean Algebra-Logic Gates– Karnaugh Map and Minimization: Boolean Algebra – Gates – Invertor or NOT Gate – OR Gate – AND Gate – NOR Gate – NAND Gate – De Morgan's Theorems – Exclusive OR Gate – Exclusive NOR Gate – Karnaugh Map – Canonical Form I – Karnaugh Map - Construction and Properties – Implicants – Don't Care Combinations – Irredundant expressions – Minimization of SOP form using Karnaugh map - Minimization of POS form using Karnaugh map.	11
Unit III	Arithmetic and Logic circuits: Arithmetic and Logic circuits – Half Adder – Full Adder – Parallel Binary Adders – BCD Adder – 2's Complement Adder – Half-Subtractor – Full-Subtractor – Parallel Binary Subtractors – 2's Complement Subtractor – 2's Complement Adder/Subtractor – Binary Multiplier – Binary Divider – Comparator.	11

Unit IV	Sequential Circuits, Flip-Flops: Sequential circuits – Flip-Flops – R-S Flip-Flops – Clock Signals – Clocked R-S Flip-Flop – Data Latch or D-Flip-Flop – Clocked Data Latch – Positive Edge Triggered Data Flip-Flop - Positive Edge Triggered J-K Flip-Flop - T Flip-Flop – Master-Slave J K Flip-Flop. Registers: Registers – Shift registers – Shift-left Register - Shift-Right Register – Decoder – Encoder – Multiplexer – Demultiplexer.	10
Unit V	Counters: Counters – Ring Counter – Synchronous Up/Down Counter – Programmable Counter. Semiconductor memories: Memory Unit – Concept of Memory Using Registers – Read Only Memories – Random Access Memories – Programmable Array Logic(PAL) – Programmable Logic Arrays(PLA) – Buffer – Cache Memory.	10

Text Book(s):

1. Puri.V.K. , “*Digital Electronics Circuits and Systems*”, TATA Mc-Graw Hill, Sixteenth Reprint 2008.

Reference Books:

1. Donald P Leach, Albert Paul Malvino, Gautam Saha, “*Digital Principles and Applications*”, TATA McGraw-HILL Publications, 6th edition.
2. Thomas C Bartee, “*Digital Computer Fundamentals*”, TATA McGraw-HILL Publications, 6th edition.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2013-14
Subject Code & Title	13UCT03 & MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE	Semester: I
Hrs/Week:	5 Hrs	Credit: 5
Objectives	On successful completion of this subject the students should have - Understanding the concepts of mathematics - Learning applications of statistical and numerical methods for Computer	
Unit	Content	Hrs
Unit I	Matrices – Introduction – Determinants – Inverse of a matrix – Rank of a Matrix – Eigen value Problems.	11
Unit II	System of Simultaneous Linear algebraic Equation: Gauss elimination, Gauss Jordan, Gauss Seidel methods. The solution of Numerical Algebraic & Transcendental equation – Bisection method – Newton Raphson method – False position method.	12
Unit III	Numerical Differentiation: Newton's forward Difference - Backward Difference – Startling formula Numerical Integration: Trapezoidal Rule & Simpson's rule - Numerical solution of ordinary differential equations: Taylor method & Runge-kutta method.	13
Unit IV	Measures of central tendency: Mean, Median and Mode – Relationship among mean, median and mode. Measures of dispersion: Range, quartile deviation, mean deviation and Standard deviation.	15
Unit V	Correlation: Karl Pearson's coefficient of correlation – Rank correlation regression: Regression Equations – Difference between Correlation and Regression.	14

Text Books:

1. Dr Venkataraman. M. K, “*Engineering Mathematics Volume II*”, Third Edition, NPC – (Unit I).
2. Kandasamy. P, Thilagavathi. K, Gunavathi. K, “*Numerical methods*”, S. Chand and Company Ltd, New Delhi, Revised Edition 2005 - (Unit II & III).
3. Pillai .R.S.N, Bagavathi .V, “*Statistical Methods*”, -Sultan Chand and Sons Company limited, New Delhi, Reprint 2005 - (Unit IV & V).

Reference Books:

1. BalaGurusamy .E, “*Numerical methods*”, Tata MC-Graw Hill.
2. Gupta .S.C, Kapoor .V.K, “*Fundamental of Mathematical statistics*”, Sultan Chand and Sons.

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Department of Computer Technology
PROGRAMMING LAB - I ("C")
Semester I

Subject Code: 13UCT04

Credit: 2
Total Hrs: 52

Objective: On successful completion of this subject the students should have:

- developed the ability to write the program in C.

1. Create a C program to find the Greatest of three numbers.
2. Create a C program to display the Fibonacci series.
3. Create a C program to generate the Armstrong number.
4. Create a C program to generate the Prime number.
5. Create a C program to calculate the Sum of individual digits.
6. Create a C program to calculate Sum of n numbers.
7. Create a C program to arrange the numbers in Ascending order & Descending order.
8. Create a C program to display the Alphabetic order.
9. Create a C program to check the Palindrome.
10. Create a C program to calculate the mean, median & mode.
11. Create a C program to calculate the Standard deviation & variance.
12. Create a C program to calculate the Rank correlation.
13. Create a C program to calculate the Matrix addition.
14. Create a C program to calculate the Matrix multiplication.
15. Create a C program to calculate the Transpose of a Matrix.
16. Create a C program using structures.
17. Create a C program using Pointers.
18. Create a C program to find the nCr using functions.
19. Create an Employee file program using the sequential File operations.
20. Create a C program to find the Vowel count in a text file.

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Department	Computer Technology	
Course	B.Sc C.T	Effective From the Year: 2013 - 14
Subject Code & Title	13UCT05 & OBJECT-ORIENTED PROGRAMMING WITH C++	Semester: II
Hrs/Week:	4 Hrs	Credit: 4
Objectives	On successful completion of this subject the students should have - Writing programming ability on OPPS concepts like Encapsulation, Abstraction, Inheritance, Polymorphism and Exception handling etc.,	
Unit	Content	Hrs
Unit I	Introduction to C++ - key concepts of Object-Oriented Programming – Advantages – Object Oriented Languages – I/O in C++ - C++ Declarations - Control Structures - Decision Making and Statements : If - else ,jump, Goto, break, continue, Switch case statements – Loops in C++ : For, While, Do - Functions in C++ - Inline functions – Function Overloading.	10
Unit II	Classes and Objects: Declaring objects – Defining member functions – Static member variables and functions – Array of objects – Friend functions – Overloading member functions – Bit fields and Class – Constructor and Destructors – Characteristics – Calling constructor and Destructors – Constructor and Destructor with static members.	10
Unit III	Operator Overloading: Overloading unary, binary operators – Overloading with Friend function – type conversion – Inheritance: Types of Inheritance – Single, Multilevel, Multiple, Hierarchical, Hybrid, Multipath inheritance – Virtual base Classes – Abstract Classes.	10
Unit IV	Pointers: Declaration – Pointer to Class, Object – this pointer – Pointers to derived classes and Base classes – Arrays – Characteristics – array of classes – Memory models – new and delete operators – dynamic objects – Binding , Polymorphism and Virtual Functions.	12
Unit V	Files: File stream classes – file modes – Sequential Read / Write operations – Binary and ASCII Files – Random Access Operation – Templates – Exception Handling.	10

Text Books :

1. Ashok N Kamthane, “*Object-Oriented Programming with ANSI and Turbo C++*”, Pearson Education publication. 2003.

Reference Books:

1. BalaGurusamy.E, “*Object Oriented Programming with C++*”, TMH Pub, 1998.
2. Maria Litvin and Gary Litvin: “*C++ for you*”, Vikas Pub, 2002.
3. John R Hubbard, “*Programming with C++*”, TMH Publ. II Edition, 2002.
4. Bhushan Trivedi, “*Programming with Ansi C++*”, Oxford University Press. 2007.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2013 - 14
Subject Code & Title	13UCT06 & DATA STRUCTURES	Semester: II
Hrs/Week:	4 Hrs	Credit: 4
Objectives	On successful completion of this subject the students should have - Understood the concepts of Array, Stack, Queue, List, Linked List, Tree, Searching	
Unit	Content	Hrs
Unit I	Introduction – Creation of Programs – Analysis of programs – Arrays – Ordered Lists – Ordered List – Sparse Matrix - Representation of Arrays – Stacks and Queues – fundamentals – Evaluation of Expressions – Multiple stacks and queues.	10
Unit II	Linked List: Singly Linked List - Linked Stacks and Queues - Polynomial Addition - More on Linked Lists - Doubly Linked List and Dynamic - Storage Management - Garbage Collection and Compaction.	11
Unit III	Trees: Basic Terminology - Binary Trees - Binary Tree Representations - Binary Trees -Traversal - More on Binary Trees - Threaded Binary Trees - Binary Tree Representation of Trees - Counting Binary Trees. Graphs: Terminology and Representations - Traversals, Connected Components and Spanning Trees Shortest Paths and Transitive Closure.	10
Unit IV	Internal Sorting: Insertion Sort - Quick Sort - 2 Way Merge Sort - Heap Sort - Sorting on Several Keys. Files: Files, Queries and Sequential organizations - Index Techniques -File Organizations.	11
Unit V	External Sorting: Storage Devices -Sorting with Disks: K-Way Merging - Sorting with Tapes Symbol Tables: Static Tree Tables - Dynamic Tree Tables - Hash Tables: Hashing Functions - Overflow Handling.	10

TEXT BOOK(S):

1. Ellis Horowitz and Sartaj Sahni, “Fundamentals of Data Structure”, Galgotia Book Source, 1999.

REFERENCE BOOKS:

1. Aaron M Tanenbaum, Yedidyeh langsam, Moshe J Augenstein, “Data structure using C”, PHI Pub.
2. Ashok N Kamthane, “Programming and Data Structures” – Pearson Education, First Indian Print 2004, ISBN 81-297-0327-0.

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Department	Computer Technology	
Course	B.Sc C.T	Effective From the Year: 2013 - 14
Subject Code & Title	13UCT07 & DISCRETE MATHEMATICS	Semester: II
Hrs/Week:	4 Hrs	Credit: 5
Objectives	On successful completion of this subject the students should have - Understanding the concepts of discrete mathematics - Learning applications of discrete structures in Computer Science.	
Unit	Content	Hrs
Unit I	Set theory-Introduction-Set & its Elements-Set Description-Types of sets-Venn-Euler Diagrams- Set operations & Laws of set theory-Fundamental products-partitions of sets - minsets- Algebra of sets and Duality-Inclusion and Exclusion principle.	10
Unit II	Mathematical logic – Introduction - Propositional calculus – Basic logical operations - Tautologies - Contradiction - Argument - Method of proof.	10
Unit III	Relations – Binary Relations – Set operation on relations-Types of Relations – Partial order relation – Equivalence relation – Composition of relations – Functions – Types of functions – Invertible functions – Composition of functions.	10
Unit IV	Languages – Operations on languages – Regular Expressions and regular languages – Grammar – Types of grammars – Finite state machine – Finite – State automata.	10
Unit V	Graph Theory – Basic terminology – paths, cycle & Connectivity – Sub graphs – Types of graphs – Representation of graphs in computer memory.	12

Text Books:

1. Sharma .J.K, Second Edition ,“*Discrete Mathematics*”, Macmillan India Ltd. 2005 - (UNIT I TO V).

Reference Books:

1. Tremblay .J.P, Manohar .R , “*Discrete Mathematics Structures with Applications to computer science*”, Mc Graw Hill International Edition.
2. Dr. Venketaramen .M.K, Dr Sridharan .N, Chandarasekaran .N “*Discrete Mathematics*” The National publishing Company Chennai.

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Department of Computer Technology

PROGRAMMING LAB - II (“C++”)

Subject Code: 13UCT08

Semester II

**Credit: 2
Total Hrs: 52**

1. Create a class to implement the data structure STACK. Write a constructor to initialize the TOP of the stack to 0. Write a member function POP () to delete an element. Check for overflow and underflow conditions.
2. Create a class ARITH which consists of a FLOAT and an integer Variable. Write member ADD (), SUB (), MUL (), DIV (), MOD () to perform addition, multiplication, division and modulus respectively. Write member functions to get and display values.
3. Create a class MAT has a 2-d matrix and R&C represents the rows and columns of the matrix. Overload the operators +,-,* to add subtract and multiply two matrices. Write member functions to get and display MAT object values.
4. Create a class STRING. Write member function to initialize, get and display strings. Overload the operator + to concatenate two strings, == to compare two strings and a member function to find the length of the string.
5. Create a class which consists of EMPLOYEE detail like eno, ename, dept, basic-salary, and grade. Write member functions to get and display them. Derive a class PAY from the above class and write a member function to calculate da, hra, pf depending on the grade and Display the Payslip in a neat format using console I/O.
6. Create a class SHAPE which consist of two VIRTUAL FUNCTIONS Cal_Area() and Cal_PERI to calculate AREA and PERIMETER of various figures. Derive three Classes SQUARE, RECTANGLE and TRIANGLE from the class SHAPE and calculate AREA and PERIMETER of each class separately and Display the result.

7. Create two classes which consist of two private variables, one float and one integer variables in each class. Write member functions to get and display them. Write FRIEND function common to arguments And the integer and float values of both the objects separately and Display the result.
8. Write a user defined function USERFUN () which has the formatting commands like setw() , showpoint , showpos precision (). Write a program which prints a multiplication table and uses USERFUN () for formatting.
9. Write a program to perform Insertion, Deletion and Updation using files.
10. Write a program which takes a file as argument and copies into another file using Command Line Arguments.

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Department	Computer Technology	
Course	B.Sc. C. T	Effective From the Year: 2014-15
Subject Code & Title	13UCT09 & JAVA PROGRAMMING	Semester: III
Hrs/Week:	5 Hrs	Credit: 4
Objectives	On Successful Completion of this subject the students should have: The ability to write Programs in Java using the Oops Concepts like Encapsulation, Data Abstraction, Inheritance, Polymorphism and Exception handling and to develop Applets.	
Unit	Content	Hrs
Unit I	Java Evolution – History, Features, How Java differs from C and C++, Java support systems, Java environment – Overview of Java Language – Constants, Variables and Data Types - Operators and Expressions – Decision Making and Branching.	13
Unit II	Classes, Objects and Methods – Arrays, Strings and Vectors – Interfaces: Multiple Inheritance – Packages: Putting Classes Together.	13
Unit III	Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority – Synchronization – Implementing the Runnable Interface. Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax of Exception Handling Code – Multiple Catch Statements – Using Finally Statements – Throwing our Own Exceptions – Using Exceptions for Debugging.	13
Unit IV	Applet Programming: How Applets Differ 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 Tag – Passing Parameters to Applets – Aligning the Display– Displaying Numerical Values – Getting Input From the User.	13

	Graphics Programming –The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.	
Unit V	Managing Input/Output Files in Java: Concept of Streams – Stream Classes – Byte Stream Classes – Character Stream Classes – Using Streams – Other Useful I/O Classes – Using the File Class – Input/Output Exceptions – Creation of Files – Reading/Writing Characters – Reading/Writing Bytes – Handling Primitive Data Types – Concatenating and Buffering Files – Random Access Files – Interactive Input and Output – Other Stream Classes.	13

Text Book:

1. E. Balagurusamy, “Programming With JAVA A Primer”, Tata McGraw Hill Publications, 2nd Edition, 4th Reprint 2011.

Reference Books:

1. John R. Hubbard, “Programming with Java”, Second Edition, Schaum’s outline Series, Tata McGrawHill , 2007.
2. Timothy Budd, “Understanding Object Oriented Programming with Java”, Pearson Education, 2007.
3. Jana, “Java and Object Oriented Programming Paradigm”, PHI, 2007.
4. Deitel & Deitel, “Java TM: How to Program”, 7th Edition, PHI, 2008.
5. P. Naughton and H. Schildt – “Java2 -The Complete Reference” – 3rd Edition, TMH 1999.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2014-15
Subject Code & Title	13UCT10 & RELATIONAL DATABASE MANAGEMENT SYSTEM AND ORACLE	Semester: III
Hrs/Week:	5 Hrs	Credit: 4
Objectives	This subject is intended to introduce the fundamental concepts necessary for designing, using and implementing Database systems and applications.	
Unit	Content	Hrs
Unit I	Database Concepts – A Relational approach: Database – Relationships – DBMS – The Relational Data Model – Integrity Rules – Theoretical Relational Languages. Database Design – Data Modeling and Normalization: Data Modeling – Dependency – Database Design – Normal forms – Dependency Diagrams – Denormalization – Another Example of Normalization.	13
Unit II	Oracle9i – An Overview: Personal Databases – Client/Server Databases – Oracle9i: An Introduction – The SQL *Plus Environment – SQL – Logging into SQL *Plus – SQL *Plus Commands – Oracle Errors and Online Help – Alternate Text Editors - SQL *Plus Worksheet – iSQL *Plus. Oracle Tables – Data Definition Language: Naming Rules and Conventions – Data Types – Constraints – Creating an Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping Table – Renaming Table – Truncating Table – Table Types – Spooling – Error codes.	12
Unit III	Working with Tables - Data Management and Retrieval: DML – Adding a New Row/Record – Customized Prompts – Updating and Deleting an Existing Rows/Records – Retrieving Data from a Table – Arithmetic Operations – Restricting Data with a WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE Command – CASE structure. Functions and Grouping: Built-In functions – Grouping Data.	13

Unit IV	Multiple Tables: Joins and Set operators: Join – Set Operators. PL/SQL – A Programming Language: History – Fundamentals of PL/SQL – PL/SQL Block Structure – Comments – Data Types – Other Data Types – Variable Declaration – Anchored Declaration – Assignment Operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – SQL in PL/SQL – Data Manipulation – Transaction Control Statements.	13
Unit V	PL/SQL Cursors and Exceptions: Cursors – Implicit & Explicit Cursors – Implicit & Explicit Cursor Attributes – Cursor FOR loops – SELECT...FOR UPDATE Cursor – WHERE CURRENT OF Clause – Cursor with Parameters – Cursor Variables – Exceptions – Types of Exceptions. PL/SQL Composite Data Types: Composite Data Types – PL/SQL Records – PL/SQL Records – PL/SQL Tables – PL/SQL Varrays. Named Blocks: Procedures – Functions – Packages –Triggers –Data Dictionary Views.	14

Text Book:

1. Nilesh Shah, “Database Systems Using Oracle”, 2nd Edition, PHI, Indian reprint, 2009.

Reference Books:

1. Arun Majumdar & Pritimoy Bhattacharya, “Database Management Systems”, 2007, TMH.
2. Gerald V. Post, “Database Management Systems”, 3rd Edition, TMH, 2005.
3. Jonathan Gennick, “Oracle SQLPlus Pocket Reference”, O’Reilly Media, INC, USA.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2014-15
Subject Code & Title	13UCT11 & COMPUTER SYSTEM ARCHITECTURE	Semester: III
Hrs/Week:	5 Hrs	Credit: 5
Objectives	Students will learn • The elements of Computer Organization and Architecture. • The basic knowledge necessary to understand the hardware operations of computers.	
Unit	Content	Hrs
Unit I	Basic Computer Organizations and Design: Instruction Codes – Computer Registers – Computer Instructions –Timing Control – Instruction Cycle – Memory-Reference Instructions –Input-Output and Interrupt.	12
Unit II	Central Processing Unit: General Register Organization – Stack Organization – Instruction Formats – Addressing Modes – Data Transfer and Manipulation – Program Control – Reduced Instruction Set Computer (RISC).	13
Unit III	Computer Arithmetic: Addition and Subtraction – Multiplication Algorithms – Division Algorithms – Floating-Point Arithmetic Operations: Register Configuration – Addition and Subtraction.	13
Unit IV	Input-Output Organization: Peripheral Devices – Input-Output Interface – Asynchronous Data Transfer – Modes of Transfer – Priority Interrupt – Direct Memory Access (DMA) – Input-Output Processor (IOP).	13
Unit V	Memory Organization: Memory Hierarchy – Main Memory – Auxiliary Memory – Associative Memory – Cache Memory – Virtual Memory – Memory Management Hardware.	14

Text Book:

1. M. Morris Mano, “Computer System Architecture”, Pearson Education, Third Edition, ISBN 978-81-317-0070-9.

Reference Books:

1. John I Hennessy, “Computer Architecture”, FOURTH EDITION, ISBN 97831207260.
2. S.P.S Saini, “Computer system architecture and organization”, ISBN 8189757733.
3. C. Hamacher, V. Zvonko, S. Zaky, “Computer Organization”, McGraw Hill, 2002, 5th edition.

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2014- 15
Subject Code & Title	13UCT12 & OPERATING SYSTEMS	Semester: III
Hrs/Week:	5 Hrs	Credit: 4
Objectives	On Successful Completion of this subject the students should have known about: - OS Concepts, Process, Files, Dead Lock Etc.,	
Unit	Content	Hrs
Unit I	Operating System-Functions and Structure: What is an Operating System – Different Services of Operating System – Uses of System Calls – Issue of Portability – Booting. Information Management: Introduction – The File System – Introduction – Block and Block Numbering Scheme - Relationship between OS and DMS – File Directory entry – Open/Close Operations – Device Driver (DD).	12
Unit II	Process Management – Inter Process Communication – The Producer Consumer Problem – Solutions to Producer Consumer Problems – Classical IPC Problems.	13
Unit III	Deadlocks: Introduction – Graphical Representation of Deadlock – Deadlock Prerequisites – Deadlock Strategies. Memory Management: Introduction – Single Contiguous Memory Management – Fixed Partition Memory Management – Variable Partitions – Non Contiguous Allocation – General Concept – Virtual Memory Management System.	13
Unit IV	Parallel Processing: Introduction – What is Parallel Processing? – Difference between Distributed and Parallel Processing – Advantages of Parallel Processing – Machine Architectures Supporting Parallel Processing – Operating System for Parallel Processors. Distributed Processing: Introduction – Distributed Processing – Process Migrations – RPC – Distributed File Management – Cache Management in Distributed Processing.	14

Unit V	Windows NT: Process management – Process Synchronization - Memory Management- Windows 2000: Operating System Organization – Process Management – Memory Management – File Handling – Security.	13
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Text Book:

1. Achyut.S.Godbole, “Operating Systems” , TMH Publications, 2002

Reference Books:

1. H. M Deitel, “Operating Systems”, 2nd Edition, Pearson Education Publication, 2003.
2. John J. Donovan, “Systems Programming”, TMH Publications, 1991
3. D.M. Dhamdhare, “Systems Programming and Operating Systems “, 2nd Revised Edition, 27th reprint 2008
4. Silberschatz Galvin,”Operating System Concepts”, 5th Edition, 1999.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB III (JAVA)

Semester III

Subject Code: 13UCT13

Credit: 2

Total Hrs: 52

1. 1. Write a Java program to determine the sum of the following harmonic series for a given value of 'n'.
$$1 + 1/2 + 1/3 + \dots + 1/n$$
2. Write a program to perform the following operations on strings through interactive input.
 - a) Sort given strings in alphabetical order.
 - b) Check whether one string is sub string of another string or not.
 - c) Convert the strings to uppercase.
3. Write a program to identify a duplicate value in a vector.
4. Create two threads such that one of the thread print even no's and another prints odd no's up to a given range.
5. Define an exception called "Marks out Of Bound" Exception that is thrown if the entered marks are greater than 100.
6. Write a JAVA program to shuffle the list elements using all the possible permutations.
7. Create a package called "Arithmetic" that contains methods to deal with all arithmetic operations. Also, write a program to use the package.
8. Write an Applet program to design a simple calculator.
9. Write a program to read a text and count all the occurrences of a given word. Also, display their positions.
10. Write an applet illustrating sequence of events in an apple.
11. Illustrate the method overriding in JAVA.
12. Write a program to fill elements into a list. Also, copy them in reverse order into another list.
13. Write an interactive program to accept name of a person and validate it. If the name contains any numeric value throw an exception "InvalidName".

14. Write an applet program to insert the text at the specified position.
15. Prompt for the cost price and selling price of an article and display the profit (or) loss percentage.
16. Create an anonymous array in JAVA.
17. Create a font animation application that changes the colors of text as and when prompted.
18. Write an interactive program to wish the user at different hours of the day.
19. Simulate the library information system i.e. maintain the list of books and borrower's details.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB IV – RDBMS and ORACLE
Semester III

Subject Code: 13UCT14

Credit: 2
Total Hrs: 52

1. DDL commands.
2. DML commands.
3. TCL commands.
4. Query for NOT NULL, CHECK, UNIQUE constraints.
5. PL/SQL program to check the given number is odd or even.
6. Query for DATE, ARITHMETIC, NUMBER functions in SQL operations.
7. JOIN operations.
8. PL/SQL program to find the given number is prime or not.
9. Query for set operators.
10. PL/SQL program to display the Fibonacci series for a given number.
11. Query for following i) ROWID ii) SYNONYM iii) SEQUENCE.
12. PL/SQL program for user-defined exception to evaluate the commission.
13. PL/SQL program using functions to display the factorial of the given number.
14. PL/SQL program to calculate the average of 1 to 100 numbers.
15. PL/SQL program to reverse a given number.
16. Program for grouping a data.
17. PL/SQL program to check the given string is palindrome or not.
18. PL/SQL block to delete and update using trigger.
19. Query for the HAVING clause.
20. Query for CONVERSION and GROUP function.
21. PL/SQL program for cursor with parameter.
22. Query for GROUP BY clause.
23. Program for personal details using vb as frontend and oracle as backend.
24. Program for student mark list using vb as frontend and oracle as backend.

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DEPARTMENT OF COMPUTER TECHNOLOGY
Skill Based MAJOR ELECTIVE I - VISUAL BASIC LAB
Semester III

Credit: 2

Subject Code: 13UCTSA01

Total Hours: 13

Objective: On Successful Completion of this subject the students should have:

- Writing Programming ability on Visual Basic.

- Student Information system using DAO
- Library Information System using DAO
- Payroll processing system using ADO
- Calculator Using Indexing
- EB Bill processing system using ADO

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DEPARTMENT OF COMPUTER TECHNOLOGY
Skill Based MAJOR ELECTIVE LAB I - FLASH
Semester III

Subject Code: 13UCTSB01

Credit: 2

Total Hours: 13

Objective: On Successful Completion of this subject the students should have:

- Writing Programming ability on Flash.

- Volcano Eruption
- Drawing and Creating Text with Effects
- Rotating Globe
- Fog Effect
- Lightning Effect
- Animated Effect
- Raining Effect

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Department	Computer Technology	
Course	B. Sc. C. T	Effective From the Year: 2014-15
Subject Code & Title	13UCT15 & WEB TECHNOLOGY (PHP and MySQL)	Semester: IV
Hrs/Week:	5 Hrs	Credit: 4
Objectives	To impart knowledge about PHP Coding and SQL Queries.	
Unit	Content	Hrs
Unit I	Introducing PHP: History – Unique features – Basic Development Concepts – Creating your First PHP Script – Sample Applications. Using Variables and Operators: Storing Data in Variables – Understanding PHP's Data types – Setting and Checking Variable Data Types – Using Constants – Manipulating Variables with Operators – Handling Form Input.	13
Unit II	Controlling Program Flow: Writing Simple Conditional Statements – Writing More Complex Conditional Statements – Repeating Actions with Loops – Working with String and Numeric Functions. 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.	13
Unit III	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 – Performing Other File and Directory Operations.	12
Unit IV	Working with Databases and SQL: Introducing Databases and SQL – Creating and Populating a Database – Using PHP's MySQLi Extension – Adding or Modifying Data – Handling Errors. Using PHP's SQLite Extension – Using PHP's PDO Extension – Using a MySQL Database – Switching to a different Database.	13

Unit V	Working with Cookies, Sessions and Headers: Working with Cookies – Saving and Restoring User Preferences – Working with Sessions – Using HTTP Headers. Handling Errors: Handling Script Errors – Using Exceptions – Validating form Input – Logging Errors – Debugging Errors.	14
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Text Book:

1. Vikram Vaswani, “PHP: A Beginner’s Guide”, TataMcGraw Hill Pub, 2009, Second Reprint 2009.

Reference Books:

1. Tim Converse, “PHP 4 Bible”, IDG Books Worldwide, INC, An International Data Group Company.
2. Rasmus Lerdorf, Kevin Tatroe “Programming PHP”, O'Reilly Media, March 2002.
3. Luke Welling; Laura Thomson, “PHP and MySQL® Web Development”, Fourth Edition, Addison-Wesley Professional.

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Department	Computer Technology	
Course	B.Sc. C.T	Effective From the Year: 2014-2015
Subject Code & Title	13UCT16 & INTRODUCTION TO WEB DESIGNING(HTML, DHTML, XML and JAVASCRIPT)	Semester: IV
Hrs/Week:	5 Hrs	Credit: 4
Objectives	To impart knowledge about the Internet, Web Browsers, Web Page Creation using Scripting Languages	
Unit	Content	Hrs
Unit I	HTML and Graphics: Document Structure Tags – Formatting Tags – List Tags – Hyper Link Tags – Image and Image maps Image Maps: Client-Side Image Maps – Server-side Image Maps – Using Server-side and Client-Side Image maps together. Tables: Introduction – The Table Tags – Alignment – Controlling Other Table Attributes – Spanning Multiple Rows and Columns – Table Section and Column Properties.	14
Unit II	Frames: Introduction – Setting up a Frames Document – Placing Content in Frames with the <FRAME> Tag – Creating Floating Frames – Using Hidden Frames. Forms: Creating Forms – Labeling Input Fields –Form Field Event Handlers – Passing Form Data. Style Sheets: Linking to Style Information in a Separate File – Embedded Style Information – Inline Style Information – Tips for Style Users.	14
Unit III	Introduction to Java Scripting – Introduction – The Java Script Language – Programming with Java Script –Java Script and Web Browsers. The Web Browser Object Model: The Window – Location– History – Document – Link, Area and Anchor – Form – Image – Java Script Objects	13

Unit IV	Introduction to DHTML: Web Page Layout and Content Positioning – Dynamic Styles with Cascading Style Sheets – Dynamic Fonts. Advanced Microsoft Dynamic HTML: Microsoft’s Implementation of DHTML – Internet Explorer Document Object Model – Dynamic HTML Events and the Event Object – Using Dynamic HTML and the Data Source Object – Position HTML Elements with Dynamic HTML – DHTML Filters – Microsoft Scriptlets.	13
Unit V	XML Overview – Linking with XML - Using Style sheets with XML - Anatomy of an XML Document: XML Markup – A Sample XML Documents – Logical Structure – Physical Structure – Markup Declarations – Element Markup – Attribute Markup – Naming Rules – Comments. Creating XML Documents: Markup Declarations – Element Declarations – Element Content Models – Attribute Declarations. Creating XML Document Type Definitions: DTDs Validation-Document Type Declarations-Standalone XML Documents-Developing the DTD from XML.	11

Text Book:

1. Erric Ladd, Jim O’Donnell, “Using Html 4, Xml, Java 1.2”, Platinum Edition, Fourth Printing.

Reference Books:

1. Atul Kahate, “Web Technologies”, Tata McGraw Hill, Sixth Reprint, 2007.
2. Steven Holzner, “XML Complete”, Tata McGraw Hill, ISBN: 0-079-13702-4.
3. Mary Gillen, “HTML, Intermediate Skills & Drills”, Icon Logic Publication.

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Department	Computer Technology	
Course	B.Sc.C.T	Effective From the Year: 2014-2015
Subject Code & Title	13UCT17 & DATA COMMUNICATION AND NETWORKS	Semester: IV
Hrs/Week:	5 Hrs	Credit: 4
Objectives	On successful completion to study about network topologies,TCP/IP,ARP,RARP,UDP packets and FTP	
Unit	Content	Hrs
Unit I	Introduction to Data Communications and Networking – Information Encoding – Analog and Digital Transmission Methods – Modes of Data Transmission and Multiplexing – Transmission Errors: Detection and Correction.	13
Unit II	Transmission Media: Guided Media, Unguided Media. Network Topologies: Mesh, Star, Tree, Ring, Bus. Switching Basics- Circuit switching - Packet switching - Message switching - Router and Routing – Factors affecting Routing Algorithms – Approaches to Routing – Network Protocols and OSI Model.	13
Unit III	Local Area Networks (LAN), Metropolitan Area Networks (MAN) and Wide Area Networks (WAN) – Integrated Services Digital Network (ISDN) – X.25 Protocol – Frame Relay – Asynchronous Transfer Mode (ATM).	13
Unit IV	Internetworking Concepts, Devices, Internet Basics, History and Architecture – Ways of Accessing the Internet – An Introduction to TCP / IP, IP, ARP, RARP, ICMP.	13
Unit V	TCP: Features of TCP, Relationship between TCP and IP, Ports and Sockets, TCP Connections, what makes TCP Reliable, TCP Packet Format – User Datagram Protocol (UDP): UDP Packet, Difference between UDP and TCP – Domain Name System (DNS) – Electronic Mail (Email) – File Transfer Protocol (FTP) – Web Browser Architecture.	13

Text Book:

1. Achyut S.Godbole, “Data Communications and Networks”, Tata McGraw-Hill Publishing Company Limited, Eighteenth reprint, 2010. ISBN-13: 978-0-07-047297

Reference Books:

1. Behrouz A. Forouzan, “Data Communications and Networking” – Second Edition Update
TataMcGraw-Hill Publishing Company Limited, Nineteenth reprint, 2007.
2. Andrew S. Tanenbaum, “Computer Networks”, III Edition, Prentice Hall.

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Department	Computer Technology	
Course	B.Sc. C.T	Effective From the Year: 2014-2015
Subject Code & Title	13UCT18 & MICROPROCESSOR AND ALP	Semester: IV
Hrs/Week:	5 Hrs	Credit: 5
Objectives	On successful completion to study about Intel 8086, Intel 386 and 486 microprocessors, Memory and I/O addressing and MOTOROLA microprocessors.	
Unit	Content	Hrs
Unit I	Introduction to Microprocessors: Evolution of microprocessors – Single-chip Microcomputer – Embedded Microprocessors – Bit-Slice Processors – Microprogramming – RISC and CISC Processors – Scalar and Superscalar Processors – Vector Processors – Array Processors – Symbolic Processors – Digital Signal Processors. 16-Bit Intel Microprocessors: Intel 8086 – Pin Description of Intel 8086 – Operating Modes of 8086 – Register organization of 8086 – BIU and EU – Interrupts – 8086 Based Computer System – Addressing Modes of 8086.	13
Unit II	8086 Instruction Set – Instruction Groups – Addressing Mode Byte – Segment Register Selection – Segment Override – 8086 Instructions. Assembly Language Programs for 8086: Largest Number, Smallest Number in a Data Array – Numbers in Ascending and Descending Order – Block Move or Relocation (Byte Move) – Block Move (Word Move) using REP Instruction – Sum of a Series:16-Bit, 32-Bit – Multi byte Addition.	13
Unit III	Intel 386 and 486 Microprocessors: Intel 386 and 486 Microprocessor – 486DX Architecture – Register Organization of 486 Microprocessor – Memory Organization – Operating Modes of Intel 486 – Virtual Memory – Memory Management Unit – Gates – Interrupts and Exceptions – Addressing Modes of 80486 – Pin Configuration – Input devices – Output devices.	13

Unit IV	Memory and I/O Addressing – 8086 Addressing and Address Decoding: Address decoders – ROM addressing decoding - RAM address decoding. Programmable I/O Ports: PPI Intel 8255 and Intel 82C55 – Operating modes of 8255 – BSR – Control groups – Control word – DMA Data Transfer. Other Microprocessors : Pentium Microprocessors – Pentium Pro Microprocessor – Alpha Microprocessor – Cyrix Microprocessors – MIPS Microprocessors – AMD Microprocessors.	13
Unit V	MOTOROLA Microprocessors : MOTOROLA 68000, MOTOROLA 68020, MOTOROLA 68030, MOTOROLA 68040. Interfacing of A/D Converter and Applications: Introduction – Interfacing of ADC 0808 or ADC 0809 to Intel 8086 – Bipolar to Unipolar Converter – Sample and Hold Circuit, LF 398 – Microprocessor-based Measurement and Control of Physical Quantities.	13

Text Book:

1. Badri Ram, “Advanced Microprocessors and Interfacing”, Tata McGraw-Hill Publishing Company Limited, Nineteenth reprint, 2009.

Reference Books:

1. A.K. Ray, K.M. Bhurchandi, “Advanced Microprocessors and Peripherals”, Tata McGraw-Hill Publishing Company Limited, Second Edition, 2007.
2. Douglas Hall, “Microprocessors & Interfacing”, McGraw Hill, Revised 2nd Edition, 2006.
3. John Uffenbeck, “The 8086/88 Family: Design, Programming & Interfacing”, PHI.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB V (WEB TECHNOLOGY)

Semester IV

Subject Code: 13UCT19

Credit: 2

Total Hrs: 52

1. Find the biggest of 3 numbers.
2. Check whether a number is positive or negative.
3. Find the bigger of two numbers using ternary operator.
4. Check whether the given number is odd or even.
5. Find the factorial of a number (while loop)
6. Reverse the digit (Use do while)
7. Display the Fibonacci series for a particular limit.(Use for loop)
8. Check the given letter is vowel or not.
9. Create an Associative Array with Book Details and Display it in a table.
10. Write a program to create an array and try with all array programs.
11. Find the length of a string.
12. Create a form with one text field and submit buttons for string length, string reverse, uppercase.
13. Write a program of function passing two values and add the two values in the function.
14. Write a program of function showing with return value.
15. Create a registration form which contains fields name, Roll No, Gender and a submit button and all the details should be displayed in the server page when the user clicks the submit button.
16. Write a program for Cookies showing expire of cookie.
17. Write a program to display the contents of a file. (use fgetc())
18. Write a program to create a file and write contents to it.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB – VI (WEB DESIGNING)

Semester – IV

Subject code: 13UCT20

Credit: 2
Total Hrs: 52

1. Prepare a webpage for our college using basic HTML tags.
2. Prepare a College Alumni Cell webpage.
3. Prepare a Departmental store details using OL & UL.
4. Prepare Frames which includes 4 html programs.
5. Prepare an Industrial Visit agenda for Two days.
6. Prepare a webpage for seven wonders.
7. Prepare an Advertisement for any one high sale product.
8. Prepare a Bio-data form using DHTML.
9. Prepare an E-Mail creation form using DHTML.
10. Prepare your Proctorial form details using DHTML.
11. Create a home page using xml.
12. Writing XML web Documents which make use of XML Declaration, Element Declaration, Attribute Declaration
13. Usage of Internal DTD, External DTD, Entity Declaration.
14. Design a catalog using XML.
15. Create a java script code block using arrays to generate the current data in words.
16. Create a web page which accepts user information and user commands on the web site to Check if all the text fields have been entered with data else display an alert.
17. Create a web page using two image files, which switch between one another as the mouse Pointer moves over the images.
18. Using Java Script's Window and document objects and their properties and various
19. Methods like alert (), eval (), ParseInt () etc. methods to give the dynamic functionality to HTML web pages
20. Writing Java Script snippet which make use of Java Script's inbuilt as well as user.

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DEPARTMENT OF COMPUTER TECHNOLOGY
Skill Based MAJOR ELECTIVE II - DREAMWEAVER LAB

Semester IV

Subject Code: 13UCTSA02

Credit: 2

Total hrs: 13

Using Dreamweaver,

- Creating a picture gallery
- Creating template
- Creating CSS text rollover
- Creating Mail-To links
- Creating website
- Creating a link to different pages from the same image
- List Menus
- Submit buttons
- Creating Links without an Underline using CSS Styles
- Using CSS Styles
- Working PHP, CSS, JavaScript, JSP, HTML in Dream Weaver.

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DEPARTMENT OF COMPUTER TECHNOLOGY
Skill Based MAJOR ELECTIVE II - CORELDRAW LAB
Semester IV

Subject Code: 13UCTSB02

Credit: 2

Total Hrs: 13

Using CorelDraw,

- Create a Logo
- Create a Flower
- Create a Text effects
- Create a Olympic Ring
- Create a Banner
- Create a Car
- Create a Invitation
- Create a Poster
- Create a Home
- Create a visiting card

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Department	Computer Technology	
Course	B. Sc.(C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT21 & J2EE TECHNOLOGIES	Semester: V
Hrs/Week:	6 Hrs	Credit: 4
Objectives	To get knowledge on Applet, Java Servlets, Servlet chains and Server pages.	
Unit	Content	Hrs
Unit I	Tour of Swing: JApplet- Icons and Labels – Text Fields – Buttons – Combo Boxes - Tabbed Panes – Scroll Panes – Trees – Tables – Exploring Swing.	15
Unit II	Servlet Overview and Architecture, Movement to Server-Side Java –Java Servlet - Practical applications for Java Servlets – Java Servlet Alternatives – Reasons to Use Java Servlets – Java Servlet Architecture. Servlet Basics – The Life Cycle of a Servlet – A Basic Servlet – Basic Servlet Source – Building and Installing the Basic Servlet – The HTML Required to Invoke the Servlet – Dissecting the Basic Servlet.	15
Unit III	Server-Side includes - Servlet chaining: Servlet Chain – Uses for Servlet chain - Invoking a Servlet Chain– A practical Example using Servlet Chaining. Servlets and JDBC: JDBC – Two and Three-tier Database Access Models – JDBC Driver Types – JDBC Basics – A Basic JDBC Servlet.	16
Unit IV	JSP –Java Server Pages — Conditions – Directives – Declarations- Implicit Variables – Scriptlets – Expressions. Servlet Sessions: Session Tracking – Working with Cookies.	16
Unit V	Java Beans – Advantages of Java Beans – Application Builder tools – The BDk – JAR Files – Introspection - Developing a simple bean – Using Bound Properties – Using the Bean Info Interface – Constrained properties – Persistence – Customizer – The Java Beans API.	16

Text Books:

1. Herbert Schildt, "JAVA 2: The Complete Reference", Tata-McGraw Hill, Fifth Edition 2002, ISBN-13: 9780070495432.
2. James Goodwill, "Developing Java Servlets", Techmedia, First Edition 1999. ISBN 81-7635-325-6.

Reference Books:

1. Subrahmanyam Allaramaju, Cedric Buest , Marc Wilcox, Sameer Tyagi , "Professional Java Server Programming J2EE", WROX Press Ltd, 1.3 Edition, 2001, ISBN-13: 978-1861005373.
2. Jayson Falkner and Kevin Jones, "The J2EE Technology Web Tier", Addison-Wesley Professional, 2003, ISBN-13: 978-0321136497.

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Department	Computer Technology	
Course	B. Sc.(C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT22 & COMPUTER GRAPHICS	Semester: V
Hrs/Week:	6 Hrs	Credit: 4
Objectives	To develop knowledge about 2D Geometric Transformations and Algorithms, 2D Viewing, 3D Modeling and Transformation.	
Unit	Content	Hrs
Unit I	Overview of Graphics Systems: Video display devices – Refresh Cathode-Ray Tubes - Raster Scan Displays - Random Scan Display - Color CRT monitors – Direct – View Storage Tubes – Flat Panel Displays – Three – Dimensional Viewing Devices – Raster Scan System - Random Scan System – Input Devices.	15
Unit II	Output Primitives: Points and Lines – Line-Drawing Algorithms – Loading frame Buffer – Line function – Circle-Generating Algorithms. Attributes of Output Primitives: Line Attributes – Color and Grayscale Levels – Area-fill attributes – Character Attributes.	16
Unit III	2D Geometric Transformations: Basic Transformations – Matrix Representations – Composite Transformations – Other Transformations. 2D Viewing: The Viewing Pipeline – Viewing Co-ordinate Reference Frame – Window-to-Viewport Co-ordinate Transformation - 2D Viewing Functions – Clipping Operations- Point, Line: Cohen – Sutherland Line Clipping, Liang – Barsky Line Clipping, Polygon, Curve and Text Clipping	16
Unit IV	3D Concepts: 3D Display Methods - 3D Graphics Packages. 3D Object Representation: Polygon Surfaces – Curved Lines and Surfaces – Blobby Objects. 3D Geometric and Modeling Transformations: Translation – Rotation – Scaling – Other Transformations.	15
Unit V	Visible – Surface Detection Methods: Classification of Visible – Surface Detection Algorithms – Depth –Buffer Method – Scan –Line Method - Depth – Sorting Method- BSP- Tree Method – Area – Subdivision Method – Octree Method – Ray-Casting Method. Color Models and Color Applications: Standard Primaries and the Chromaticity Diagram – Intuitive Color Concepts – RGB Color	16

	Model – YIQ Color Model – CMY Color Model – HLS color Model – Color Selection and Applications.	
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Text Book:

1. Donald Hearn, M.Pauline Baker, “Computer Graphics”, PHI 2nd edition, ISBN: 81-23-0944-8.

Reference Books:

1. Agarwal, Udit, “Computer Graphics”, S.K. Kataria & Sons, 2nd Edition, 2010, ISBN-13: 9789380027708.
2. Xiang, Plastock, Avadhani, “Computer Graphics”, McGraw Hill, 2nd Edition, 2006, ISBN-13: 9780070601659.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT23 & SOFTWARE ENGINEERING	Semester: V
Hrs/Week:	6 Hrs	Credit: 5
Objectives	To instruct about software development approaches, process models, requirement engineering, building analysis model, design methodologies and software testing.	
Unit	Content	Hrs
Unit I	Introduction to Software Engineering: The evolving role of software - Changing Nature of Software - Software myths. A Generic view of process: Software engineering - A layered technology - a process framework - The Capability Maturity Model Integration (CMMI). Process models: The waterfall model - Incremental process models - Evolutionary process models.	15
Unit II	System Engineering: Computer-Based Systems – The system engineering Hierarchy – System Modeling. Requirements Engineering: A bridge to design and construction- Requirements Engineering Tasks – Initiating the Requirements Engineering Process - Eliciting Requirements – Building the Analysis Model.	16
Unit III	Building the Analysis Model: Requirement analysis – analysis Modeling approaches – Data modeling concepts – Object-Oriented Analysis- Scenario-Based Modeling – Flow-Oriented Modeling – Class-Based Modeling – Creating a Behavioral Model.	16
Unit IV	Design Engineering: Design process and Design quality - Design concepts - the design model. Creating an architectural design: Software architecture - Data design - Architectural styles and patterns - Architectural Design – Mapping Data Flow into a Software Architecture.	15
Unit V	Testing Strategies: A strategic approach to software testing, Test strategies for conventional software, Validation testing, System testing, The art of Debugging. Testing Tactics: Black-Box and White-Box Testing - White-Box Testing - Basis path Testing – Control Structure Testing - Black-Box Testing.	16

Text Book:

1. Roger S. Pressman, “Software Engineering, A Practitioner’s Approach”, McGraw-Hill International Edition 2005, 6th edition, ISBN: 007-124083-7.

Reference Books:

1. Ian Sommerville, “Software Engineering”, Addison Wesley 2004, 7th edition, ISBN-13: 978-0321210265.
2. Stephen Schach, “Software Engineering”, Tata McGraw Hill Publishing Company, New Delhi, 7th Edition, 2007, ISBN-13: 9780070647770.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB - VII (J2EE TECHNOLOGIES)

Semester V

Subject Code: 13UCT24

Credit: 2

Total Hrs: 65

1. Create JTextField and JButton Component for displaying pizza order.
2. Create a program to illustrate the concept of JCheckBox class.
3. Create a program to illustrate the concept of JRadioButton class.
4. Create a JComboBox component for displaying images.
5. Create a JTabbedPane component for displaying login form details.
6. Create a JScrollPane component for displaying provisionary items.
7. Create a JTree component for displaying the list of files and folders in C drive.
8. Create a JTable component for displaying student details.
9. Create a Game login form using various components.
10. Create a JugglerBean.
11. Create a MoleculeBean.
12. Create a program to illustrate the concept of Introspection.
13. Create a bean program to design a simple property of the bean.
14. Create a java program to illustrate the concept of Generic Servlet.
15. Create a java program to illustrate the concept of Http Servlet.
16. Create a java program to illustrate the concept of Servlet chaining.
17. Create a java program to illustrate the concept of Server-side Includes.
18. Create a java program to illustrate the concept of Request Object Method.
19. Create a java program to illustrate the concept of JDBC Connectivity.
20. Create a jsp program to illustrate the concept of Implicit Objects.
21. Create a program to find the factorial of a given number using JSP Conditions.

22. Create a program to illustrate the concept of JSP Directives.
23. Create a program to illustrate the concept of JSP Expressions.
24. Create a program to illustrate the concept of Sessions in JSP.
25. Create a program to illustrate the concept of Cookies in JSP.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB - VIII (COMPUTER GRAPHICS)
Semester V

Subject Code: 13UCT25

Credit: 2

Total Hrs: 65

Graphics:

1. Write a C program to generate a line using DDA Algorithm.
2. Write a C program to generate a line using Bresenham's Line Drawing Algorithm.
3. Write a C program to generate a circle.
4. Write a C program to generate a circle using Mid-point Circle Algorithm.
5. Write a C program to generate an ellipse using Mid-point Ellipse Algorithm.
6. Write a C program to generate different types of lines.
7. Write a program to generate a chessboard using graphics.
8. Illustrate the concept of translation, scaling, rotation.
9. Write a C program for window-to-viewport conversion.
10. Write a C program to illustrate the concept of 2D Reflection.

Multimedia:

11. Create a Sunflower using Adobe Photoshop.
12. Create a Poster using Adobe Photoshop.
13. Enable an onion skin concept using Adobe Photoshop.
14. Create a Calendar using Adobe Photoshop.
15. Create Morphing effects by using Adobe Photoshop.
16. Create a Webpage using Adobe Photoshop.
17. Animate a Flying Butterfly using Macromedia Flash 8.
18. Animate shapes using Macromedia Flash 8.
19. Animate text using Macromedia Flash 8.
20. Animate a Fog effect using Macromedia Flash 8.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCTNA01 & Skill Based Non-Major Elective III- (INTRODUCTION TO HTML)	Semester: V
Hrs/Week:	1	Credit: 2
Objectives	To convey knowledge about the HTML tags, Tables, Frames and Forms in HTML.	
Unit	Content	Hrs
Unit I	Introduction to HTML: What is HTML - Command tags - Quotation Marks – Spacing - New webpage creation - Font type - size - Bold and Italic - Setting color - Text color- Superscript and Subscript.	2
Unit II	Working with Graphics and HTML: Graphics and HTML – Image Alignment – Creating Banner – Adding Horizontal rules – Page layout – Line Breaks – Space between paragraphs – Creating columns.	3
Unit III	Tables in HTML: Creating table – Dividing table into columns – Creating Header – Adding Border – Heading Across two or more columns – Display tables – Changing table's width and height.	3
Unit IV	Forms in HTML: Creating forms – Menus – Radio buttons – Check boxes – Text boxes – Text areas – Password boxes – Submit button.	2
Unit V	Working with Frames: What are frames? – Creating frameset – Creating columns - Creating rows and columns – Adjusting frame margins – Combining framesets – Adjusting border – Space between frames – Hiding or showing borders.	3

Text Book : “HTML 4”, LP Editorial Board, 1st Edition 2004, Reprint 2010.

Reference Book : Mary Gillen, “HTML, Intermediate Skills & Drills”, Icon Logic Publication.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCTNB01& Skill Based Non-Major Elective III – (MULTIMEDIA FUNDAMENTALS)	Semester: V
Hrs/Week:	1	Credit: 2
Objectives	To inculcate knowledge on Multimedia concepts like Text, Graphics, Video Capturing etc.,	
Unit	Content	Hrs
Unit I	Introduction to Multimedia – Multimedia Application goals and Objectives.	2
Unit II	Multimedia Development Team – Possibilities of Multimedia Technology – Multimedia and the Internet.	3
Unit III	Importance of Text in Multimedia Development – Text Format – Font Type – Point Size – Character Formats.	3
Unit IV	Importance of Graphics in Multimedia Development – Kinds of Graphics – Sources of Graphics.	3
Unit V	Importance of Video Capturing, Sound Capturing and Editing – Using Digital video.	2

Text Book:

1. John Villain, Casanova, Louis Moline, “Multimedia- An Introduction”, Prentice hall/ Macmillan Computer Publishing Reprint, 3rd printing Sep - 2002.

Reference Book:

1. John F Koegel Buford, “Multimedia Systems”, Pearson Education, Copyright 1994 by ACM Press.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT26 & VB.NET PROGRAMMING	Semester: VI
Hrs/Week:	6 Hrs	Credit: 4
Objectives	To impart knowledge about IDE of Microsoft Visual Basic.NET, Control Structures, Procedures and Arrays, Files and Streams, ADO.NET and Databases.	
Unit	Content	Hrs
Unit I	Introduction To Visual Basic .NET: Visual Basic .NET- Introduction to Microsoft .NET - .NET Framework and Common Language Runtime. Introduction To The Visual Studio .NET IDE: Introduction – Overview of The Visual Studio .NET IDE - Menu Bar And Toolbar –Visual Studio.NET IDE Windows. Introduction To Visual Basic Programming: Introduction – Simple Programs – Memory Concepts- Arithmetic - Decision Making – Using A Dialog To Display A Message.	15
Unit II	Control Structures: Introduction – Control Structures- If / Then Selection Structure-If / Then / Else Selection Structure – While, Do While / Loop, Do Until / Loop Repetition Structures – Assignment Operators – For Next – Select Case – Do / Loop While – Do/Loop Until – Exit Key Word – Logical Operators. Procedures: Introduction – Modules, Classes and Procedures – Sub Procedures – Function Procedures – Methods – Arguments Promotion – Option Strict and Data Type Conversions – Value Types and Reference Types – Passing Arguments: Pass – By-Value Vs. Pass – By - Reference – Duration of Identifiers – Scope Rules.	16
Unit III	Arrays: Introduction - Arrays - Declaring and Allocating Arrays - Examples - Passing Arrays To Procedures - By Val Vs By Ref. – For Each / Next Repetition Structure. Graphical User Interface Concepts: Introduction – Windows Forms – Event Handling Model – Control Properties and Layout – Labels, Textboxes and Buttons – Group Boxes and Panels – Checkboxes and Radio Buttons – Picture Boxes – Mouse Event Handling – Keyboard Event Handling.	16

Unit IV	Menus – Link Labels – List Boxes and Checked List Boxes – Combo Boxes – Tree Views – List Views – Tab Control –MDI Windows – Visual Inheritance – User Defined Controls. Files and Streams: Introduction – Data Hierarchy – Files and Streams – Classes File and Directory – Creating a Sequential-Access File – Reading Data from a Sequential-Access File - Random-Access Files - Creating a Random-Access File -Writing Data Randomly to a Random-Access File - Reading Data Sequentially from a Random-Access File.	15
Unit V	Database, SQL And ADO. NET: Introduction – Relational Database Model- SQL – ADO.NET Object Model – Programming with ADO.NET – Extracting from a Database – Modifying a Database - Reading and Writing XML Files. ASP.NET, Web Forms and Web Controls: Introduction – Simple HTTP Transaction – System Architecture – Web Controls – Session Tracking.	16

Text Book:

1. H.M. Deitel, P.J.Deitel, T.R.Nieto, “Visual Basic.NET How to Program”, Pearson Education, 2nd Edition, ISBN-13: 9780130389374.

Reference Books:

1. Kogent Learning Solutions Inc., “Net 3.5 Programming: Covering .Net Framework”, Dreamtech Press, 1st Edition, 2010, ISBN-13:9788177228342.
2. Bill Evjen, Jason Beres, et.al, “Visual Basic.Net Programming – Black Book”, Wiley Dream Tech India (p) Ltd. ISBN: 81-265-0254-1.
3. Tim Anderson, “VB.Net programming in Easy Steps”, Dream Tech, 1st Edition, ISBN-13: 9788177221930.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT27 & EMBEDDED SYSTEMS	Semester: VI
Hrs/Week:	6 Hrs	Credit: 5
Objectives	To teach about Embedded Systems on chip, Device Drivers and Interrupt Service Mechanism and Real time operating systems.	
Unit	Content	Hrs
Unit I	Introduction to Embedded System: Embedded System – Processor Embedded into the System – Embedded Hardware units and Devices in a System – Embedded Software in a system – Examples of embedded system – Embedded system on chip and use of VLSI circuit - Classification of embedded systems – Skills required for an embedded System Designer.	16
Unit II	Devices and buses for device networks: I/O Types and Examples – Serial Communication devices: Synchronous, ISO-Synchronous and Asynchronous communication from serial devices – Parallel Device Ports - Timer and counting devices – Watchdog timer – Real time clock – Network Embedded Systems – Serial Bus Communication Protocol.	15
Unit III	Device drivers and Interrupts servicing mechanism: Device drivers – Interrupt servicing mechanism – Context and the periods for context-switching, dead-line and interrupt latency – Device Driver Programming: – Parallel port device drivers – Serial port device drivers – Device drivers for IPTD.	16
Unit IV	Programming concepts and embedded programming in C and C++: Embedded programming in C++ and in Java. Program modeling concepts in single and multi processor systems: Program Models – DFG Models – State Machine Programming Models for Event-controlled Program Flow – Modeling of Multiprocessor Systems.	15

Unit V	Inter – process communication and synchronization of processes. Tasks and Threads: Multiple processes in an application – Multiple Threads Shared Data – Inter process communication. Real time operating systems: Operating system services – Real time operating systems – Basic Design using RTOS – RTOS Task scheduling Models, Interrupt Latency and Response of the Tasks as Performance Metrics.	16
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Text Book:

1. Raj Kamal, “Embedded Systems – Architecture, Programming and Design”, TMH, 2nd Edition, Tenth Reprint 2011, ISBN-13:978-0-07-066764-8.

Reference Books:

1. Daniel w. Lewis, “Fundamentals of Embedded Software”, PHI Education Publications, 2007 Edition, ISBN: 81-7808-604-2.
2. Shibu K V, “Introduction to Embedded Systems”, McGraw Hill Education, 1st Edition, 2009, ISBN-13: 9780070145894.

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Department	Computer Technology	
Course	B. Sc. (C. T)	Effective From the Year: 2015-16
Subject Code & Title	13UCT28 & INFORMATION SECURITY	Semester: VI
Hrs/Week:	6 Hrs	Credit: 5
Objectives	To develop the knowledge about Network Security and Cryptography, Asymmetric Key Algorithms, Internet Security Protocols Intrusion Detection Systems, Network management and electronic mail policy.	
Unit	Content	Hrs
Unit I	Attacks On Computers And Computer Security: Introduction – Need For Security – Security Approaches -Principles Of Security – Types Of Attacks. Cryptography : Concepts and Techniques - Introduction – Plain Text and Cipher Text – Substitution Techniques - Transposition Techniques – Encryption and Decryption – Symmetric and Asymmetric Key Cryptography – Steganography – Key Range And Key Size.	15
Unit II	Symmetric Key Algorithms: Introduction – Algorithm Types And Modes – An Overview Of Symmetric Key Cryptography – Data Encryption Standard (DES): Mechanism of DES – RC5 – Blowfish. Asymmetric Key Algorithms: Digital Signature And RSA: Introduction – Brief History Of Asymmetric Key Cryptography – An Overview Of Asymmetric Cryptography - The RSA Algorithm – Digital Signatures – Knapsack Algorithm.	16
Unit III	Digital Certificate And Public Key Infrastructure (PKI): Introduction – Digital Certificates – Private Key Management- The PKIX Model – Creating Digital Certificates Using JAVA. Internet Security Protocols: Introduction – Basic Concepts – Secure Socket Layer – (SSL) – Secure Hyper Text Transfer Protocol (SHTTP) – Time Stamping Protocol (TSP) – Secure Electronic Transaction (SET): Introduction – Participants – SET Process.	16

Unit IV	Email Security: Working of PGP - S / MIME: Introduction – Cryptographic Algorithms used in S/MIME – Security in GSM – Security in 3G. User Authentication And Kerberos: Introduction – Authentication Basics – Passwords: Introduction – Clear Text Passwords – Certificate Based Authentication – Biometric Authentication – Key Distribution Centre – Security Handshake Pitfalls – Single Sign On (SSO) Approaches.	15
Unit V	Cryptography In JAVA, .NET, And Operating System: Introduction – Cryptographic Solution Using JAVA – Cryptographic Solutions Using Microsoft .NET Framework – Database Security. Network Security Firewalls And Virtual Private Networks (VPN): Introduction – Brief Introduction To TCP/IP – Fire Walls: Introduction – Types of Firewalls: Packet Filters – IP Security – Virtual Private Networks (VPN) – Intrusion.	16

Text Book:

1. Atul Kahate. “Cryptography And Network Security”, 2nd Edition, Tata McGraw-Hill Publication, 2007, ISBN-13: 9780070648234.

Reference Books:

1. Mark Rhodes-Ousley, Roberta Bragg, Keith Strassberg, “Network Security: The Complete Reference”, 2004, Tata McGraw-Hill. ISBN: 0-07-222697-8.
2. William Stallings, “Cryptography and Network Security Principles and Practices”, 4th Edition, 2006, ISBN: 978-81-203-3018-4.
3. Brijendra singh, “Network Security and Management”, 2nd Edition, PHI Publication 2009, ISBN - 13: 9788120339101.

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DEPARTMENT OF COMPUTER TECHNOLOGY
PROGRAMMING LAB IX (VB.NET PROGRAMMING)
Semester VI

Subject Code: 13UCT29

Credit: 2

Total Hrs: 65

VB.NET – Console Application

1. Create a Console Application for a simple stack operation in VB.Net
2. Create a Console Application for a simple queue operation in VB.Net
3. Develop a console application to illustrate the concept of exception handling using VB.Net
4. Develop a console application to illustrate the concept of Hash table using VB.Net
5. Develop a console application to illustrate the concept of Inheritance
6. Develop a console application to illustrate the concept of File handling

VB.NET – Windows Application

7. Develop a Windows Form Application to generate the Bio-Data of a student
8. Develop a Windows Form Application to illustrate the concept of Tree-Node Control
9. Develop a Windows Form Application to perform the operations of a calculator
10. Develop a Windows Form Application to calculate and generate a telephone bill
11. Develop a Windows Forms application to create and generate an E.B. Bill
12. Develop a Windows Form application to for performing the operations of a Banking System.
13. Develop a windows forms application to create a notepad.
14. Create a Windows form application to develop a Basic Login form
15. Create a Windows Form application to develop an Employee Pay slip
16. Create a Windows Form application to develop a Vehicle invoice generation System
17. Create a Windows Form application to develop a Library book issue details system

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DEPARTMENT OF COMPUTER TECHNOLOGY
GUIDELINES FOR INDUSTRIAL ORIENTED PRACTICAL
Semester VI

Subject Code: 13UCT30

Credit: 2

Objectives:

- The aim of the Project work is to acquire practical knowledge on the implementation of the programming concepts studied.
- Each student should carry out individually one Project Work and it may be a work using the software packages that they have learned or the implementation of Concepts from the papers studied or implementation of any innovative idea.
- The Project work should be compulsorily done in the college only under the supervision of the Department staff concerned.

University Exam will be conducted as follows.

- Both the Internal (Respective Guides) and External Examiners should Conduct the Viva-Voce Examination at the last day of the practical session.
- No candidate will be allowed to change the title of the Project work after the completion of End- semester Viva.
- For those absent on genuine grounds a common supplement End-Semester Viva-voce may be conducted at our College by obtaining prior permission from the COE on the recommendations from the HOD before the commencement of the next semester Final Viva.
- Out of 50 marks, 40 for Project Evaluation and 10 for Viva.
- For awarding a pass, a candidate should have obtained 40% of the Total 50 marks.

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Department	Computer Technology	
Course	B. Sc (C.T)	Effective From the Year: 2015-16
Subject Code & Title	13UCTNA02 & Skill Based Non-Major Elective IV – (INTERNET and WEB TECHNOLOGIES)	Semester: VI
Hrs/Week:	1	Credit: 2
Objectives	To convey the concepts about the Internet, Web Browsers, Web Page Creation using scripting Languages	
Unit	Content	Hrs
Unit I	Computer Networks: Basics – Topologies of Networks – Layers in Networking – Switching in Networks – Bridges, Routers and Gateways – Types of Networks – LAN, WAN and MAN.	3
Unit II	The Internet: Basics – Addresses and Names for the Internet, Web Objects and Sites – E-Mail – WWW – File Transfer.	2
Unit III	Web Servers, Browsers and Security: The Web Server – The Proxy Server – Web Browsers – Microsoft Internet Explorer – Firewall – Data Security: Encryption, Digital Signature and Digital Certificate.	3
Unit IV	Creating a Website and the Markup Language (HTML, DHTML and XML): Hypertext and HTML – Dynamic HTML – XML.	3
Unit V	Searching and Web Casting techniques: Introduction – Search Engines – Searching Tools.	2

Text Book:

1. Raj Kamal, “Internet and Web Technologies”, 6th Reprint 2006, TMH Publications.

Reference Books:

1. Atul Kahate, “Web Technologies”, Tata McGraw Hill, 6th Reprint, 2007.
2. Mary Gillen, “HTML, Intermediate Skills & Drills”, IconLogic Publication.

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Department	Computer Technology	
Course	B.Sc. (C.T)	Effective From the Year: 2015-16
Subject Code & Title	13UCTNB02 & Skill Based Non-Major Elective - IV (CORELDRAW IN SIMPLE STEPS)	Semester: VI
Hrs/Week:	1	Credit: 2
Objectives	To inculcate knowledge on Graphics, Shapes, Objects in CorelDraw.	
Unit	Content	Hrs
Unit I	CorelDraw Graphics – Applications – Application window –Drawing Basic Geometric figure.	3
Unit II	Working with Lines: Drawing graphics – Pressure – Sensitive and Preset lines – About outline Tool.	2
Unit III	Working with Objects – Selecting objects – Copying –Duplicating and deleting objects – Selecting color for an object - Positioning objects - Aligning - Distributing objects.	3
Unit IV	Working with Shapes - Working with grids and Guidelines – Modifying the shape of an object.	3
Unit V	Filling Object: Using uniform fills – Fountain fills – Pattern fills – Using Texture fills – Mesh fills – Using fills to Areas.	2

Text Book:

1. “CorelDraw X4 in Simple Steps” Kogent Solution Inc.

Reference Book:

1. Vishnupriya Singh, “CorelDraw X3”, CompuTech Publications Ltd., 2009 Edition.

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