AMBIGA COLLEGE OF ARTS AND SCIENCE FOR WOMEN

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

ANNA NAGAR, MADURAI-625 020, TAMIL NADU.

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1.3.2 Average percentage of courses that include experimental learning through project work/field work / internship during last five years

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Summary Report of Courses that include Experimental Learning

SNO	Year	Courses that include Experimental learning through project work
1	2019-2018	24
2	2018-2017	26
3	2017-2016	25
4	2016-2015	23
5	2015-2014	28

1.3.2 Average percentage of courses that include experiential learning through project work/field work / internship during last five years

S. No	Program Name	Program code	Program Name that include experimental learning through project work/field/internship	Years of Offering	Project	Internship	Field work
1	BCA	SCA8	Object Oriented Programming with C ++	2018-2019	✔		
2	BCA	SCA8	Computer Based Financial Accounting	2018-2019	✔		
3	BCA	SCA8	Java Programming	2018-2019	✔		
4	BCA	SCA8	Digital Principles and Computer Organization	2018-2019	✔		
5	BCA	SCA8	Data Structure and Computer Algorithms	2018-2019	✔		
6	BCA	SCA8	Computer Graphics and Multimedia	2018-2019	✔		
7	BCA	SCA8	Operating Systems	2018-2019	✔		
8	B.sc CS	SCS8	Software Engineering	2018-2019	✔		
9	B.sc CS	SCS8	Dot Net Programming	2018-2019	✔		
10	B.sc CS	SCS8	Soft Computing	2018-2019	✔		
11	B.sc CS	SCS8	Computer Networks	2018-2019	✔		
12	B.sc CS	SCS8	Web Technology	2018-2019	✔		
13	B.sc CS	SCS8	Data Mining	2018-2019	✔		

14	B.sc CS	SCS8	Mobile Computing	2018-2019	✔		
15	B.sc CS	SCS8	Java Programming	2018-2019	✔		
16	B.sc CS	SCS8	Android Programming	2018-2019	✔		
17	B.sc CS	SCS8	Software Engineering	2018-2019	✔		
18	B.sc CS	SCS8	Web Technology	2018-2019	✔		
19	B.sc CS	SCS8	Computer Graphics	2018-2019	✔		
20	B.com CA	CCA8	Business Application Programming	2018-2019	✔		
21	B.com CA	CCA8	Data Base Application	2018-2019	✔		
22	B.com CA	CCA8	Introduction to Visual Programming	2018-2019	✔		
23	B.com CA	CCA8	Fundamentals of Internet & Web Technology	2018-2019	✔		
24	B.com CA	CCA8	Introduction to Multimedia and DTP	2018-2019	✔		

2018 -2019

S. No	Name of Course	Name of Programme
1	BCA	Object Oriented Programming with C ++
2	BCA	Computer Based Financial Accounting
3	BCA	Java Programming
4	BCA	Digital Principles and Computer Organization
5	BCA	Data Structure and Computer Algorithms
6	BCA	Computer Graphics and Multimedia
7	BCA	Operating Systems
8	BCA	Software Engineering
9	BCA	Dot Net Programming
10	BCA	Soft Computing
11	BCA	Computer Networks
12	B.sc Computer Science	Web Programming
13	B.sc Computer Science	Data Mining
14	B.sc Computer Science	Advanced Visual Programming
15	B.sc Computer Science	Java Programming
16	B.sc Computer Science	Android Programming
17	B.sc Computer Science	Software Engineering
18	B.sc Computer Science	Web Technology
19	B.sc Computer Science	Computer Graphics
20	B.sc Computer Science	Mobile Application Development
21	B.sc Computer Science	Database management system
22	B.com CA	Introduction to Visual Programming
23	B.com CA	Fundamentals of Internet &

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		Web Technology
24	B.com CA	Introduction to Multimedia and DTP

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Unit I   : Chapters 1 and 2
Unit II   : Chapter 3
Unit III   : Chapters 6 and 7
Unit VI   : Chapter 8
Unit V   : Chapters 9 and 10

Reference Books:

Computer Fundamentals By Anita Goel, Pearon Education India ,2010.

CS 3: Object Oriented Programming with C++
(4 Hours – 4 Credits)

Objectives:
* To inculcate knowledge in object oriented programming concepts.
* To enrich the knowledge in inheritance and virtual functions.

Unit I:

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

Unit II:

Specifying a class – D.f...

Unit IV:

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

Unit V:

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

Text Book:

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

Unit I   : Chapter 1 (Except 1.3, 1.4), Chapter 2 (Only 2.6), Chapter 3 (Except 3.20, 3.21, 3.22) and Chapter 4
Unit II : Chapter 5 (Except 5.18, 5.19), Chapter 6 (Except 6.8, 6.9, 6.10)
Unit III: Chapter 7 and Chapter 8
Unit IV: Chapter 9 and Chapter 10
Unit V: Chapter 11 (Except 11.8) and Chapter 12 (Only 12.2, 12.3 and 12.4)

Reference Books:

1. C++ - The Complete Reference, Herbert Schildt, TMH, 1998.
2. C++ How to Program, Paul Deitel, Harvey Deitel, PHI, Ninth edition (2014).
3. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C —. Pearson Education, 2006.
4. Object-Oriented Programming Using C++, Alok Kumar Jagadev. Amiya Kumar Rath and SatchidanandaDehuri, Prentice-Hall of India Private Limited, New Delhi, 2007.

CS 4: Lab 3: Problem Solving using C++
(6 Hours – 4 Credits)

Section- A

1. Generate prime numbers between the given two numbers.
2. Perform arithmetic operations using Inline function.
3. Accept a three digit number and display it in words.(Example 123 should be printed out as One Two Three)
4. Find the sum of given numbers using function with default arguments.
5. Swap two values using methods of passing arguments in function
6. Prepare a student Record using class and object.
7. Find the area of geometric shapes using function overloading.

Computer Based Financial Accounting:

1. Demonstrate constructor with default arguments.
2. Program using manipulators.
3. Perform operator overloading for Unary minus, unary increment and unary decrement
4. Concatenate two strings using the concept of Binary operator overloading.
5. Perform addition and subtraction of complex numbers using Binary Overloading.
6. Create student mark sheet using single inheritance.
7. Prepare employee information using multiple inheritance.
8. Process employee details using hierarchical inheritance.
9. Implement the concept of Virtual functions.
10. Implement the concept of virtual base class.
11. Sort the given set of numbers using function templates
12. Search the key element in the given set of numbers using class template.
13. Processing mark list using binary file.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.
16. Implement a file handling concept using sequential access.
17. Implement file handling concept using random access

AS 2: Computer based Financial Accounting
(4 Hours – 4 Credits)

Unit I:

Financial Accounting: Meaning, Nature and scope, Limitations – **Accounting Principles** : Basic Concepts and Conventions – Objectives of accounting – Accounting rules.

Unit II:

Books and records : Recording of business transactions – Types of accounts – Journal – Ledger – Journal Vs Ledger, Subsidiary books – Trial balance.

Unit III:

Final Accounts: Introduction – Trading account – Profit and loss account – Balance sheet. (Simple problems)

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Introduction to Tally: Features of Tally 9 – Company info: Create, Select, Alter
se or Shut Company – Ledger Creation: Creating, Displaying, Altering and Deleting.
eatures and F12 – Configuration.

/:

   Voucher Creation: Receipt, Payment, Contra, Journal, Sales, Purchase, Memo,
ay, Alter, Delete, Insert, Statement of Reports: Trail balance, Profit and Loss account,
nce sheet.

t Books

1. Financial Accounts – R.S.N. Pillai and Bagavathi, S.Chand, 2007
         Unit I: Pg. Numbers – 1 to 22
         Unit II : Pg. Numbers – 30 – 65
         Unit III: Pg. Numbers – 154 to 170
2. Tallly (version 9) – C.NellaiKannan, 2007
         Unit IV : Pg. Numbers – 5 to 61
         Unit V : Pg. Numbers – 62 to 102

Reference Books
   1. Comdex Tally 9 – Dr. NamrataAgrawal, Dream Tech Publications
   2. Tally (Accounting Software) S.Palanivel, Margham Publications, 2010

SBS 2: Lab 4:Business Accounting
(2 Hours – 2 Credits)

   I. Company Creation
   II. Ledger Creation
   III. Voucher Creation
            a) Contra voucher
            b) Payment voucher
            c) Receipt voucher
            d) Journal voucher
            e) Purchase voucher
            f) Sales counter
   IV. Reports
            a) Day book
            b) Trail balance
            c) Final Accounts
            d) Purchase Register
            e) Sales Register
            f) Outstanding Receivable
            g) Outstanding Payable
            h) Cheque Printing
            i) Bank Reconciliation Statement

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JAVA Programming:

New Delhi, 2009.
2. Using the Internet the Easy Way, Young Kai Seng, Minerva Publications, First Edition, 2000.
3. Fundamentals of Information Technology By Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd., Revised Edition.

CS 5: Java Programming
(4 Hours – 4 Credits)

Objective:
- To inculcate knowledge in Java programming concepts.
- To provide knowledge in Package and Applet concepts.
- To enrich the knowledge in Multithread and Graphics concepts.

Unit I:

JavaEvolution: Java Features – How Java differs from C and C++ – Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements – Java Environment. **Overview of Java Language:** Simple Java Program – Java Program Structure – Java Tokens – Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants – Variables – Data types – Declaration of Variables – Giving Values to variables – Scope of Variables – Symbolic Constants – Type Casting. **Operators and Expressions**: Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Operator Precedence and Associativity – Mathematical Functions. **Decision Making and Branching:** Decision Making with If statement – Simple If Statement – If else Statement – Nesting If Else Statement – the ElseIf Ladder – The switch Statement – The ?: operator. **Decision Making and Looping:** The while statement – The do statement – The for statement – Jumps in Loops.

Unit II:

Class, Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Finalizer Methods – Abstract Methods and Classes – Visibility Control. Arrays, **Strings and Vectors:** One – dimensional Arrays – creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types. **Interfaces: Multiple Inheritance :** Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

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8. llustrate the concept of Friend function.
9. Demonstrate default constructor ...
10. Demonstrate param...
11. Dem...

Unit III:
    Packages: Java API Packages – Using system Packages – Naming Convention – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package – Hiding Classes – Static Import. **Multithreaded Programming:** Creating Thread – 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.

Unit IV:
    Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax – Exception Handling Code – Multiple Catch Statements – Using Finally Statement – Throwing our own Exceptions – Using Exceptions for debugging. **Applet Programming:** How Applets differ from Applications – Preparing to write Applets – Building Applet Code – Applet Life Cycle – Creating an executable Applet – Designing a WebPage – Applet Tag – Adding Applet to HTML file – Running the Applet.

Unit V:
    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. **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 – I/O 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.

Text Book:
Programming with Java, E.Balagurusamy, A primer, Tata McGraw Hill, Fourth Edition 2008.

       Chapters: Unit I : 1, 2, 3, 4, 5, 6, 7.
                            Unit II : 8, 9, 10.
                            Unit III: 11, 12.
                            Unit IV: 13, 14
                            Unit V:15, 16

Reference Books:
1. Object Oriented Programming Through JAVA- P.Radha Krishna, University Press, 2007.
2. Java and Object-Oriented Programming Paradigm, Debasish Jana, Prentice Hall of India Private Limited, New Delhi, 2008. Edition, July 2014 Reprint.
3. The Complete Reference, Java2, Herbert Schildt, Tata McGraw Hill, Fifth Edition, 2002.
4. Introduction to Java Programming ,K.Somasundaram, Jaico Publications 2013.
5. Core Java - Vol. I – Fundamentals, Cay S. H... edition, 2016.

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Digital Principles and Computer Organization:

CS 6: Lab 5: Java Programming
(4 Hours – 3 Credits)

Write Programs in Java for the following:

Section A
1. To implement a simple temperature conversion program.
2. To perform addition and subtraction of complex numbers using class and objects.
3. To perform volume calculation using method overloading.
4. Using command line arguments, test if the given string is palindrome or not.
5. String manipulation using String Methods (Use of any five String methods are preferred).
6. Write a program to fill names into a list .Also, copy them in reverse order into another list. If the name contains any numeric value throw an exception "Invalid Name"
7. Program to demonstrate the use of any two built-in exceptions in Java.

Section B
1. To perform multiplication of matrices using class and objects.
2. Using multilevel inheritance process student marks.
3. Implement multiple inheritance for payroll processing.
4. Implement interface for area calculation for different shapes.
5. Create a package called "Arithmetic" that contains methods to deal with all arithmetic operators. Also write a program to use the package.
6. Create two threads such that one of the thread generate Fibonacci series and another generate perfect numbers between two given limits.
7. Define an exception called ": Marks Out of bound:" Exception, that is thrown if the entered marks are greater than 100.
8. Program to demonstrate the use of Wrapper class methods.
9. File Processing using Byte stream.
10. File Processing using Character Stream.
11. Write applets to draw the following Shapes:
    (a). Cone (b). Cylinder (c). Square inside a Circle (d). Circle inside a Square
12. Write an applet Program to design a simple calculator.
13. Write an Applet Program to animate a ball across the Screen.

CS 7: Digital Principles and Computer organization
(4 Hours – 4 Credits)

Unit I:
Number Systems and Codes: Binary Number system – Binary to decimal –decimal to binary – hexa decimal – ASCII code – Excess-3 Code – Gray code.
Digital Logic: The Basic Gates – NOT, OR, AND - Universal Logic Gates – NOR, NAND.

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Combinatorial Logic Circuits: Boolean Laws and Theorems. - Sum of method - Truth table to Karnaugh Map – Pairs, Quads, Octets – Don't Care Product-of sums method -Product-of sums Simplifications. Data Processing Multiplexers – Demultiplexers-1-of-16 Decoder – BDC-to-decimal Decoders segment Decoders – Encoders – Exclusive-OR Gates- Parity Generators and Checks

Unit III:

Arithmetic Circuits: Binary Addition- Binary Subtraction – 2'S Com Representation - 2'S Complement Arithmetic – Arithmetic Building Blocks.

Unit IV:

Basic Computer organization and Design: Instruction codes - stored organization - Computer registers and common bus system - Computer instructions and control - *Instruction cycle:* Fetch and Decode - Register reference instructions programmed Control: Control memory organization - Address sequencing, micro instr format and symbolic microinstructions - symbolic micro-program - binary micro-prog

Unit V:

Central Processing Unit :General register organization - stack organiz instruction formats - addressing modes - Data transfer and manipulation - Program con CISC and RISC - Parallel processing - Pipeline- general co. Input-output organiz Peripheral devices - I/O interface - *Memory organization:* Memory hierarchy - M memory - Auxiliary memory.

Text Book

1. Digital Principles and Applications – Donald P Leach, Albert Paul Malvino, Goutamso 8th edition , McGraw-Hill Education, 3rd reprint 2015.
2. Computer System Architecture, M. Morris Mano, Pearson Education, 3rd edition., 20℃

> Unit I: 5: (5.1 to 5.9) and 2: (2.1 to 2.3) Text Book 1
> Unit II: 3: (3.1 to 3.8) and 4: (4.1 to 4.7) Text Book 1
> Unit III: 6: (6.1 to 6.8) Text Book 1
> Unit IV: 5 (5.1 to 5.5) and 7 (7.1 to 7.3) Text Book 2
> Unit V: 8 (8.1 to 8.8), 9 (9.1 to 9.2), Text Book 2 11 (11.1 to 11.5) and 12(12.1 to 12.3)

Reference Books:

1. Digital design, R.AnanthaNatarajan, PHI Learning, 2015.
2. Principles of digital Electronics, K.Meena, PHI Learning, 2013.
3. Digital Computer Fundamentals, Thomas C. Bartee TMH 2007.
4. Digital Circuits and Design, S. Salivahanan and S. Arivazhagan, Vikas Publishers 2005.
5. Computer Organization and Architecture, V.Rajaraman and T.Radhakrishnan, PHI learning, 5th Print, 2015.
6. Computer Organization, Carl HamacherZvonkoVranesicSafwatZaky, McGraw Hill Education, 5th Edition, 11th reprint, 2015.
7. Computer Organization and Architecture. SmrutiR ... ... Education.

Data Structures and Computer Algorithms:

CS 8: Data Structures and Computer Algorithms
(4 Hours – 4 Credits)

Objective:
Learning concept of data structures, including its representation and operations performed on them, which are then linked to sorting, searching and indexing which are performed on them, to increase the knowledge of usage of data structures in algorithmic perspective.

Unit I:
Introduction, Basic Terminology, Elementary date, organization, data structure, Date structure operations, Algorithmic Notation, Control structures, complexity of algorithms, variables, data types.

Unit II:
Arrays: Introduction, Linear arrays, representation of linear arrays in memory, Traversing Linear arrays, Inserting & Deleting, Sorting: Bubble sort, searching: Linear search, Binary search, multidimensional arrays, Pointers, records.

Unit III:
Linked Lists: Introduction, Linked List, representation of Linked list in memory, traversing a linked list, Searching a linked list, Memory allocation, Garbage collection, Insertion into a linked list, Deletion from a linked list.

Unit IV:
Stacks: Introduction, Stacks, array representation of stacks, Linked representation of stacks, Quick sort. Recursion: Tower of Hanoi, Queues: Linked representation of Queues, Deques.

Unit V:
TREES: Introduction, Binary Trees, Representing Binary Trees in Memory, Traversing Binary Trees, Traversal Algorithms using Stacks, Binary Search Trees, Searching and Inserting in Binary Search Trees, Deleting in a Binary Search Tree. Graph: introduction, graph theory terminology, operation on graph.

Text book:
"Data structures", Seymour Lipschutz, Tata Mc-Graw Hill, 2006
UNIT 1: 1.1, 1.2, 1.3, 1.4 , 2.3, 2.4, 2.5, 2.8.
UNIT 2: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11.
UNIT 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
UNIT 4: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12.
UNIT 5: 7.1, 7.2, 7.3, 7.4, 7.5, 7.7, 7.8, 7.9, 8.1, 8.2, 8.6.

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Computer Graphics and Multimedia:

AS 4: Computer Graphics and Multimedia
(4 Hours – 4 Credits)

Unit I:
    Overview of Graphics Systems: Video Display Devices – Raster Scan Systems. Random Scan Systems – Input Devices. **Output Primitives:** Points and Lines – Line Drawing Algorithms – Circle Generating Algorithms – Ellipse Generating Algorithms – Filled Area primitives.

Unit II:
    Attributes of Output Primitives: Line Attributes – Curve Attributes – Color and Gray Scale Levels – Area Fill Attributes –Antialiasing. **Two–Dimensional Geometric Transformations:** Basic Transformations – Matrix Representations – Composite Transformations – Other Transformations – Transformations Between Coordinate Systems.

Unit III:
    Two –Dimensional Viewing : The Viewing Pipeline – Viewing Coordinate Reference Frame – Window –to- Viewport Coordinate Transformation – Two-Dimensional Viewing Functions – Clipping Operations – Point Clipping – Line Clipping – Polygon Clipping – Curve Clipping – Text Clipping – Exterior Clipping.

Unit IV:
    Multimedia hardware & software - Components of multimedia – Text, Image - Graphics – Audio – Video – Animation – Authoring. Color models – XYZ-RGB-YIQ-CMY-HSV Models

Unit V:
    Multimedia communication systems – Multimedia Information Retrieval – Video conferencing – Virtual reality

Text Book
1. Hearn D and Baker M.P, "Computer graphics–C Version", 2ndEdition, Pearson Education, 2004.   (For Units 1to3)
2. Ralf Steinmetz, Klara Steinmetz, "Multimedia Computing, Communications and Applications", Pearson Education, 2004. (For Units 4 and 5)

Reference Books
1. Computer Graphics, Multimedia and Animation – Malay K. Pakhira, Prentice Hall Of India Pvt. Ltd. , New Delhi – 2008.
2. Fundamentals Of Computer Graphics And Multimedia – D. P. Mukherjee, Prentice Hall Of India Pvt. Ltd. , New Delhi – 1999.
3. Siamon J. Gibbs ,Dionysios C. Tsichritzis, "Multimedia programming", Addison Wesley,1995.
4. John Villamil, Casanova ,LeonyFernanadez, Eliar. "Multimedia Graphics". PHI,1998.

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Operating Systems:

Refer...
1. Data structu... Education/Oxford University... In C++, Ellis ...sanni, Dine...
2. Fundamentals of Data structures In C++, Ellis ... University press, 2007.
3. Data Structures using C, Tanaenbaum A.S.,Langram Y. Augestein M.J, ... Education , 2004.
4. Introduction to the Design and Analysis of Algorithms, AnanyLevitin, ... Education 2003.

CS 9: Lab 7: Data Structures and Computer Algorithms
(6 Hours – 4 Credits)
SECTION - A

1. Implementing Stack as an array.
2. Implementing Stack as a linked list.
3. Convert Infix expression to Postfix expression using stack.
4. Convert Infix expression to Prefix expression using Stack.
5. Implementing Queue as an Array.
6. Implement Queue as a linked list.
7. Binary tree traversals.
8. Implement Binary Search Tree.

SECTION - B

1. Linear Search
2. Binary Search
3. Bubble Sort Algorithm.
4. Insertion Sort Algorithm.
5. Merge Sort Algorithm.
6. Quick Sort Algorithm.
7. Selection Sort Algorithm.

CS 10: Operating Systems
(4 Hours – 4 Credits)

Unit I:

Introduction to Operating Systems: Introduction, What is an Operating system, Operating system components and goals, Operating systems architecture. Process Concepts: Introduction, Process States, Process Management, Interrupts, Interprocess Communication.

Unit II:

Asynchronous Concurrent Execution: Introduction, Mutual Exclusion, Implementing Mutual Exclusion Primitives, Software solutions to the Mutual Exclusion Problem, Hardware solution to the Mutual Exclusion Problem, Semaphores. Concurrent Programming: Introduction, Monitors.

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Unit III:

Deadlock and Indefinite Postponement: Introduction, Examples of Deadlock, Related Problem Indefinite Postponement, Resource concepts, Four Necessary conditions for Deadlock, Deadlock solution, Deadlock Prevention, Deadlock Avoidance with Dijkstra's Banker's algorithm, Deadlock Detection, Deadlock Recovery. **Processor Scheduling:** Introduction, Scheduling levels, Preemptive Vs Non-Preemptive Scheduling Priorities, Scheduling objective, Scheduling criteria, Scheduling algorithms.

Unit IV:

Real Memory Organization and Management: Introduction, Memory organization, Memory Management, Memory Hierarchy, Memory Management Strategies, Contiguous Vs Non-Contiguous Memory allocation, Fixed Partition Multiprogrammimg, Variable Partition multiprogramming. **Virtual Memory Management:** Introduction, Page Replacement, Page Replacement Strategies, Page Fault Frequency (PFF) Page replacement, Page Release, Page Size.

Unit V:

Disk Performance Optimization: Introduction, Why Disk Scheduling is necessary, Disk Scheduling strategies, Rotational optimization. **File and Database Systems:** Introduction, Data Hierarchy, Files, File Systems, File Organization, File Allocation, Free Space Management, File Access control.

Text Book:
Operating Systems, Deitel&Deitel.Choffnes, Pearson education, Third edition, 2008.
Unit I : Chapters 1.1, 1.2, 1.12, 1.13 & 3.1 to 3.5
Unit II : Chapters 5.1, 5.2, 5.3, 5.4(up to 5.4.2), 5.5, 5.6 & 6.1, 6.2
Unit III: Chapters 7.1 to 7.10 & 8.1 to 8.7
Unit IV: Chapters 9.1 to 9 6, 9.8, 9.9 & 11.1, 11.5, 11.6, 11.8, 11.9, 11.10
Unit V: Chapters 12.1, 12.4 to 12.6 & 13.1 to 13.8

Reference Books
1. An introduction to Operating systems concepts and Practice, Pramod Chandra P. Bhatt, PHI, Second Edition, 2008.
2. Operating System Concepts, Abraham Silberschatz Peter Galvin Greg Gagne, 6th edition Windows XP Update, Wiley India edition, 2007.
3. Operating Systems Principles and Design, Pal Choudhury, PHI Learning, 2011.
4. Operating Systems, A Concept Based Approach DhananjayM.Dhamdhere Tata McGraw Hill, 3rd Edition, 2012.

Software Engineering:

(4 Hours – 4 Credits)

Objectives
- To acquaint students with the basic concepts and major issues of software engineering
- To impart knowledge on the basic principles of software development life cycle.
- To know the benefits of software analysis, design, testing and documentation efforts

Unit I:
Introduction to Software Engineering: Some Definitions – Some Size factors – Quality and Productivity Factors – Managerial Issues. Planning a Software Project: Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure – Other Planning Activities.

Unit II:
Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing-Level Estimation – Estimating Software Maintenance Costs.

Unit III:
Software Requirements Definitions: The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

Unit IV:
Software Design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections - Design Guidelines.

Unit V:
Verification and Validation Techniques: Quality Assurance – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.Software Maintenance: Enhancing Maintainability During Development – Managerial Aspects of Software Maintenance – Configuration Management – Source-Code Metrics – Other Maintenance Tools and Techniques.

Text book :
Software Engineering Concepts, Richard Fairley, Tata McGrawHill Publishing Company Limited, NewDelhi, 1997.

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DOT NET Programming:

Unit – I : Chapters 1.1 – 1.4, 2.1-2.5
Unit – II : Chapter 3.1 – 3.4
Unit – III : Chapter 4.1 – 4.3
Unit – IV : Chapter 5.1 – 5.9
Unit – V : Chapters 8.1, 8.3 – 8.7, 9.1 – 9.5

Reference Books:
1. Software Engineering – K.L.James, Prentice Hall of India Pvt. Ltd., New Delhi, 2009.
2. Fundamentals of Software Engineering – Rajib Mall, Prentice Hall of India Pvt. Ltd., New Delhi, 2003.
3. Software Engineering – Bharat BhushanAgarwal&SumitPrakashTayal, Firewal Media, New Delhi, 2016.
4. Software Engineering, Jawadekar, Tata McGraw-Hill book Company, 2004.
5. Software Engineering a Practitioner's Approach, Roger S Pressman, Tata McGraw Hill book Company, 6th edition, 2005

CS 13: Dot Net Programming
(4 Hours – 4 Credits)

Objectives:
- To discriminate between procedural and object-oriented programming languages.
- To identify and use the elements in the Visual Basic .Net environment.
- Ability to create simple console and Windows applications using VB .Net.
- Ability to create Database Applications.
- To develop the necessary skill to use a very powerful and popular front-end tool, Visual Basic. Net.

Unit I:

Introduction: .Net Framework- Components of the .Net framework - Introduction to Visual Basic.Net- Features of VB.Net -VB.Net - Program Structure – VB.Net Integrated Development Environment- Types of VB.Net ApplicationsVB.Net Basics: Identifiers-Keywords- Data Types- Variables- Constants and Enumerations- Modifiers- Operators - Statements & Directives.

Unit II:

Control Structures: Decision Making Statement - Loops- Loop Control Statements. Arrays: Arrays- Strings - VB.Net-Collections. Functions & Sub Procedures: Defining a Function – Function Returning a Value – Recursive Function – Param Arrays – Passing Arrays as Function Arguments - Sub Procedures.

Unit III:

Object Oriented Programming Paradigm: Classes & Objects- Interfaces – Delegate – Events - Event Handling - Exception Handling- File Handling.

Unit IV:

.Net Controls: Vb.Net Tool Box- Forms- Textbox- Label- Button- List Box- ComboBox- RadioButton- Check Box- PictureBox - ScrollBar – TrackBar – Container Controls. Advanced Controls: Progress Bar- DateTimePicker – Tree View – The TreeNode Class – ListView -ImageList –Tooltip – Rich Textbox –Timer Control – MDI Form

Unit V:

Dialog Boxes and Menus: Dialog Box- Modal Forms – Menus – Adding Cut, Copy and Paste Functionalities in a Form – Anchoring and Docking Controls in a Form. Database Access: Introduction to ADO.Net – ADO.Net Object Model – Connecting to a SQL Server Database – Cystral Reports

Text Book:

VB.NET Seeds, K.Krishnaveni, S.Sasikala, S.Pradeep Kumar Kenny, KK Publications, 2013.

Chapters:

Unit I	: 1, 2
Unit II	: 3, 4, 5
Unit III	: 6, 7
Unit IV	: 8, 9
Unit V	: 10, 11, 12

Reference Books:

1. Microsoft Visual Basic .NET 2003 Unleashed, Heinrich Gantenbein, SAMs Publications, First Edition, 2004.
2. Programming VB.NET, A Guide For Experienced Programmers, Gary Cornell & Jonathan Morrison, Apress, 2002.
3. Visual Basic .NET Programming Black Book, Steven Holzner, DreamTech Press, 2010.
4. Programming Visual Basic .NET Dave Grundgeiger Publisher: O'Reilly First Edition January 2002.
5. Visual Basic .NET The Complete Reference Jeffrey R. Shapiro, The McGraw–Hill Companies,2002.

Women

Soft Computing:

ES 12: Soft Computing
(5 Hours – 4 Credits)

Objective
- To Learn the various soft computing frame works
- To understand design of various neural networks
- Be exposed to fuzzy logic
- To study the genetic programming.

Unit I:
Introduction, Artificial Intelligence, Artificial Neural Networks, Fuzzy System, Genetic Algorithm and Evolutionary Programming, Swarm Intelligent Systems, Expert Systems: Expert System Architecture.

Unit II:
Introduction to Neural Networks, Biological Inspiration, Biological Neural Network, to Artificial Neural Networks, Classification of ANNs, First-generation Neural Network, Introduction to Second-generation Neural Networks, Introduction to Third-Generation Neural Networks.

Unit III:
Introduction to Fuzzy Logic, Human Learning Ability, Imprecision, and Uncertainty, Undecidability, Probability Theory vs Possibility Theory, Classical Sets and Fuzzy Set, Fuzzy Set Operations, Fuzzy Relations, Fuzzy Composition.

Unit IV:
Introduction to Genetic Algorithms, Genetic Algorithms, Procedures of Ga, Working of Gas.

Unit V:
Introduction to Swarm Intelligence, Background of Swarm Intelligent Systems, Ant Colony System, Working of Ant Colony Optimisation, Ant Colony Optimisation Algorithm for TSP.

Text Book:
"Soft computing with MATLAB programming", N.P.Padhy, S.P.Simon, Oxford University Press, 2015

Unit 1: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7(1.7.1).
Unit 2: 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1.
Unit 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
Unit 4: 7.1, 7.2, 7.3, 7.4.
Unit 5: 8.1, 8.2, 8.3, 8.4, 8.5.

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Computer Networks:

5. Write a program to compute and return the square root of a given number (Without default array function) (Input get Using Form)
6. Write a program to print Fibonacci series using recursion.
7. Write a program to validate given input is date or not and create simple 'birthday countdown' script, the script will count the number of days between current day and birthday
8. Write a program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Upload and Display images in particular directory

Section B:
1. To design an student details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option
2. To design an Employee details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option

Note: Use MySqli or PDO for database connectivity

CS 15: Computer Networks
(5 Hours – 4 Credits)

Unit I:
   Introduction: Uses of Computer Networks - Network Hardware – LAN, MAN and WAN- Network Software - Reference Models- Example Networks.

Unit II:
   Physical Layer: The Theoretical Basis For Data Communication - Guided Transmission media - Wireless Transmission - Communication Satellites- Public Switched Telephone Network- The Mobile Telephone System

Unit III:
   Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction – Elementary data link protocols - Sliding Window Protocols – Example Data Link Protocols.

Unit IV:
   Network Layer: Network Layer Design Issues- Routing Algorithms-Congestion Control Algorithms- Quality of Service –Internetworking.**Transport Layer:** Transport Services – Elements of transport protocols – Performance issues.

Unit V:
   Application layers: Domain name system – Electric mail – The World Wide Web. **Network security:** Cryptography- Symmetric-Key algorithms- Public-Key algorithms – Digital signature.

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Web Technology:

#S1 – 1.WEB TECHNOLOGY
(4 Hours – 5 Credits)

UNIT I

Introduction- History of the Internet-Services and Accessibility -Web-Internet Standards HTML-Introduction - SGML-HTML - Section- Body section- HTML Forms

UNIT II

JAVASCRIPT – Introduction - Language Elements- Objects of JavaScript- Arrays.

UNIT III

VBSCRIPT - Introduction-Embedding VBScript Code in an HTML Document- Variables- Operators- Procedures – Conditional Statements- Constructs Objects and VBScript – Cookies.

UNIT IV

SERVLETS-Introduction-Advantages of Servlets over CGI- Installing Servlet Life Cycle- Servlet API- A Simple Servlet- Handling HTTP GET Requests HTTP POST Requests- Cookies – Session Tracking- Multi-tier Applications-Using Database Connectivity- Servlet Chaining.

UNIT V

JAVA SERVER PAGES (JSP) – Introduction- Advantages of JSP- Developing JSP-Components of JSP – Reading Request Information- Retrieving the Data HTML File to JSP File – JSP Sessions- Cookies- Disabling Sessions.

Text Book:

1. Web Technology – A Developer's Perspective . N.P.Gopalan and J.Akilandeswari. Prentice-Hall of India Pvt. Ltd. New Delhi. 2008.

   UNIT I   Chapters 1 and 4
   UNIT II   Chapter 5

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Data Minning:

e) Email-Id
f) Date Of Birth
g) Mobile

14. To Read Student Details From Xml File
15. To Display Vehicle Details In Tree View Control From Xml File
16. Create Any Application Program Using Menu Server Control
17. To Process Student Database Using **Sqldatasource** Control
18. To Display Employee Details From The Database Using **Sitemapdatasource**
19. To Read And Display Personal Database Using **Xmldatasource** Control
20. Create A Web Page For Your Department
21. Send An Mail

CS17: Data Mining
(5 Hours - 4 Credits)

UNIT I:

Introduction: Data mining application – data mining techniques – data mining case studies the future of data mining – data mining software. **Association rules mining:** Introduction -Basics-task and a Naive algorithm- Apriori algorithm – improve the efficiency of the Apriori algorithm – mining frequent pattern without candidate generation (FP-growth) – performance evaluation of algorithms.

UNIT II:

Data warehousing: Introduction – Operational data sources- data warehousing – Data Warehousing design – Guidelines for data warehousing implementation - Data warehousing - Metadata. **Online analytical processing (OLAP):** Introduction – OLAP characteristics of OLAP system – Multidimensional view and data cube - Data cube implementation – Data Cube operations OLAP implementation guidelines.

UNIT III:

Classification: Introduction – decision tree – over fitting and pruning - DT rules – Naïve Bayes method- estimation predictive accuracy of classification methods - other evaluation criteria for classification method – classification software.

UNIT IV:

Cluster analysis: cluster analysis – types of data – computing distances-types of cluster analysis methods - partitioned methods – hierarchical methods – density based methods – Dealing with large databases – quality and validity of cluster analysis methods – cluster analysis software.

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UNIT V:

Web data mining: Introduction- web terminology and characteristics- locality and hierarchyin the web- web content mining-web usage mining- web structure mining – web mining software. **Search engines:** Search engines functionality- search engines architecture – Ranking of web pages.

Text Books

Introduction to Data mining with case studies, G.K. Gupta, PHI Private limited, New Delhi, 2008.

Unit I : Chapters 1 & 2
Unit II : Chapters 7 & 8
Unit III: Chapter 3
Unit IV: Chapter 4
Unit V : Chapters 5 & 6

Reference Books

1. Data Warehousing, Data Mining & OLAP, Alex Berson and Stephen J. Smith, Tata Mc Graw – Hill Edition, Tenth Reprint 2007.

2. Data Mining Concepts and Techniques, Jiawei Han and Micheline Kamber, Second Edition, Elsevier, 2007.

ES2. 1: Computer Graphics

(5 Hours – 4 Credits)

UNIT I:

A survey of computer graphics: Computer-Aided Design - Presentation Graphics – Computer Art – Entertainment – Education and Training – Visualization – Image Processing – Graphical User Interfaces.

Overview of Graphics Systems: Video Display Devices – Raster Scan Systems – Random Scan Systems – Input Devices – Hard Copy Devices.

UNIT II:

Output Primitives: Points and Lines – Line Drawing Algorithms – Ellipse Generating Algorithms – Filled A~~~ Anna Nagar, ~~~~~ – Circle

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Advanced Visual Programming:

Unit – III	: 5.1 – 5.5
Unit – IV	: 6.1 – 6.11
Unit – V	

Reference Books

1. COMPUTER GRAPHICS, MULTIMEDIA and ANIMATION
   K.PAKHIRA, Prentice Hall of India Pvt. Ltd., New Delhi – 2008
2. FUNDAMENTALS OF COMPUTER GRAPHICS and MULTIME
   D.P.MUKHERJEE, Prentice Hall of India Pvt. Ltd., New Delhi – 1999

CS14 - Lab 8: Advanced Visual Programming
(6 Hours – 4 Credits)

<u>VB</u>

1 Processing Of Telephone Bill Using Data Control

2 Processing Of Student Mark List Using Data Control

3 Processing Of Employee Paybill Using Ado Control

4 Creation Of A Simple Address Book Using Ado Control

5 Creation Of Student Information System Using Dao Control.

6 Program Using Activex Control

<u>VB.NET</u>

1 Console Application Using Simple Programs

2 Console Applications Using Functions

3 Console Applications Using Class

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JAVA Programming:

<u>Flash:</u>
1. Basic tools used in Flash.
2. Develop a Flash application using motion tween.
3. Develop a Flash application using shape tween.
4. Develop a Flash application for ball bouncing using motion guide path.
5. Develop a Flash application for masking effect.
6. Develop a Flash application using layer based animation.
7. Develop a Flash application to represent the growing moon
8. Write action script to play and stop an animation.
9. Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.

CS8: Java Programming
(4 Hours – 4 Credits)

UNIT I:

Introduction : Features of Java Language – Types of Programs – Java Architecture – Literals – Data types – Variables – Structure of Java Program – Comments – Expression and Statements – Type Conversion – Arithmetic Operators – Bitwise Operators – Relational Operators – Logical Operator – Ternary Operator – Operator Precedence.

UNIT II:

Control Structure and Arrays: If...else Statement – Switch Statement – while Statement – do...while Statement – for Statement – Break in Loop – One Dimensional Array – Multi Dimensional Array.

UNIT III:

Class and Interface: Definition – new operator and objects – dot operator – Method Declaration and Calling – Constructors – Instance Variable – this in Constructor – Method Overloading – Passing Objects as Parameters – Sub Class – Method Overriding – Final Class – Method – Variable – Object destruction – Static Class – Method – Variable – Abstract Class – Package – Import Statement – Access modifier – Interfaces.

UNIT IV:

String, Wrapper & Exception classes: Number Class – Character Class – Boolean Class – String Class – String Buffer Class – Types Of Exception – Catching Exception – Rethrowing Exception – User Exception – Finally Block – Checked and Unchecked Exceptions.
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UNIT V:

I/O and Multithreading: I/O Streams – File Class – Byte Stream – Disk File Handling – Memory Handling – Filtered Byte Stream – Random access File – Character Stream – Multithreading – Creations – Thread States – Multithreaded Programming – Thread Priorities – Waiting For Thread – Join Method – Controlling Threads.

Text Book:

Programming in Java2, By Dr.K.Somasundaram , Publisher : First Edition JAICO Publishing House, 2008.

UNIT I: Chapters 1.2 to 1.4, 2.1 To 2.3, 3.1 To 3.4, 4.1 To 4.6

UNIT II: Chapters 5.1 to 5.7, 6.1, 6.2

UNIT III: Chapters 7.1 to 7.9,8.1 To 8.9,9.1 To 9.4

UNIT IV: Chapters 10.1 to 10.3, 12.1 To 12.4, 12.6, 12.7, 14.1, 14.2

UNIT V: Chapters 13.1 to 13.6, 13.10, 13.11, 15.1 To 15.7

Reference Books:

1. Programming with java, E.Balagurusamy TMH, 4th Edition.
2. Java 2- The Complete Reference , Herbert Schildt , 5th Edition(2002) , McGraw Hill Education (India) Private Limited.
3. Programming with Java (Schaum's Outline Series) , John R.Hubbard, , 2nd Edition(2004), McGraw-Hill International Editions.

CS9: Lab 7: Java Programming
(4 Hours – 3 Credits)

Section: A

Write Programs in Java for the following:

1. To implement a simple temperature conversion program.
2. To perform addition and subtraction of complex numbers using class and objects.
3. To perform volume calculation using method overloading.
4. Using command line arguments, test if the given string is palindrome or not.
5. String manipulation using String Methods (Use of any five String methods are preferred).
6. Write a program to fill names into a list .Also, copy them in reverse order into another list. If the name contains any numeric value throw an exception "Invalid Name"
7. Program to demonstrate the use of any two built-in exceptions in Java.

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Android Programming:

ES1.2: Android Programming
(5 Hours – 4 Credits)

UNIT I:

Hello Android: A little background – What Android Isn't -Android: An open Platform for Mobile Development –Native Android Applications –Android SDK Features – Introducing the Open Handset Alliance –What does Android run on? –Why develop for Mobile? –Why develop for Android? –Introducing the Development Framework. **Getting Started:** Developing for Android –Developing for Mobile and Embedded Devices –Android Development Tools. **Creating Applications and Activities:** What Makes an Android Application? –Introducing the Application Manifest File –Using the Manifest Editor –Externalizing Resources –The Android Application Lifecycle –Introducing the Android Application Class –A closer Look at Android Activities.

UNIT II:

Building User Interfaces: Fundamental Android UI Design –Android User Interface Fundamentals –Introducing Layouts –Introducing Fragments –Creating New Views –Introducing Adapters. **Intents and Broadcast Receivers:** Introducing Intents –Creating Intent Filters and Broadcast Receivers. **Using Internet Resources:** Downloading and Parsing Internet Resources –Using the Download Manager.

UNIT III:

Expanding the User experience: Introducing the Action Bar –Creating and Using Menus and Action Bar Action Items –Introducing Dialogs –Introducing Notifications **Advanced User Experience:** Working with Animations –Enhancing your views.

UNIT IV:

Invading the home screen: Introducing Home Screen Widgets –Creating App Widgets– Creating Live Wallpaper **Audio, Video, and Using the Camera:** Playing Audio and Video – Using the camera for Tasking Pictures –Recording Video.

UNIT V:

Databases and Content Providers: Introducing Android Databases –Introducing SQLite – Content Values and Cursors –Working with SQLite Databases –Creating Content Providers – Using Content Providers.**Maps, Geocoding, and Location-Based services:** Using Location-Based Services –Using the Emulator with Location-Based Services –Selecting a Location Provider –Finding your Current Location. **Monetizing, Promoting, and distributing Applications:** Signing and Publishing Applications –Distributing Applications.

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Software Engineering:

CS11: SOFTWARE ENGINEERING**

(5 Hours- 5 Credits)

Unit – I

Introduction to Software Engineering: Some Definitions – Some Size factors – Quality and Productivity Factors – Managerial Issues.

Planning a Software Project: Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure – Other Planning Activities

Unit – II

Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing-Level Estimation – Estimating Software Maintenance Costs.

Unit – III

Software Requirements Definitions: The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

Unit – IV

Software Design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections - Design Guidelines.

Unit – V

Verification and Validation Techniques: Quality Assurance – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.

Software Maintenance: Enhancing Maintainability During Development – Managerial Aspects of Software Maintenance – Configuration Management – Source-Code Metrics – Other Maintenance Tools and Techniques.

Text Book

SOFTWARE ENGINEERING CONCEPTS – RICHARD FAIRLEY – Tata McGraw Hill Publishing Company Limited, NewDelhi 1997

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Computer Graphics:

VI SEMESTER

CS13 Computer Graphics
(6 Hours – 5 Credits)

Unit – I

A survey of computer graphics: Computer-Aided Design - Presentation Graphics - Computer Art – Entertainment – Education and Training – Visualization – Image Processing - Graphical User Interfaces

Overview of Graphics Systems: Video Display Devices – **Raster Scan Systems** – Random Scan Systems – Input Devices – Hard Copy Devices.

Unit – II

Output Primitives: Points and Lines – Line Drawing Algorithms – Circle Generating Algorithms – Ellipse Generating Algorithms – Filled Area primitives

Unit – III

Attributes of Output Primitives: Line Attributes – Curve Attributes – Color and Gray Scale Levels - Area Fill Attributes – Character Attributes – Bundled Attributes – inquiry Functions – Antialiasing

Unit – IV

Two –Dimensional Geometric Transformations : Basic Transformations – Matrix Representations - Composite Transformations – Other Transformations – Transformations Between Coordinate Systems

Unit – V

Two –Dimensional Viewing : The Viewing Pipeline – Viewing Coordinate Reference Frame – Window –to- Viewport Coordinate Transformation – Two-Dimensional Viewing Functions – Clipping Operations – Point Clipping – Line Clipping – Polygon Clipping – Curve Clipping – Text Clipping – Exterior Clipping.

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Mobile Application Development:

Unit II:

NOS Middleware – Peer-to-peer communications – RPC – MOM Middleware – MOM versus RPC - The fundamentals of SQL and relational databases – Server architecture – Stored procedures, triggers and rules.

Unit III:

Online transaction processing – Decision support systems – OLTP versus DSS: programming effort, database needs – Data warehouses – Elements - Hierarchies – Replication versus Direct access – Replication mechanism – EIS/DSS Tools – Client/server transaction processing – transaction models – TP Monitors – Transaction management standards.

Unit IV:

Groupware – Components – Distributed objects and components – CORBA: components – Object Management Architecture – Services – Business objects.

Unit V:

Client/server Distributed system management – components – Management application – The Internet Management Protocols – OSI Management Framework – The Desktop Management Interface – X/Open Management Standards – Client/server application development tools – Client/Server Application Design.

Text book:

Dan Harkey, Jeri Edwards and Robert Orfali, The Essential Client Server Survival Guide, 2nd Edition,. Galgotia Publications Pvt. Ltd., 2000.

Reference books:

1. Dawna Travis Dewire, Client/Server computing, Tata McGraw Hill.
2. Jafferey D. Schank, Novell's guide to Client/Server Application and Architecture, BPB Publications.
3. Robert Orfali, Dan Harkey and Jeri Edwards, The Essential Client/Server Survival Guide, Galgotia Publications Pvt. Ltd., 2002.

ES1.2: MOBILE APPLICATIONS DEVELOPMENT
(5 Hours – 4 Credits)

Unit I :

Introduction to Android – Creating the First Android Project - Using the TextView Control
- Using the Android Emulator - Limitations of the Android Emulator
Basic Widgets - Understanding the Role of Android Application Components - Understanding Activities - Role of the Android Manifest File - Creating the User Interface - Commonly Used Layouts and Controls- Displaying Messages Through Toast -Creating and Starting an Activity - Using the EditText Control .- Choosing Options with CheckBox Choosing Mutually Exclusive Items Using Radi D

Unit II :
Building Blocks for Android Application Design -Laying Out Controls in Containers - Introduction to Layouts - LinearLayout - RelativeLayout - AbsoluteLayout - FrameLayout - TableLayout - Operations Applicable to TableLayout   GridLayout - Specifying Row and Column Position - Adapting to Screen Orientation - Anchoring Controls Defining Layout Utilizing Resources and Media- Resources - Creating Values Resources- Using Drawable Resources – Switching States with Toggle Buttons

Unit III :
Creating an Image Switcher Application - Scrolling Through ScrollView - playing audio – playing video - Using Selection Widgets - Using ListView - Using the Spinner Control - Using the GridView Control - Creating an Image Gallery Using the ViewPager Control

Unit IV :
Displaying and Fetching Information Using Dialogs and Fragments – What are dialogs - Selecting the Date and Time in One Application – Fragments - Creating Fragments with Java Code -Creating Special Fragments

Unit V :
Creating Interactive Menus and ActionBars - Menus and Their Types - Creating Menus Through XML - Creating Menus Through Coding - Applying a Context Menu to a ListView
- Using the ActionBar - Replacing a Menu with the ActionBar - Creating a Tabbed ActionBar - Creating a Drop-Down List ActionBar - Using Databases - Using the SQLiteOpenHelper Class - Accessing Databases with the ADB - Creating a Data Entry Form

Text Book : Android Programming Unleashed, B.M. Harwani, Pearson Education, Inc., I edition 2013

Unit I	:	Chapters 1 and 2
Unit II	:	Chapters 3 and 4
Unit III	:	Chapters 4 and 5
Unit IV	:	Chapter 6
Unit V	:	Chapter 7 and 8

Reference Books :
1. Android Apps for Absolute Beginners – II Edition –Wallace Jackson – Apress - 2013
2. Android Application Development All-in-One For Dummies - Barry A. Burd – 2011 –Wiley
3. The Android book – Imagine Publishing Ltd - 2011

Database management system:

CS 9 Database Management Systems
(6 Hours- 3 Credits)

UNIT – I

OVERVIEW OF DATABASE SYSTEMS: Managing Data – A Historical Perspective – File Systems Versus a DBMS – Advantages of a DBMS – Describing and Storing Data in a DBMS – Queries in a DBMS – Transaction Management – Structure of a DBMS – People Who Work with Databases.

INTRODUCTION TO DATABASE DESIGN: Database Design and ER Diagrams – Entities, Attributes, and Entity Sets – Relationships and Relationship Sets – Additional Features of ER Model – Conceptual Design With the ER Model.

UNIT – II

THE RELATIONAL MODEL: Introduction to the Relational Model – Integrity Constraints over Relations – Enforcing Integrity Constraints – Querying Relational Data – Logical Database Design: ER to Relational – Introduction to Views – Destroying / Altering Tables and Views.

RELATIONAL ALGEBRA AND CALCULUS: Preliminaries – Relational Algebra: Selection and Projection – Set Operations –Renaming – Joins - Division Relational Calculus: Tuple Relational Calculus – Domain Relational Calculus

UNIT – III

SQL:QUERIES, CONSTRAINTS, TRIGGERS: The Form of a Basic SQL Query - UNION, INTERSECT, and EXCEPT – Nested Queries – Aggregate Operators – Null Values – Complex Integrity Constraints in SQL – Triggers and Active Databases – Designing Active Databases

UNIT – IV

SCHEMA REFINEMENT AND NORMAL FORMS: Introduction to Schema Refinement – Functional Dependencies – Reasoning about FD's – Normal Forms – Properties of Decompositions – Normalization – Schema Refinement in Database Design – Other Kinds of Dependencies

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Introduction to Visual Programming:

13. INTRODUCTION TO VISUAL PROGRAMMING (LAB)

1. Write a VB program to perform Arithmetic Operations.
2. Write a VB program using list box to sort the Numbers in ascending and descending order.
3. Write a VB program to calculate simple interest and compound interest values using function.
4. Write a VB program to generate Fibonacci Series.
5. Write a VB program to perform String Manipulation.
6. Write a VB program to Change the Color Using Scrollbar.
7. Write a VB program to perform number checking.
8. Write a VB program to find Item Details.
9. Write a VB program to Create Arithmetic Calculator.
10. Write a VB program using Drive, Directory and list box to open image and text.
11. Write a VB program using menu editor to format files
12. Write a VB program to format font in different styles.
13. Write a VB program to Create Circle Animation.
14. Write a VB program to display student details using DAO.

Fundamentals of Internet nad Web Technology:

24. FUNDAMENTALS OF INTERNET AND WEB TECHNOLOGIES

Objective : This syllabus is focus on the basic knowledge of internet and designing a web pages using scripting languages.

UNIT-I

Computer Networks: Basic of computer Network –Topogies of computer networks- Layers in networking – Types of networks.

Basic of Internet: Internet – History of Internet – Internet services –uses of Internet – protocols – Web concepts

UNIT- II

HTML: Introduction –SGML –Outline of HTML document – Head Section – Body Section – HTML Forms

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Java Scripts : Introduction – Language Elements - Objects of java scripts – Other objects – Arrays

UNIT III

DHTML & CSS: Introductions – CSS-DHMTL document object model and Collections – Event Handling – Filters and Transitions – Data Binding

UNIT IV

XML: Introduction – HTML vs XML –Syntax of XML – XML attributes – XML validation – XML DTD – Building Blocks of XML document – DTD Elements –DTD attributes.DTD entities – DTD validation – XSL – SXL – Transformation – XML Namespace – XML schema

UNIT V

JSP: Introduction – Advantage of JSP – Developing First JSP – Components of JSP – Retrieving data form HTML to JSP – JSP session –cookies

Books for study:

1. Internet and Web Technologies – Rajkamal – Tata MC –Graw Hill Publishing 2002 Chapter 1 (page 10 – 25,31-47)
2. Web Technology – A Developer's Perspective – M.P. Gopalan, J.Akilandeswari, Prentice Hall of India Private Limited Chapters: 1 4,5,7,8,11.

Introduction to Multimedia and DTP:

20. INTRODUCTION TO MULTIMEDIA AND DTP

Objective : This syllabus is designed to demonstrate knowledge of terminology related to desktop publishing, graphics and animation using Photoshop and Corel Draw.

UNIT 1:

Introduction- Media and Data streams- Medium-Main Properties of multimedia system- multimedia: Images and Graphics- Basic Concepts- Computer Image Processing.

Unit –II

Getting started with Photoshop- Photoshop Program window –working with files-Working with images- Images-Image Size- Image Resolution-Editing Images-Color modes –Setting Fore and Background- Making selection –editing selection.

Unit-III

The Painting Tools- Drawing Tools-Retaching Tools-Layers-Layers palette- working with layers-Hiding ,showing & deleting layers-Repositioning layers-Flattening Images-Filters.

Unit –IV:

Corel Draw Basics : Getting Started with Corel Draw –Corel Draw Screen- Property Bar- Handling Files-Views-Drawing and selection- Getting Familiar with Tool Box- Getting Started With Project- Working with object and shapes- Adding effectsto object- Working with text- text tool-Book Cover-Converting Text Type.

Unit V:

Formatting Text –Text editor-Working with Images-Images-Importing Images-Resizing ,Rotating, Skewing and cropping Images-Adding Special effects- Exporting Files-Publishing –Changing Page size-Page Layout and Background- Page Frame-Inserting ,Deleting and renaming Pages-Rulers.

Books for study:

1. Multimedia computing & Applications Ralf stein Metz and Klara Nahrstedt- Pearson Eduction Chaper 2(Page9-17) Chapter4(Page55-80)
2. Comdex-Multimedias and Web design –Vikas Gupta,Dream Tech Press (Page 47-264)

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Project Completion Certificate

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E-mail : contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. P.SWETHA (B6S20288) and Ms.M.AKILANDESWARI (B6S20252) Final year students of **Ambiga College of Arts & Science for Women, Madurai** has done project work in **"ACS INFOTECH MAXMIND"** on the titled as "COLLABORATION OF ONE AND MULTI COMMUNICATION PORTAL ON WEB" towards the fulfillment of the award of "BACHELOR of COMPUTER SCIENCE" on starting from Dec 2018 to Mar 2019.

During that period, **they were found to be sincere and meticulous** in their work. We appreciate their enthusiasm and **dedication towards the work assigned to them.**

We are hopeful that **they will prove to be a good professional** and wish them a grand success for their future.

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E mail contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. K.SOWMIYA (B6S20286)** and **Ms. T.MADHUBALA (B6S20268)** Final year students of **Ambiga College of Arts & Science for Women**, Madurai has done project work in "ACS INFOTECH MAXMIND" on the titled as "IDENTITY BASED PRIVATE MATCHING OVER OUTSOURCED ENCRYPTED DATASETS" towards the fulfillment of the award of "BACHELOR of COMPUTER SCIENCE" on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

We are hopeful that **they will prove to be a good professional** and wish them a grand success for their future.

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E-mail : contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. J.YAASHMIN** (B6S20292) and **Ms. M.MAHALAKSHMI** (B6S20270) Final year students of **Ambiga College of Arts & Science for Women, Madurai** has done project work in **"ACS INFOTECH MAXMIND"** on the titled as "THRESHOLD MULTI-AUTHORITY ACCESS CONTROL SYSTEM IN PUBLIC CLOUD STORAGE " towards the fulfillment of the award of **"BACHELOR of COMPUTER SCIENCE"** on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

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Tel # 0452-4370045 Mob # 9791731874
E-mail: contactus@acsinfomaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. M.ANGELIN PACKIYA** (B6S20054) and **Ms. A.AJITHA** (B6S20052) Final year students of **Ambiga College of Arts & Science for Women,** Madurai has done project work in **"ACS INFOTECH MAXMIND"** on the titled as " WEB TRAFFIC ANALYZER" towards the fulfillment of the award of "**BACHELOR** of **COMPUTER APPLICATION**" on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate **their enthusiasm and** dedication towards the work assigned to them.

We are hopeful that they will prove to be a good professional and wish them a **good success for their** future.

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E-mail : contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. R.M.SUWATHI** (B7#14905) Final year students of **Ambiga College of Arts & Science for Women**, Madurai has done project work in **"ACS INFOTECH MAXMIND"** on the titled as "SECURE FINE-GRAINED ACCESS CONTROL AND DATA SHARING IN THE DYNAMIC CLOUD" towards the fulfillment **of the award of "MASTER of COMPUTER SCIENCE"** on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous **in their work. We** appreciate their **enthusiasm and** dedication towards the work assigned to them.

We are **hopeful** that they will prove to be a good professional and wish them a grand success for **their future.**

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Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. K.SAHANA (B6S20293) and Ms. T.ANITHA (B6S20254) Final year students of Ambiga College of Arts & Science for Women, Madurai has done project work in "ACS INFOTECH MAXMIND" on the titled as "A NOVEL APPROACH FOR CREATING A ZERO BALANCE ACCOUNT AND SECURING OUR ATM PIN USING IMAGE STEGANOGRAPHY" towards the fulfillment of the award of "BACHELOR of COMPUTER SCIENCE" on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

We are hopeful that they will prove to be a good professional and wish them a grand success for their future.

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E-mail : contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. M.Y.NILOFER AFROSE SULTHANA (B6S20273)** and **Ms. M.LAVANYA (B6S20267)** Final year students of Ambiga College of Arts & Science for Women, **Madurai** has done project work in **"ACS INFOTECH MAXMIND"** on the titled as **"PROVIDE END-TO-END SECURE WIRELESS SENSOR NETWORK"** towards the fulfillment of the award of **"BACHELOR of COMPUTER SCIENCE"** on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

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E-mail : contactus@acsmaxmind.com

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. M.SANGEETHA (B6S20070)** and **Ms. R.REVATHI (B6S20068)** Final year students of **Ambiga College of Arts & Science for Women, Madurai** has done project work in **"ACS INFOTECH MAXMIND"** on the titled as "AN EFFICIENT SCALABLE GRAPH BASED RANKING MODEL FOR CONTENT BASED IMAGE RETRIVAL" towards the fulfillment of the award of **"BACHELOR OF COMPUTER APPLICATIONS"** on starting from Dec 2018 to Mar 2019.

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

We are hopeful that they will prove to be a good professional and wish them a grand success for their future.

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Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. C.SANTHIYA (B6S20281)** and **Ms. K.SHALINI (B6S20283)** Final year students of **Ambiga College of Arts & Science for Women. Madurai** has done project work in **"ACS INFOTECH MAXMIND"** on the titled as **"DETECTION AND LOCALIZATION OF MULTIPLE SPOOFING ATTACKERS"** towards the fulfillment of the award of **"BACHELOR of COMPUTER SCIENCE"** on starting from **Dec 2018 to Mar 2019.**

During that period, they were found to be sincere and meticulous in their work. We appreciate their enthusiasm and dedication towards the work assigned to them.

We are hopeful that they will prove to be a good professional and wish them a grand success for their future.

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(HR)

Date: 14-03-2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. P.K.LAKSHMIPRIYA (B6S20266)** and **Ms. 1.S.KAVITHA (B6S20264)** Final year students of Ambiga College of Arts & Science for Women, Madurai has done project work in **"ACS INFOTECH MAXMIND"** on the titled as **FACTORY STATISTICS"** towards the fulfillment of the award of **"BACHELOR of OMPUTER SCIENCE"** on starting from **Dec 2018 to Mar 2019.**

During that period, **they were found to be sincere and meticulous** in their work. We preciate their enthusiasm and **dedication towards the work assigned to them.**

We are hopeful that **they will prove to be a good professional** and wish them a and success for their future.

S. No	Program Name	Program code	Program Name that include experimental learning through project work/field/internship	Years of Offering	Project	Internship	Field work
1	BCA	SCA8	Introduction to internet	2017-2018	✔		
2	BCA	SCA8	Object Oriented Programming with C ++	2017-2018	✔		
3	BCA	SCA8	Java Programming	2017-2018	✔		
4	BCA	SCA8	Digital Principles and Computer Organization	2017-2018	✔		
5	BCA	SCA8	Data Structure and Computer Algorithms	2017-2018	✔		
6	BCA	SCA8	Multimedia	2017-2018	✔		
7	BCA	SCA8	PHP Programming	2017-2018	✔		
8	B.sc CS	SCS8	Software Engineering	2017-2018	✔		
9	B.sc CS	SCS8	Dot Net Programming	2017-2018	✔		
10	B.sc CS	SCS8	Soft Computing	2017-2018	✔		
11	B.sc CS	SCS8	Computer Networks	2017-2018	✔		
12	B.sc CS	SCS8	Web Programming	2017-2018	✔		
13	B.sc CS	SCS8	Data Mining	2017-2018	✔		

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14	B.sc CS	SCS8	Mobile Computing	2017-2018	✔		
15	B.sc CS	SCS8	Java Programming	2017-2018	✔		
16	B.sc CS	SCS8	Operating System	2017-2018	✔		
17	B.sc CS	SCS8	Software Engineering	2017-2018	✔		
18	B.sc CS	SCS8	Web Technology	2017-2018	✔		
19	B.sc CS	SCS8	Computer Graphics	2017-2018	✔		
20	B.sc CS	SCS8	Python Programming	2017-2018	✔		
21	B.sc CS	SCS8	Data Communication and Computer Networks	2017-2018	✔		
22	B.sc CS	SCS8	Multimedia Application	2017-2018	✔		
23	B.com CA	CCA8	Data Base Application	2017-2018	✔		
24	B.com CA	CCA8	Introduction to Visual Programming	2017-2018	✔		
25	B.com CA	CCA8	Fundamentals of Internet & Web Technology	2017-2018	✔		
26	B.com CA	CCA8	Introduction to Multimedia and DTP	2017-2018	✔		

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2017 – 2018 S. No	Name of Course	Name of Programme
1	BCA	Introduction to internet
2	BCA	Object Oriented Programming with C ++
3	BCA	Java Programming
4	BCA	Digital Principles and Computer Organization
5	BCA	Data Structure and Computer Algorithms
6	BCA	Multimedia
7	BCA	PHP Programming
8	BCA	Software Engineering
9	BCA	Dot Net Programming
10	BCA	Soft Computing
11	BCA	Computer Networks
12	B.sc Computer Science	Web Programming
13	B.sc Computer Science	Data Mining
14	B.sc Computer Science	Mobile Computing
15	B.sc Computer Science	Java Programming
16	B.sc Computer Science	Operating System
17	B.sc Computer Science	Software Engineering
18	B.sc Computer Science	Web Technology
19	B.sc Computer Science	Computer Graphics
20	B.sc Computer Science	Python Programming
21	B.sc Computer Science	Data Communication and Computer Networks
22	B.com CA	Multimedia Application
23	B.com CA	Data Base Application
24	B.com CA	Introduction to Visual Programming
25	B.com CA	Fundamentals of Internet & Web Technology
26	B.com CA	Introduction to Multimedia and DTP

Introduction to Internet:

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NME 2 : Introduction to Internet
(2 Hours – 2 Credits - Second Semester)

Unit I :

Introduction to internet-History of internet-Who runs internet?-How internet works?-Information on Internet-Requirements for connecting to Internet-Basic internet terms-HTML-Net Etiquette-Internet Services and Governance-Impact of Internet on Society

Internet Technology and Protocols – Understanding protocols-TCP/IP Protocols-IP Address in Internet-Serial line internet protocol(slip)-point to point protocol(ppp)-Introduction to networking-Networking basics-Networking terms-Network Architecture-Resource sharing-Security-Ethernet-Carrier Sense Multiple Access with Collision Detection(CSMA/CD)-Asynchronous Transfer Mode(ATM)-Types of Networking-Local Area Network-Wide Area Networks(WAN)-Types of Wide Area Networks-Topology-packet Switching-accessing Methods and Technologies-special Consideration for the Blinds-Internet addressing system-Domain name-Client server architecture-popular client servers-Getting connected to internet-Using internet connection wizard-Levels of connectivity.

Unit II :

Introduction world wide web-Evolution of world wide web-Basic features-Web browsers-Popular web browsers-Web servers-Hypertext Transfer protocol(HTTP)-Uniform resource locator(URL)-Search engines-search engine categories-searching criterion-Hypertext

Browsers- What is a browser?-Basic features of web browsers-Running a browser-Working of internet Explorer-Toolbar Buttons -Getting to a web site-working with favorites-working with history-Back and forward buttons- bookmarks -working on the web using the browsers-Customization of Browsers-Netscape Browser-Keyboard shortcuts for working in internet explorer

Unit III

Working with email-e-Mail-Opening of email account-e-mail organization-parts of e-mail Text-Working with Messages-Reading a Message-Reading the Message-Replying to a Message-Forwarding a Message-Deleting a Message-Changing View – Using your Own Stationery-Starting and Addressing a Message-Creating Stationery-Creating a Signature-Attaching a File or an Item to a Message-E-mail Protocols-E-mail Clients-Signature file

Unit IV:-

HTML-Introduction-HTML Command Tags-Quotation Marks-Spacing-Special Symbols-New Web Page Creation Looking at Your Page Creation-Looking at Your Page in a Browser –Defining Web Page-Main Body of the Text-Putting Headers- Adding Paragraph-formatting Text in HTML-Font Type-Font Size-Using Big and Small-Using

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Object Oriented Programming with C ++:

CS4: Lab 3: Object Oriented Programming with C++
(6 Hours - 4 credits)

Section A

1. Printing Prime numbers between two given numbers.
2. Printing 3 digit numbers as a series of words. *(Ex. 543 should be printed out as Five Four Three).*
3. Finding area of geometric shapes using function overloading.
4. Inline functions for simple arithmetic operations.
5. Demonstrating the use of Pre-defined Manipulators.
6. Demonstrating the use of friend function.
7. Creating student mark list using array of objects,
8. Demonstrating constructor overloading.
9. Overloading the unary – operator.
10. Demonstrating single inheritance.
11. Demonstrating the use of **"this"** pointer.
12. Designing our own manipulator.
13. Illustrating function templates.
14. Illustrating class templates.

Section B

1. Overloading the binary + operator.
2. Demonstrating Multiple inheritance.
3. Demonstrating Multilevel inheritance.
4. Demonstrating Hierarchical inheritance.
5. Demonstrating Virtual functions.
6. Processing mark list using binary file.
7. Count number of objects in a file.
8. Demonstrating the use of Command-line arguments.

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Java Programming:

New Delhi, 2009.
2. Using the Internet the Easy Way, Young Kai Seng, Minerva Publications, First Edition, 2000.
3. Fundamentals of Information Technology By Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd., Revised Edition.

CS 5: Java Programming
(4 Hours – 4 Credits)

Objective:
- To inculcate knowledge in Java programming concepts.
- To provide knowledge in Package and Applet concepts.
- To enrich the knowledge in Multithread and Graphics concepts.

Unit I:
JavaEvolution: Java Features – How Java differs from C and C++ – Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements – Java Environment. **Overview of Java Language:** Simple Java Program – Java Program Structure – Java Tokens – Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants – Variables – Data types – Declaration of Variables – Giving Values to variables – Scope of Variables – Symbolic Constants – Type Casting. **Operators and Expressions:** Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Operator Precedence and Associativity – Mathematical Functions. **Decision Making and Branching:** Decision Making with If statement – Simple If Statement – If else Statement – Nesting If Else Statement – the ElseIf Ladder – The switch Statement – The ?: operator. **Decision Making and Looping:** The while statement – The do statement – The for statement – Jumps in Loops.

Unit II:
Class, Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Finalizer Methods – Abstract Methods and Classes – Visibility Control. **Arrays, Strings and Vectors:** One – dimensional Arrays – creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types. **Interfaces: Multiple Inheritance :** Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

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8. Illustrate the concept of Friend function.
9. Demonstrate default constructor or
10. Demonstrate param···
11. Demon···

Unit III:
Packages: Java API Packages – Using system Packages – Naming Conven··· Creating Packages – Accessing a Package – Using a Package – Adding a Class to a P··· – Hiding Classes – Static Import. **Multithreaded Programming:** Creating T··· Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a T··· Using Thread Methods – Thread Exceptions – Thread Priority – Synchroniza··· Implementing the Runnable Interface.

Unit IV:
Managing Errors and Exceptions: Types of Errors – Exceptions – Synta··· Exception Handling Code – Multiple Catch Statements – Using Finally Stateme··· Throwing our own Exceptions – Using Exceptions for debugging. **Applet Program···** How Applets differ from Applications – Preparing to write Applets – Building Applet ··· – Applet Life Cycle – Creating an executable Applet – **Designing a WebPage** – Apple ··· – Adding Applet to HTML file – Running the Applet.

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

Text Book:
Programming with Java, E.Balagurusamy, A primer, Tata McGraw Hill, Fourth Editio··· 2008.

Chapters: Unit I : 1, 2, 3, 4, 5, 6, 7.
               Unit II : 8, 9, 10.
               Unit III: 11, 12.
               Unit IV: 13, 14
               Unit V:15, 16

Reference Books:
1. Object Oriented Programming Through JAVA- P.Radha Krishna, University Pres··· 2007.
2. Java and Object-Oriented Programming Paradigm, Debasish Jana, Prentice Hall of India Private Limited, New Delhi, 2008. Edition, July 2014 Reprint.
3. The Complete Reference, Java2, Herbert Schildt, Tata McGraw Hill, Fifth Edition, 2002.
4. Introduction to Java Programming ,K.Somasundaram, Jaico Publications, 2013.
5. Core Java - Vol. I – Fundamentals, Cay S. H··· edition, 2016.

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Multimedia:

Text Book:

Operations Research, S.D.Sharma, Kedar Nath Ram Nath & Co.

UNIT I: Chapter-1(1.1, 1.2, 1.4,1.,1.8,1.9,1.10,1.11)
UNIT II: Chapter-3 (3.1, 3.2, 3.3,3.3.1,3.3.2,3.3.3.,3.3.4,3.4,3.5)
UNIT III: Chapter-5 (5.1,5.2,5.2.1,5.3,5.4,5.5.4)
           Chapter- 7 (7.1,7.2,7.3,7.4)
UNIT IV: Chapter-7 (7.5) (Statements only); 7.6, 7.7
           Chapter 11(11.2,11.3,11.4)
UNIT V: Chapter-12 (12.2 to 12.8)

Reference Books:

1. Operation Research, Nita H.Shah, Ravi M.Gor and Hardik soni,Prentice-Hall of India Pvt. Ltd., New Delhi 2008.
2. Operation Research, R.Sivarethinamohan, Tata McGraw Hill, 2005.

SBS3: Lab 6: Multimedia

(2 hours - 2 Credits)

Photoshop:

1. Basic tools used in Photoshop.
2. Design an image by cutting the objects from 3 files and organize them in a single file and apply feather effects.
3. Design an image by applying mirror effect.
4. Design an image by extracting flower only from given photographic image
5. Design an image by applying Text and Transform Tool.
6. Design an image by using patch or healing brush tool to remove damaged parts of an image.
7. Design an image by applying Color Balance to change the color of an image.
8. Design an image by applying Lighting effect Filter.
9. Design an image by applying Blending options to make a text effect.
10. Design an image by applying rainbow effect.
11. Design an image by applying text masking effect.
12. Design a college id card using any tools.
13. Design a banner for your college with images and text.

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Flash:
1. Basic tools used in Flash.
2. Develop a Flash application using motion tween.
3. Develop a Flash application using shape tween.
4. Develop a Flash application for ball bouncing using motion guide path.
5. Develop a Flash application for masking effect.
6. Develop a Flash application using layer based animation.
7. Develop a Flash application to represent the growing moon
8. Write action script to play and stop an animation.
9. Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.

CS8: Java Programming
(4 Hours – 4 Credits)

UNIT I:

Introduction : Features of Java Language – Types of Programs – Java Architecture – Literals – Data types – Variables – Structure of Java Program – Comments – Expression and Statements – Type Conversion – Arithmetic Operators – Bitwise Operators – Relational Operators – Logical Operator – Ternary Operator – Operator Precedence.

UNIT II:

Control Structure and Arrays: If...else Statement – Switch Statement – while Statement – do...while Statement – for Statement – Break in Loop – One Dimensional Array – Multi Dimensional Array.

UNIT III:

Class and Interface: Definition – new operator and objects – dot operator – Method Declaration and Calling – Constructors – Instance Variable – this in Constructor – Method Overloading – Passing Objects as Parameters – Sub Class – Method Overriding – Final Class – Method – Variable – Object destruction – Static Class – Method – Variable – Abstract Class – Package – Import Statement – Access modifier – Interfaces.

UNIT IV:

String, Wrapper & Exception classes: Number Class – Character Class – Boolean Class – String Class – String Buffer Class – Types Of Exception – Catching Exception – Rethrowing Exception – User Exception – Finally Block – Checked and Unchecked Exceptions.

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PHP Programming:

algorithms
Cryptosystems.

Text book:
Principles of Information Security, Michael E Whitman and Herbert J Mattord, Fourth
Edition, CENGAGE Learning, 6th Indian Reprint, 2013.
    Unit I   : Chapter 1
    Unit II : Chapter 2, 3
    Unit III : Chapter 4
    Unit IV : Chapter 5
    Unit V   : Chapter 7, 8

Reference books:
1. Handbook of Information Security Management, Micki Krause, Harold F. Tipton,
   Vol. 1-3, CRC Press LLC, 2004.
2. Hacking Exposed, Stuart McClure, Joel Scrambray, George Kurtz, Tata McGraw
   Hill, 2003 3. Computer Security Art and Science, Matt Bishop, Pearson/PHI, 2002.
3. Information Security: A Complete Guide to IT Security, RajatKhare, Printice Hall
   India, 2006.
4. Information Security: The Complete Reference, Mark Rhodes-Ousley, 2013.

SBS 5: Lab 10 : PHP and MySQL
(2 Hours – 2 Credits)

Section A:

1. Write a program to compute the sum of the digits of a number. (Input get Using Form)
2. Write a program to inserts a new item in an array in any position. (Input get Using Form)

   Expected Output :

   Original array :

   1 2 3 4 5

   After inserting '$' the array is :

   1 2 3 $ 4 5

3. Write a program to sort the following associative **array** :

   array("Sophia"=>"31","Jacob"=>"41","William"=>"39","Ramesh"=>"40") in

   a) ascending order sort by value
   b) ascending order sort by Key
   c) descending order sorting by Value
   d) descending order sorting by Key
   e) transform a string all uppercase letters.
   f) transform a string all lowercase letters.
   g) make a string's first character of all the words uppercase.

4. Write a program using nested for loop that display a chess board

5. Write a program to compute and return the square root of a given number (Without default array function) (Input get Using Form)
6. Write a program to print Fibonacci series using recursion.
7. Write a program to validate given input is date or not and create simple 'birthday countdown' script, the script will count the number of days between current day and birthday
8. Write a program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Upload and Display images in particular directory

Section B:
1. To design an student details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option
2. To design an Employee details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option

Note: Use MySqli or PDO for database connectivity

CS 15: Computer Networks
(5 Hours – 4 Credits)

Unit I:
Introduction: Uses of Computer Networks - Network Hardware – LAN, MAN and WAN- Network Software - Reference Models- Example Networks.

Unit II:
Physical Layer: The Theoretical Basis For Data Communication - Guided Transmission media - Wireless Transmission - Communication Satellites- Public Switched Telephone Network- The Mobile Telephone System

Unit III:
Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction – Elementary data link protocols - Sliding Window Protocols – Example Data Link Protocols.

Unit IV:
Network Layer: Network Layer Design Issues- Routing Algorithms-Congestion Control Algorithms- Quality of Service –Internetworking.**Transport Layer:** Transport Services – Elements of transport protocols – Performance issues.

Unit V:
Application layers: Domain name system – Electric mail – The World Wide Web. **Network security:** Cryptography- Symmetric-Key algorithms- Public-Key algorithms – Digital signature.

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Soft Computing:

Objective
- To Learn the various soft computing frame works
- To understand design of various neural networks
- Be exposed to fuzzy logic
- To study the genetic programming.

Unit I:
Introduction, Artificial Intelligence, Artificial Neural Networks, Fuzzy System, Genetic Algorithm and Evolutionary Programming, Swarm Intelligent Systems, Expe Systems: Expert System Architecture.

Unit II:
Introduction to Neural Networks, Biological Inspiration, Biological Neural Network to Artificial Neural Networks, Classification of ANNs, First-generation Neural Network Introduction to Second-generation Neural Networks, Introduction to Third-Generati Neural Networks.

Unit III:
Introduction to Fuzzy Logic, Human Learning Ability, Imprecision, and Uncertain Undecidability, Probability Theory vs Possibility Theory, Classical Sets and Fuzzy Se Fuzzy Set Operations, Fuzzy Relations, Fuzzy Composition.

Unit IV:
Introduction to Genetic Algorithms, Genetic Algorithms, Procedures of Ge Working of Gas.

Unit V:
Introduction to Swarm Intelligence, Background of Swarm Intelligent Systems, A Colony System, Working of Ant Colony Optimisation, Ant Colony Optimisation Algorit for TSP.

Text Book:
"Soft computing with MATLAB programming", N.P.Padhy, S.P.Simon, Oxford Universi Press, 2015

Unit 1: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7(1.7.1).
Unit 2: 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1.
Unit 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
Unit 4: 7.1, 7.2, 7.3, 7.4.
Unit 5: 8.1, 8.2, 8.3, 8.4, 8.5.

Computer Networks:

5. Write a program to compute and return the square root of a given number (Without default array function) (Input get Using Form)
6. Write a program to print Fibonacci series using recursion.
7. Write a program to validate given input is date or not and create simple 'birthday countdown' script, the script will count the number of days between current day and birthday
8. Write a program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Upload and Display images in particular directory

Section B:
1. To design an student details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option
2. To design an Employee details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option

Note: Use MySqli or PDO for database connectivity

CS 15: Computer Networks
(5 Hours – 4 Credits)

Unit I:
Introduction: Uses of Computer Networks - Network Hardware – LAN, MAN and WAN- Network Software - Reference Models- Example Networks.

Unit II:
Physical Layer: The Theoretical Basis For Data Communication - Guided Transmission media - Wireless Transmission - Communication Satellites- Public Switched Telephone Network- The Mobile Telephone System

Unit III:
Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction – Elementary data link protocols - Sliding Window Protocols – Example Data Link Protocols.

Unit IV:
Network Layer: Network Layer Design Issues- Routing Algorithms-Congestion Control Algorithms- Quality of Service –Internetworking.**Transport Layer:** Transport Services – Elements of transport protocols – Performance issues.

Unit V:
Application layers: Domain name system – Electric mail – The World Wide Web. **Network security:** Cryptography- Symmetric-Key algorithms- Public-Key algorithms – Digital signature.

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Web Programming:

CS 16: Web Programming
(5 Hours – 4 Credits)

Unit I:
INTRODUCTION: Internet Principles – Basic Web Concepts – Client/Server mo
– retrieving datafrom Internet – HTM and Scripting Languages – Standard Genera
Mark –uplanguages – Next Generation – Internet –Protocols and Applications.

Unit II:
COMMON GATEWAY INTERFACE PROGRAMMING: HTML forms – C
Concepts – HTML tags Emulation – Server – BrowserCommunication – E-mail genera
– CGI client Side applets – CGI server applets– authorization and security.

Unit III:
SCRIPTING LANGUAGES: Dynamic HTML-Cascading style sheets-Object mo
and Event model- Filtersand Transitions-Active X Controls-Multimedia-Client side scrip
VB Scriptprogramming – Forms – Scripting Object.

Unit IV:
SERVER SIDE PROGRAMMING: XML – Server side includes – communicatio
DTD – Vocabularies – DOMmethods – Firewalls– Proxy Servers.

Unit V:
SERVELETS AND JSP: JSP Technology Introduction-JSP and Servelets- Runnin
JSP Applications BasicJSP- JavaBeans Classes and JSP-Tag Libraries and Files- Support in
the ModelView-Controller Paradigm- Case Study- Related Technologies.

Text Books:
1. Deitel H.M. and Deitel P.J., "Internet and World Wide Web How i
   program",Pearson International, 2012, 4th Edition. (Ch-1, 4, 5, 6, 12, 14, 26, 27)
2. Gopalan N.P. and Akilandeswari. J, "Web Technology", PHI,2011. (Ch-1 to 11)
3. Paul Dietel and Harvey Deitel,"Java How to Program", PHI,8th Edition. (Ch-29)

Reference Books:
1. Mahesh P. Matha, "Core Java A Comprehensive study", Prentice Hall ofIndia, 2011
2. UttamK.Roy, "Web Technologies", Oxford University Press, 2011.

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Python Programming:

SBS 5: Lab 10: Python Programming
(2 Hours - 2 Credits)

List of Exercises for Python Programming:
Section: A (Simple programs)

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.

2. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:

Grade A: Percentage >=80
Grade B: Percentage>=70 and <80
Grade C: Percentage>=60 and <70
Grade D: Percentage>=40 and <60
Grade E: Percentage<40

3. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.

4. WAP to display the first 'n' terms of Fibonacci series.

5. WAP to find factorial of the given number.

6. WAP to find sum of the following series for n terms: $1 - 2/2! + 3/3! - - - - - n/n!$

7. WAP to calculate the sum and product of two compatible matrices.

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Data Communication and Computer Networks:

CS15: Data Communication and Computer Networks
(5 Hours – 4 Credits)

Unit I:
Introduction: A Brief History – Applications – Computer Networks – Categories of Networks – Standards and Standards Organizations – Network Architecture – Open Systems and OSI Model – TCP/IP Architecture. **Communication Media and Data Transmission:** Fourier Analysis – Analog and Digital Data Transmission – Modulation and Demodulation – Transmission Media – Wireless Communications – Data Transmission Basics – Transmission Mode – Interfacing – Multiplexing. **Error Detection and Correction:** Types of Errors – Error Detection – Error Correction.
Data Link Control and Protocol Concepts: Flow Control – Error Control – Asynchronous Protocols – Synchronous Protocols – High-Level Data Link Control (HDLC).

Unit II:
Local Area Networks: Types of Networks and Topology –LAN Transmission Equipment – LAN Installation and Performance.
Ethernet: IEEE Standard 802.3 **Token Bus:** IEEE Standard 802.4 **Token Ring:** IEEE Standard 802.5 – Fiber Distributed Data Interface (FDDI) – **Distributed Queue Dual Bus (DQDB):** IEEE Standard 802.6 – LAN Operating Systems and Protocols – Ethernet Technologies.
Wide Area Networks: WAN Transmission Methods – WAN Carrier Types – WAN Transmission Equipments – WAN Design and Multicast Considerations – WAN Protocols.

Unit III:
Integrated Services and Routing Protocols: Integrating Services – ISDN Services – ISDN Topology – ISDN Protocols – Broadband ISDN – Asynchronous Transfer Mode (ATM) – Principal Characteristics of ATM – Frame Relay – Comparison of ISDN, ATM and Frame Relay.
Wireless LANS: WLAN Applications – Wireless LAN Requirements – Planning for Wireless LANs – Wireless LAN Architecture – IEEE 802.11 Protocol Layer – IEEE 802.11 Physical Layer – Designing the Wireless LAN Layout – WAP Services.

Unit IV:
Internet Working: Principles of Internet Working – Routing Principles – Internetwork Protocols (IP) – Shortcomings of IPv4 – IP Next Generation.
TCP Reliable Transport Service: Transport Protocols – The Service TCP Provides to Applications – End –to-End Service and Datagrams – Transmission Control Protocol – User Datagram Protocol.

Unit V:
Network Applications: Client-Server Model – Domain Name System (DNS) – Telnet – File Transfer and Remote File access – Electronic Mail – World Wide

Web (WWW)

Network Management: Goal of Network Management – Network Management Standards – Network Management Model – Infrastructure for Network Management – Simple Network Management Protocol (SNMP).

Text Book:

Data Communications and Computer Networks, Brijendra Singh ,Second Edition, PHI, 2006.

Unit I	:	Chapters 1,2,3,5
Unit II	:	Chapters 6, 7
Unit III	:	Chapters 8, 9
Unit IV	:	Chapters 10,11
Unit V	:	Chapter 12

Reference Books:

1. Computer Networks, Andrew S Tanenbaum, 4th Ed, Prentice Hall of India, 2006.
2. Data Communications and Computer Networks , Prakash C. Gupta, Prentice Hall of India, 2005.
3. Data and Computer Communications, William Stallings, PHI, 2007.
4. Data Communication and Networking ,Behrouz A. Forouzan, TMH, 2005.
5. Data Communications and Networks , Achyut S Godbole, TMH,2005.

CS16: Lab 11: Web Technology

(6 Hours – 4 Credits)

(Select one question from JavaScript and ASP.net)

JavaScript & JSP

1. Write a JavaScript Program To Generate Fibonacci Series
2. Write a JavaScript Program For Checking Palindrome Or Not
3. Write a JavaScript Program To Validate Form
4. Write a JavaScript Program To Create Popup Window
5. An Html Form With A JavaScript Event Handler
6. Write a JavaScript Program To Remove Items From A Dropdown List
7. Write a JavaScript Program To Display A Random Image
8. Write a JavaScript Program To Valid An Email Address.
9. Write a JSP to add the contents of another JSP file using **@include** directive.
10. Write a JSP to check whether the given number is prime or not.
11. Write a JSP to forward one JSP file to another JSP file using **forward** action.

ASP.Net

12. Working with Page and Forms Using Asp .Net.
13. To Create An Account Registration Form And Perform The Following Validation
    a) User Name

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11.Bouncing ball Animation

12.Tree Animation

CORELDRAW EXERCISES

1. Designing a Logo

   1. Designing a Banner

   2. Text Effects

      1. Extrude and Contour Effect

      2. Artistic Effect

      3. Perspective Effect
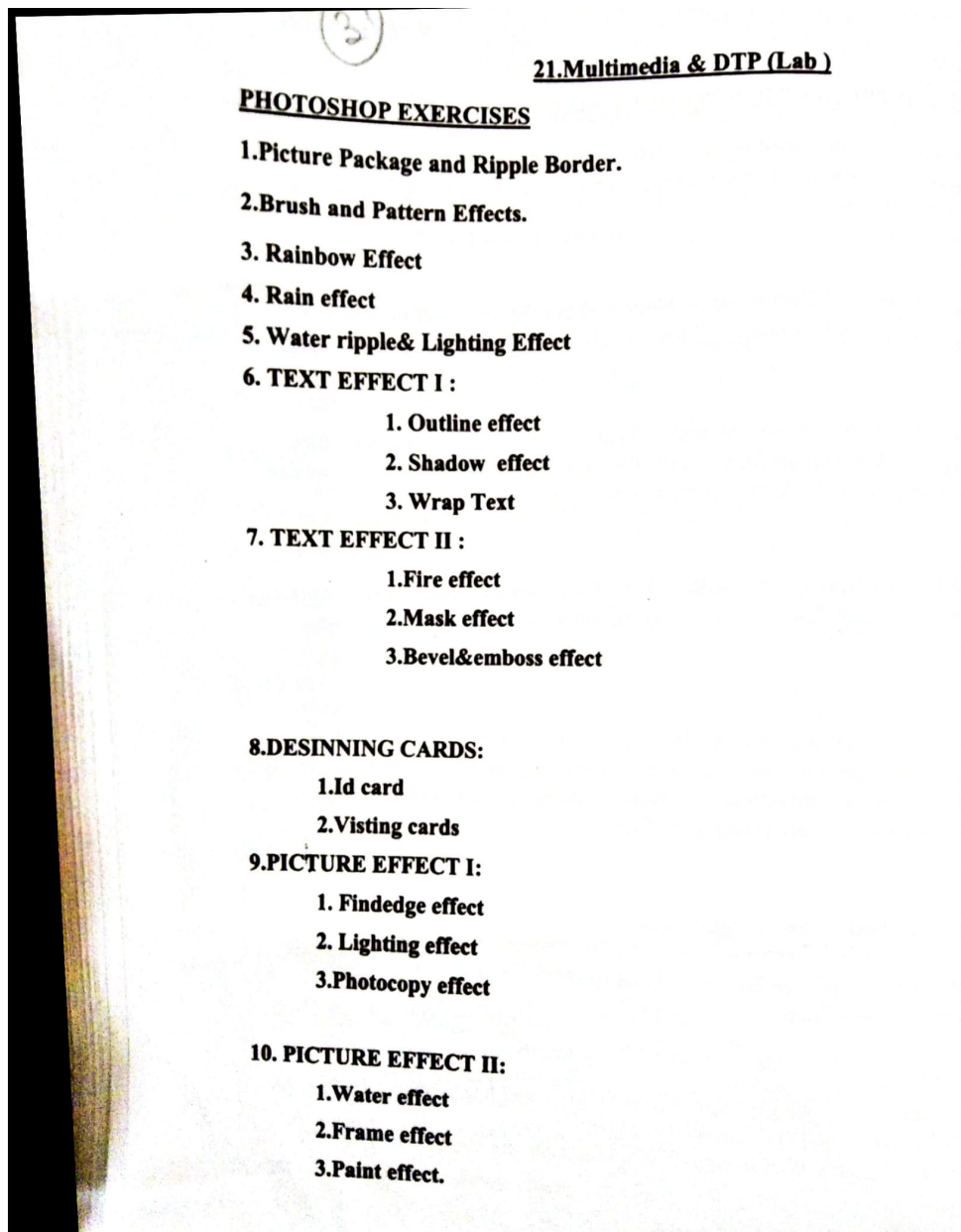
      4. Powerclip Effect

4. CD Design

5. Bitmap Effects

   1. Page curl Effect

   2. Particles Effect

   3. Frame Effect.

6. Designing a Book Cover.

Multimedia Application:

21.Multimedia & DTP (Lab)

PHOTOSHOP EXERCISES

1.Picture Package and Ripple Border.

2.Brush and Pattern Effects.

3. Rainbow Effect

4. Rain effect

5. Water ripple& Lighting Effect

6. TEXT EFFECT I :

       1. Outline effect

       2. Shadow effect

       3. Wrap Text

7. TEXT EFFECT II :

       1.Fire effect

       2.Mask effect

       3.Bevel&emboss effect

8.DESINNING CARDS:

    1.Id card

    2.Visting cards

9.PICTURE EFFECT I:

    1. Findedge effect

    2. Lighting effect

    3.Photocopy effect

10. PICTURE EFFECT II:

    1.Water effect

    2.Frame effect

    3.Paint effect.

Database Applications:

8.DATABASE APPLICATIONS – (ORACLE) Lab

DDL COMMANDS

1. Create a library database/table with the following fields:
sno,accno,title,author,publisher,Pubyear,edition,rate,noc,pubaddr,isbn

2. Clear the screen
3. Show the structure of the library database/table
4. Add the new field purdate to the library table
5. Modify the size of the field rate in the library database.
6. Delete the library table.
7. Check the existence of the table.

DML COMMANDS

8. Insert 5 rows into the library table
9. Display all the records of the library table
10. Display only the book titles and authors for all the books.
11. Display the name and author of all the books which published in the year 200
12. Change the rate of the books from 200 to 500.
13. Change the rate of the book to 350 whose accno is 101.
14. Delete the book whose accno is 102.
15. Delete all the records of the library table.

STRING FUNCTIONS

16. Joining two strings.
17. Convert lowercase of any string
18. Convert uppercase of any string
19. Replace one string to another
20. Apply lpad to any string
21. Apply rpad to any string

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22. Convert first letter is caps in any string
23. Remove left side of any string
24. Remove right side of any string
25. Find the length of any string.
26. Find the ASCII value of any string.

DATE FUNCTIONS

27. Display the current date.
28. Display the current day of the date.
29. Display the current month of the date.
30. Display the current year of the date.
31. Display the current time.
32. Find the next Monday from the current date

NUMERIC FUNCTIONS

33. Find the absolute value of any number.
34. Find the floor value of any number
35. Apply the ceil function
36. Find the round value of any number
37. Find the square root of any number

AGGREGATE FUNCTION

38. Find the largest book rate among books of the library table.
39. Display the book rate which is minimum among all the books.
40. Find the total number of books available in the library.
41. Find the total amount of all the books.
42. Find the average value of all the book rates.

PL/SQL PROGRAMS

1. Odd or Even Number
2. Positive or Negative Number
3. Factorial Number
4. Multiplication Table
5. Display Numbers
6. Prime Number Or Not
7. Armstrong Number Or Not
8. Fibonacci Series
9. Student Mark list Preparation
10. Electricity Bill Preparation

Introduction to Visual Programming:

12.INTRODUCTION TO VISUAL PROGRAMMING

Objective : This syllabus is designed to guide the students in developing applications with GUI interfaces.

UNIT: 1

INTRODUCTION: Starting & Exiting Visual Basic-Using Project Explorer-Working with forms-Using Toolbox-Working with projects-Printing projects-Building & Running applications. ADDIND CODE AND USING EVENTS-Using Code window-Using Naming Conventions-Using variable-Scope-Subroutines & Functions.

UNIT: 2

USING INTRINSIC VISUAL BASIC CONTROLS: Labels & Textbox controls-Using command button control-Using frame, Checkbox, option button controls-List Box and combo Box controls-Formatting controls-Using control Arrays-Using Tab Order. WORKING WITH STRINGS-Using strings-Converting Strings-Concatenating Strings-Formatting Strings-Manipulating Strings-Comparing Strings.

UNIT: 3

WORKING WITH NUMBERS: Using Numeric values-Using Numeric operators-Math functions-Random numbers   USING CONTROL STATEMENTS-If & IIF-Select Case-Do-For-Exit Statements.

UNIT: 4

USING DIALOGUE BOXES:MsgBox-Input Box-Common Dialogue Control-Open & Save as Dialogue Boxes-Color Dialogue Box-Font Dialog Box-Print Dialogue Box-Show Help method. USING MENUS: Creating Menus-Adding code to menu-creating shortcut menu-Using Picture box-Rich text box.

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Unit:5

USING FILES & DATA BASES: Opening, Closing & Deleting files and Readin Writing to files-Building Your Own Active X Controls:First step-Testing the control. Polishing the presentation of your control-Adding the functionality.

BOOKS FOR STUDY:

1. SCOTT WARNER—TEACH YOURSELF VB6—TATA MCGRAWHILL, NEWDELHI, 1999. CHAPTERS: 1—8, 10.1, 10.2

2. GARY CORNELL—VISUAL BASIC 6 FROM GROUNDUP, TMH, NEWDELHI, CHAPTER-6(PAGE 206-214).

BOOK FOR REFERENCE:

Mastering visual Basic6-Evangel Pertoutsos-BPB Publishers.

Fundamentals of Internet & web technology:

PART III
III YEAR

24.FUNDAMENTALS OF INTERNET AND WEB TECHNOLOGIES

Objective : This syllabus is focus on the basic knowledge of internet and designing a web pages using scripting languages.

UNIT-I

Computer Networks: Basic of computer Network –Topogies of computer networks- Layers networking – Types of networks.

Basic of Internet: Internet – History of Internet – Internet services –uses of Internet – protocols – Web concepts

UNIT- II

HTML: Introduction –SGML –Outline of HTML document – Head Section – Body section – HTML Forms

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Java Scripts : Introduction – Language Elements - Objects of java scripts – O[
objects – Arrays

UNIT III

DHTML & CSS: Introductions – CSS-DHMTL document object model and
Collections – Event Handling – Filters and Transitions – Data Binding

UNIT IV

XML: Introduction – HTML vs XML –Syntax of XML – XML attributes – X[
validation – XML DTD – Building Blocks of XML document – DTD Elements –DT[
attributes.DTD entities – DTD validation – XSL – SXL – Transformation – XML
Namespace – XML schema

UNIT V

JSP: Introduction – Advantage of JSP – Developing First JSP – Components o[
– Retrieving data form HTML to JSP – JSP session –cookies

Books for study:

1. Internet and Web Technologies – Rajkamal – Tata MC –Graw Hill Publishing [
   Chapter 1 (page 10 – 25,31-47)
2. Web Technology – A Developer's Perspective – N.P. Gopalan, J.Akilandeswar[
   Prentice Hall of India Private Limited Chapters: 1 4,5,7,8,11.

Introduction to Multimedia and DTP:

20. INTRODUCTION TO MULTIMEDIA AND DTP

Objective : This syllabus is designed to demonstrate knowledge of terminology related to desktop publishing, graphics and animation using Photoshop and Corel Draw.

UNIT 1:

Introduction- Media and Data streams- Medium-Main Properties of multimedia system- multimedia: Images and Graphics- Basic Concepts- Computer Image Processing.

Unit –II

Getting started with Photoshop- Photoshop Program window –working with files- Working with images- Images-Image Size- Image Resolution-Editing Images-Color modes –Setting Fore and Background- Making selection –editing selection.

Unit-III

The Painting Tools- Drawing Tools-Retaching Tools-Layers-Layers palette- working with layers-Hiding ,showing & deleting layers-Repositioning layers-Flattening Images-Filters.

Unit –IV:

Corel Draw Basics : Getting Started with Corel Draw –Corel Draw Screen- Property Bar- Handling Files-Views-Drawing and selection- Getting Familiar with Tool Box- Getting Started With Project- Working with object and shapes- Adding effectsto object- Working with text- text tool-Book Cover-Converting Text Type.

Unit V:

Formatting Text –Text editor-Working with Images-Images-Importing Images-Resizing ,Rotating, Skewing and cropping Images-Adding Special effects- Exporting Files-Publishing –Changing Page size-Page Layout and Background- Page Frame-Inserting ,Deleting and renaming Pages-Rulers.

Books for study:

1. Multimedia computing & Applications Ralf stein Metz and Klara Nahrstedt- Pearson Eduction Chaper 2(Page9-17) Chapter4(Page55-80)_
2. Comdex-Multimedias and Web design –Vikas Gupta,Dream Tech Press (Page 47-264)

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S. No	Program Name	Program code	Program Name that include experimental learning through project work/field/internship	Years of Offering	Project	Internship	Field work
1	BCA	SCA8	Problem Solving using C++	2016-2017	✔		
2	BCA	SCA8	Computer Based Financial Accounting	2016-2017	✔		
3	BCA	SCA8	Java Programming	2016-2017	✔		
4	BCA	SCA8	Digital Principles and Computer Organization	2016-2017	✔		
5	BCA	SCA8	Data Structure and Computer Algorithms	2016-2017	✔		
6	BCA	SCA8	Computer Graphics and Multimedia	2016-2017	✔		
7	BCA	SCA8	Operating Systems	2016-2017	✔		
8	B.sc CS	SCS8	Software Engineering	2016-2017	✔		
9	B.sc CS	SCS8	Dot Net Programming	2016-2017	✔		
10	B.sc CS	SCS8	Soft Computing	2016-2017	✔		
11	B.sc CS	SCS8	Computer Networks	2016-2017	✔		
12	B.sc CS	SCS8	Web Programming	2016-2017	✔		
13	B.sc CS	SCS8	Data Mining	2016-2017	✔		
14	B.sc CS	SCS8	Data Communication and Computer Networks	2016-2017	✔		

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15	B.sc CS	SCS8	Data Mining	2016-2017	✔		
16	B.sc CS	SCS8	Computer Networks	2016-2017	✔		
17	B.sc CS	SCS8	Software Engineering	2016-2017	✔		
18	B.sc CS	SCS8	Web Technology	2016-2017	✔		
19	B.sc CS	SCS8	Computer Graphics	2016-2017	✔		
20	B.com CA	CCA8	Database Application – ORACLE lab	2016-2017	✔		
21	B.com CA	CCA8	Introduction to Multimedia and DTP	2016-2017	✔		
22	B.com CA	CCA8	Introduction to Visual Programming	2016-2017	✔		
23	B.com CA	CCA8	Visual Programming	2016-2017	✔		
24	B.com CA	CCA8	Multimedia Application	2016-2017	✔		
25	B.com CA	CCA8	Fundamentals of Internet and Web technology	2016-2017	✔		

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2016 – 2017

S. No	Name of Course	Name of Programme
1	BCA	Problem Solving using C++
2	BCA	Computer Based Financial Accounting
3	BCA	Java Programming
4	BCA	Digital Principles and Computer Organization
5	BCA	Data Structure and Computer Algorithms
6	BCA	Computer Graphics and Multimedia
7	BCA	Operating Systems
8	BCA	Software Engineering
9	BCA	Dot Net Programming
10	BCA	Soft Computing
11	BCA	Computer Networks
12	BCA	Web Programming
13	BCA	Data Mining
14	BCA	Data Communication and Computer Networks
15	B.sc Computer Science	Data Mining
16	B.sc Computer Science	Computer Networks
17	B.sc Computer Science	Software Engineering
18	B.sc Computer Science	Web Technology
19	B.sc Computer Science	Computer Graphics
20	B.com CA	Database Application – ORACLE lab
21	B.com CA	Introduction to Multimedia and DTP
22	B.com CA	Introduction to Visual Programming
23	B.com CA	Visual Programming
24	B.com CA	Multimedia Application
25	B.com CA	Fundamentals of Internet and Web technology

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Problem Solving using C++:

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

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

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

Unit I : Chapter 1 (Except 1.3, 1.4), Chapter 2 (Only 2.6), Chapter 3 (Except 3.20, 3.21, 3.22) and Chapter 4
Unit II : Chapter 5 (Except 5.18, 5.19), Chapter 6 (Except 6.8, 6.9, 6.10)
Unit III: Chapter 7 and Chapter 8
Unit IV: Chapter 9 and Chapter 10
Unit V: Chapter 11 (Except 11.8) and Chapter 12 (Only 12.2, 12.3 and 12.4)

Reference Books:
1. C++ - The Complete Reference, Herbert Schildt, TMH, 1998.
2. C++ How to Program, Paul Deitel, Harvey Deitel, PHI, Ninth edition (2014).
3. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C —. Pearson Education, 2006.
4. Object-Oriented Programming Using C++, Alok Kumar Jagadev, Amiya Kumar Rath and SatchidanandaDehuri, Prentice-Hall of India Private Limited, New Delhi, 2007.

CS 4: Lab 3: Problem Solving using C++
(6 Hours – 4 Credits)

Section- A

1. Generate prime numbers between the given two numbers.
2. Perform arithmetic operations using Inline function.
3. Accept a three digit number and display it in words.(Example 123 should be printed out as One Two Three)
4. Find the sum of given numbers using function with default arguments.
5. Swap two values using methods of passing arguments in function
6. Prepare a student Record using class and object.
7. Find the area of geometric shapes using function overloading.

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1. Demonstrate constructor with default arguments.
2. Program using manipulators.
3. Perform operator overloading for Unary minus, unary increment and unary decrement
4. Concatenate two strings using the concept of Binary operator overloading.
5. Perform addition and subtraction of complex numbers using Binary Overloading.
6. Create student mark sheet using single inheritance.
7. Prepare employee information using multiple inheritance.
8. Process employee details using hierarchical inheritance.
9. Implement the concept of Virtual functions.
10. Implement the concept of virtual base class.
11. Sort the given set of numbers using function templates
12. Search the key element in the given set of numbers using class template.
13. Processing mark list using binary file.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.
16. Implement a file handling concept using sequential access.
17. Implement file handling concept using random access

AS 2: Computer based Financial Accounting
(4 Hours – 4 Credits)

Unit I:

Financial Accounting: Meaning, Nature and scope, Limitations – **Accounting Principles** : Basic Concepts and Conventions – Objectives of accounting – Accounting rules.

Unit II:

Books and records : Recording of business transactions – Types of accounts – Journal – Ledger – Journal Vs Ledger, Subsidiary books – Trial balance.

Unit III:

Final Accounts: Introduction – Trading account – Profit and loss account – Balance sheet. (Simple problems)

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Computer Based Financial Accounting:

1. Demonstrate constructor with default arguments.
2. Program using manipulators.
3. Perform operator overloading for Unary minus, unary increment and unary decrement
4. Concatenate two strings using the concept of Binary operator overloading.
5. Perform addition and subtraction of complex numbers using Binary Overloading.
6. Create student mark sheet using single inheritance.
7. Prepare employee information using multiple inheritance.
8. Process employee details using hierarchical inheritance.
9. Implement the concept of Virtual functions.
10. Implement the concept of virtual base class.
11. Sort the given set of numbers using function templates
12. Search the key element in the given set of numbers using class template.
13. Processing mark list using binary file.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.
16. Implement a file handling concept using sequential access.
17. Implement file handling concept using random access

AS 2: Computer based Financial Accounting
(4 Hours – 4 Credits)

Unit I:

Financial Accounting: Meaning, Nature and scope, Limitations – **Accounting Principles** : Basic Concepts and Conventions – Objectives of accounting – Accounting rules.

Unit II:

Books and records : Recording of business transactions – Types of accounts – Journal – Ledger – Journal Vs Ledger, Subsidiary books – Trial balance.

Unit III:

Final Accounts: Introduction – Trading account – Profit and loss account – Balance sheet. (Simple problems)

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Introduction to Tally: Features of Tally 9 – Company info: Create, Select, Alter
se or Shut Company – Ledger Creation: Creating, Displaying, Altering and Deleting.
eatures and F12 – Configuration.

/:

  Voucher Creation: Receipt, Payment, Contra, Journal, Sales, Purchase, Memo,
ay, Alter, Delete, Insert, Statement of Reports: Trail balance, Profit and Loss account,
nce sheet.

t Books
1. Financial Accounts – R.S.N. Pillai and Bagavathi, S.Chand, 2007
       Unit I: Pg. Numbers – 1 to 22
       Unit II : Pg. Numbers – 30 – 65
       Unit III: Pg. Numbers – 154 to 170
2. Tallly (version 9) – C.NellaiKannan, 2007
       Unit IV : Pg. Numbers – 5 to 61
       Unit V : Pg. Numbers – 62 to 102

Reference Books
1. Comdex Tally 9 – Dr. NamrataAgrawal, Dream Tech Publications
2. Tally (Accounting Software) S.Palanivel, Margham Publications, 2010

SBS 2: Lab 4:Business Accounting
(2 Hours – 2 Credits)

I. Company Creation
II. Ledger Creation
III. Voucher Creation
       a) Contra voucher
       b) Payment voucher
       c) Receipt voucher
       d) Journal voucher
       e) Purchase voucher
       f) Sales counter
IV. Reports
       a) Day book
       b) Trail balance
       c) Final Accounts
       d) Purchase Register
       e) Sales Register
       f) Outstanding Receivable
       g) Outstanding Payable
       h) Cheque Printing
       i) Bank Reconciliation Statement

Data Structures and Computer Algorithms:

CS 8: Data Structures and Computer Algorithms
(4 Hours – 4 Credits)

Objective:
Learning concept of data structures, including its representation and operations performed on them, which are then linked to sorting, searching and indexing which are performed on them, to increase the knowledge of usage of data structures in algorithmic perspective.

Unit I:
Introduction, Basic Terminology, Elementary date, organization, data structure, Date structure operations, Algorithmic Notation, Control structures, complexity of algorithms, variables, data types.

Unit II:
Arrays: Introduction, Linear arrays, representation of linear arrays in memory, Traversing Linear arrays, Inserting & Deleting, Sorting: Bubble sort, searching: Linear search, Binary search, multidimensional arrays, Pointers, records.

Unit III:
Linked Lists: Introduction, Linked List, representation of Linked list in memory, traversing a linked list, Searching a linked list, Memory allocation, Garbage collection, Insertion into a linked list, Deletion from a linked list.

Unit IV:
Stacks: Introduction, Stacks, array representation of stacks, Linked representation of stacks, Quick sort. Recursion: Tower of Hanoi, Queues: Linked representation of Queues, Deques.

Unit V:
TREES: Introduction, Binary Trees, Representing Binary Trees in Memory, Traversing Binary Trees, Traversal Algorithms using Stacks, Binary Search Trees, Searching and Inserting in Binary Search Trees, Deleting in a Binary Search Tree. Graph: introduction, graph theory terminology, operation on graph.

Text book:
"Data structures", Seymour Lipschutz, Tata Mc-Graw Hill, 2006
UNIT 1: 1.1, 1.2, 1.3, 1.4 , 2.3, 2.4, 2.5, 2.8.
UNIT 2: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11.
UNIT 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
UNIT 4: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12.
UNIT 5: 7.1, 7.2, 7.3, 7.4, 7.5, 7.7, 7.8, 7.9, 8.1, 8.2, 8.6.

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Operating Systems:

1. Data structure Oxford University In C++, Ellis ... ...jSanni, Dinesh
Education/Oxford University
2. Fundamentals of Data structures In C++, Ellis ...
University press, 2007.
3. Data Structures using C, Tanaenbaum A.S., Langram Y. Augestein M.J,
Education , 2004.
4. Introduction to the Design and Analysis of Algorithms, AnanyLevitin,
Education 2003.

CS 9: Lab 7: Data Structures and Computer Algorithms
(6 Hours – 4 Credits)
SECTION - A

1. Implementing Stack as an array.
2. Implementing Stack as a linked list.
3. Convert Infix expression to Postfix expression using stack.
4. Convert Infix expression to Prefix expression using Stack.
5. Implementing Queue as an Array.
6. Implement Queue as a linked list.
7. Binary tree traversals.
8. Implement Binary Search Tree.

SECTION - B

1. Linear Search
2. Binary Search
3. Bubble Sort Algorithm.
4. Insertion Sort Algorithm.
5. Merge Sort Algorithm.
6. Quick Sort Algorithm.
7. Selection Sort Algorithm.

CS 10: Operating Systems
(4 Hours – 4 Credits)

Unit I:

Introduction to Operating Systems: Introduction, What is an Operating system, Operating system components and goals, Operating systems architecture. Process Concepts: Introduction, Process States, Process Management, Interrupts, Interprocess Communication

Unit II:

Asynchronous Concurrent Execution: Introduction, Mutual Exclusion, Implementing Mutual Exclusion Primitives, Software solutions to the Mutual Exclusion Problem, Hardware solution to the Mutual Exclusion Problem, Semaphores. Concurrent Programming: Introduction, Monitors.

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Unit III:

Deadlock and Indefinite Postponement: Introduction, Examples of Deadlock, Related Problem Indefinite Postponement, Resource concepts, Four Necessary conditions for Deadlock, Deadlock solution, Deadlock Prevention, Deadlock Avoidance with Dijkstra's Banker's algorithm, Deadlock Detection, Deadlock Recovery. **Processor Scheduling:** Introduction, Scheduling levels, Preemptive Vs Non-Preemptive Scheduling Priorities, Scheduling objective, Scheduling criteria, Scheduling algorithms.

Unit IV:

Real Memory Organization and Management: Introduction, Memory organization, Memory Management, Memory Hierarchy, Memory Management Strategies, Contiguous Vs Non-Contiguous Memory allocation, Fixed Partition Multiprogrammimg, Variable Partition multiprogramming. **Virtual Memory Management:** Introduction, Page Replacement, Page Replacement Strategies, Page Fault Frequency (PFF) Page replacement, Page Release, Page Size.

Unit V:

Disk Performance Optimization: Introduction, Why Disk Scheduling is necessary, Disk Scheduling strategies, Rotational optimization. **File and Database Systems:** Introduction, Data Hierarchy, Files, File Systems, File Organization, File Allocation, Free Space Management, File Access control.

Text Book:
Operating Systems, Deitel&Deitel.Choffnes, Pearson education, Third edition, 2008.

> Unit I : Chapters 1.1, 1.2, 1.12, 1.13 & 3.1 to 3.5
> Unit II : Chapters 5.1, 5.2, 5.3, 5.4(up to 5.4.2), 5.5, 5.6 & 6.1, 6.2
> Unit III: Chapters 7.1 to 7.10 & 8.1 to 8.7
> Unit IV: Chapters 9.1 to 9 6, 9.8, 9.9 & 11.1, 11.5, 11.6, 11.8, 11.9, 11.10
> Unit V: Chapters 12.1, 12.4 to 12.6 & 13.1 to 13.8

Reference Books
1. An introduction to Operating systems concepts and Practice, Pramod Chandra P. Bhatt, PHI, Second Edition, 2008.
2. Operating System Concepts, Abraham Silberschatz Peter Galvin Greg Gagne, 6th edition Windows XP Update, Wiley India edition, 2007.
3. Operating Systems Principles and Design, Pal Choudhury, PHI Learning, 2011.
4. Operating Systems, A Concept Based Approach DhananjayM.Dhamdhere Tata McGraw Hill, 3rd Edition, 2012.

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Software Engineering:

CS 12: Software Engineering
(4 Hours – 4 Credits)

Objectives
- To acquaint students with the basic concepts and major issues of software engineering
- To impart knowledge on the basic principles of software development life cycle.
- To know the benefits of software analysis, design, testing and documentation efforts

Unit I:
Introduction to Software Engineering: Some Definitions – Some Size factors – Quality and Productivity Factors – Managerial Issues. Planning a Software Project: Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure – Other Planning Activities.

Unit II:
Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing-Level Estimation – Estimating Software Maintenance Costs.

Unit III:
Software Requirements Definitions: The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

Unit IV:
Software Design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections - Design Guidelines.

Unit V:
Verification and Validation Techniques: Quality Assurance – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.Software Maintenance: Enhancing Maintainability During Development – Managerial Aspects of Software Maintenance – Configuration Management – Source-Code Metrics – Other Maintenance Tools and Techniques.

Text book :
Software Engineering Concepts, Richard Fairley, Tata McGrawHill Publishing Company Limited, NewDelhi, 1997.

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Web Technology:

ES1 – 1. WEB TECHNOLOGY
(4 Hours – 5 Credits)

UNIT I
Introduction- History of the Internet-Services and Accessibility -uses. Protocols. Web Concepts-Internet Standards. HTML-Introduction - SGML-HTML document - Head section- Body section- HTML Forms.

UNIT II
JAVASCRIPT – Introduction - Language Elements- Objects of JavaScript-Other Objects- Arrays.

UNIT III
VBSCRIPT – Introduction-Embedding VBScript Code in an HTML Document- Comments-Variables- Operators- Procedures – Conditional Statements-Looping constructs – Objects and VBScript – Cookies.

UNIT IV
SERVLETS-Introduction-Advantages of Servlets over CGI- Installing Servlets- The Servlet Life Cycle- Servlet API- A Simple Servlet- Handling HTTP GET Requests- Handling HTTP POST Requests- Cookies – Session Tracking- Multi-tier Applications Using Database Connectivity- Servlet Chaining.

UNIT V
JAVA SERVER PAGES (JSP) – Introduction- Advantages of JSP- Developing First JSP- Components of JSP – Reading Request Information- Retrieving the Data Posted from a HTML File to a JSP File – JSP Sessions- Cookies- Disabling Sessions.

Text Book:

1. Web Technology – A Developer's Perspective , N.P.Gopalan and J.Akilandeswari. Prentice-Hall of India Pvt. Ltd. New Delhi, 2008.

   UNIT I : Chapters 1 and 4
   UNIT II :

Introduction to Visual Programming:

12.INTRODUCTION TO VISUAL PROGRAMMING

Objective : This syllabus is designed to guide the students in developing applications with GUI interfaces.

UNIT: 1

INTRODUCTION: Starting & Exiting Visual Basic-Using Project Explorer-Working with forms-Using Toolbox-Working with projects-Printing projects-Building & Running applications. ADDIND CODE AND USING EVENTS-Using Code window-Using Naming Conventions-Using variable-Scope-Subroutines & Functions.

UNIT: 2

USING INTRINSIC VISUAL BASIC CONTROLS: Labels & Textbox controls-Using command button control-Using frame, Checkbox, option button controls-List Box and Combo Box controls-Formatting controls-Using control Arrays-Using Tab Order.
WORKING WITH STRINGS-Using strings-Converting Strings-Concatenating Strings-Formatting Strings-Manipulating Strings-Comparing Strings.

UNIT: 3

WORKING WITH NUMBERS: Using Numeric values-Using Numeric operators-Math functions-Random numbers   USING CONTROL STATEMENTS-If & IIF-Select Case-Do-For-Exit Statements.

UNIT: 4

USING DIALOGUE BOXES:MsgBox-Input Box-Common Dialogue Control-Open & Save as Dialogue Boxes-Color Dialogue Box-Font Dialog Box-Print Dialogue Box-Show Help method. USING MENUS: Creating Menus-Adding code to menu-creating shortcut menu-Using Picture box-Rich text box.

Unit:5

USING FILES & DATA BASES: Opening, Closing & Deleting files and Rea Writing to files-Building Your Own Active X Controls:First step-Testing the control Polishing the presentation of your control-Adding the functionality.

BOOKS FOR STUDY:

1. SCOTT WARNER—TEACH YOURSELF VB6—TATA MCGRAWHILL, NEWDELHI, 1999. CHAPTERS: 1—8, 10.1, 10.2

2. GARY CORNELL—VISUAL BASIC 6 FROM GROUNDUP, TMH, NEWDELHI CHAPTER-6(PAGE 206-214).

BOOK FOR REFERENCE:

Mastering visual Basic6-Evangel Pertoutsos-BPB Publishers.

13. INTRODUCTION TO VISUAL PROGRAMMING (LAB)

1. Write a VB program to perform Arithmetic Operations.
2. Write a VB program using list box to sort the Numbers in ascending and desc order.
3. Write a VB program to calculate simple interest and compound interest value function.
4. Write a VB program to generate Fibonacci Series.
5. Write a VB program to perform String Manipulation.
6. Write a VB program to Change the Color Using Scrollbar.
7. Write a VB program to perform number checking.
8. Write a VB program to find Item Details.
9. Write a VB program to Create Arithmetic Calculator.
10. Write a VB program using Drive, Directory and list box to open image and t
11. Write a VB program using menu editor to format files
12. Write a VB program to format font in different styles.
13. Write a VB program to Create Circle Animation.
14. Write a VB program to display student details using DAO.

No:64/B, Manimegalai Street,

Villapuram, Madurai-625 012

Contact: 9790173786.

To Whomsoever it may concern

This is certify that **MANJULA K (B5E11106)** has completed project work entitled **"Target Tracking And Mobile Sensor Navigation Using Wireless Sensor Networks"** using java (networking) with EDM at Madurai between from December 2016 to April 2017 for partial fulfillment of the Master of Computer Science and Information Technology at Ambiga College of Arts and Science for Women, Madurai., Affiliated to Madurai Kamaraj University

We wish her best of luck in her career pursuit.

Yours Truly

Riyaz

(Project Manager)

19-Jayaram Towers,

2nd floor, Anna Nagar,

Madurai-625 020.

To Whomsoever it may concern

This is certify that **REBECCAL Y (B5E11109)** has completed project work entitled **"Performing Initiative Data Prefetching Distributed File System"** using .Net(cloud computing) with Pinnacle between from December 2016 to April 2017 for partial fulfillment of the Master of Computer Science and Information Technology at Ambiga College of Arts and Science for Women, Madurai., Affiliated to Madurai Kamaraj University

We wish her bright career pursuit.

Yours Truly

Venkatesh

(Project Manager)

AMBIGA COLLEGE OF ARTS AND SCIENCE

FOR WOMEN

ANNANAGAR MADURAI-20

Website: ambiga.madurai@hotmail.com

DEPARTMENT OF COMPUTER SCIENCE

PROJECT WORK

APRIL 2017

BONAFIED CERTIFICATE

This is to certify that the project entitled **"REDIS CLIENT FOR .NET"** is

Bonafied   work done by **R.Gomathi (Reg.no:B4S19360) and S.Sugapr...**

(Reg.no:B4S19381) in partial fulfillment of the requirement of the award of

Degree of Computer Science during the year 2014-2017.

Project Guide

Head of the Department

The Viva-voce examination of this held on .03.04.2017.

AMBIGA COLLEGE OF ARTS AND SCIENCE FOR WOMEN

ANNA NAGAR, MADURAI-20.

Mail id: ambiga_college@yahoo.co.in

DEPARTMENT OF COMPUTER SCIENCE&IT

PROJECT WORK

BONAFIDE CERTIFICATE

his is certify that the project entitled "VISUAL CRYPTOGRAPHY" is a bonafi

rk done by K. MAHALAKSHMI (BE511105) in partial fulfillment of the requiren

for the award of the Degree of computer   Science and Information Technology

during the year 2016-2017.

Project Guide

Dept. of Computer Science & IT
Ambiga College of Arts & Science for Wom
Anna   al - 20.

Head of the Department

The viva-voca Examination of this project held on 21/04/2017

1.

2.

External Examiner

rightway JOBS

This is to acknowledge that V.SUJITHA(Regno: B4S19382) final year B.Sc(CS) at **AMBIGA COLLEGE OF ARTS & SCIENCE FOR WOMEN** has completed her project with great success in our concern in the title "JSON HANDLERS"using C#and .Net environmentin the duration of December 2016 to February 2017.

During her project we found that she is sincere and hardworking and processing a good behavior and a moral character.

We wish them grand success in her future endeavors

Thanking you

KumarPasupathiNath
Associate Manager – Human Resources

To whomsoever it may concern

This is to acknowledge that **C.SIVA PRIYA (Reg.No: B4S19170)** final year BCA at **AMBIGA COLLEGE OF ARTS & SCIENCE FOR WOMEN** has completed her project with great success in our concern in the title **"PAYROLL SYSTEM"** using **C#** and **.Net** environment in the duration of December 2016 to February 2017.

During her project we found that she is sincere and hardworking and processing a good behavior and a moral character.

We wish them grand success in her future endeavors

Thanking you

KumarPasupathiNath
Associate Manager – Human Resources

To whomsoever it may concern

This is to acknowledge thatS.G. JEYALAKSHMI(Regno: B4S19363) final year B.Sc(CS) at AMBIGA COLLEGE OF ARTS & SCIENCE FOR WOMEN has completed her project with great success in our concern in the title "DB FIRST USING ENTITY FRAMEWORK 6.0"using C#and .Net environmentin the duration of December 2016 to February 2017.

During her project we found that she is sincere and hardworking and processing a good behavior and a moral character.

We wish them grand success in her future endeavors

Thanking you

KumarPasupathiNath
Associate Manager – Human Resources

rightway JOBS

<u>To whomsoever it may concern</u>

This is to acknowledge that **S.ATCHAYA DURGA(Regno:B4S19152)** final year

3CA at **AMBIGA COLLEGE OF ARTS & SCIENCE FOR WOMEN** has

completed her project with great success in our concern in the title **"CUSTOM**

IMAGE VIEW EXTENSION" using **JAVA** and **ANDROID** environment in the

duration of December 2016 to February 2017.

During her project we found that she is sincere and hardworking and processing

a good behavior and a moral character.

We wish them grand success in her future endeavors

Thanking you

KumarPasupathiNath
Associate Manager – Human Resources

AMBIGA COLLEGE OF ARTS AND SCIENCE FOR WOMENS

25020.

ANNA

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DEPARTMENT OF COMPUTER APPLICATION

PROJECT WORK

APRIL-2017

BONAFIDE CERTIFICATE

This is certify that project entitled "SPREADSHEET EXTENSION FOR PHP" is a Bonafide work done by **S.RAJA KUMARI (B4S19164)** in partial Fulfillment of the Requirement for the award of the Degree of bachelor Computer Application

During the year 2016-2017.

A.B.G. _____ WOMEN
Annanagar _____ 020.

Project Guide

Head of the Department

The viva-voice examination of this project held on 03.04.2017

EXTERNAL EXAMINER

<u>To whomsoever it may concern</u>

This is to acknowledge that**M.DEEPIKA DEVI**(Regno: **B4S19153**) final year BCA at **AMBIGA COLLEGE OF ARTS & SCIENCE FOR WOMEN** has completed her project with great success in our concern in the title **"VEHICLE PARKING MANAGEMENT SYSTEM"**using **C#** and **.Net** environment in the duration of December 2016 to February 2017.

During her project we found that she is sincere and hardworking and processing a good behavior and a moral character.

We wish them grand success in her future endeavors

Thanking you

KumarPasupathiNath
Associate Manager – Human Resources

S. No	Program Name	Program code	Program Name that include experimental learning through project work/field/internship	Years of Offering	Project	Internship	Field work
1	BCA	SCA8	Object Oriented Programming with C ++	2016 − 2015	✔		
2	BCA	SCA8	Computer Based Financial Accounting	2016 − 2015	✔		
3	BCA	SCA8	Java Programming	2016 − 2015	✔		
4	BCA	SCA8	Digital Principles and Computer Organization	2016 − 2015	✔		
5	BCA	SCA8	Data Structure and Computer Algorithms	2016 − 2015	✔		
6	BCA	SCA8	Computer Graphics and Multimedia	2016 − 2015	✔		
7	BCA	SCA8	Operating Systems	2016 − 2015	✔		
8	B.sc CS	SCS8	Software Engineering	2016 − 2015	✔		
9	B.sc CS	SCS8	Dot Net Programming	2016 − 2015	✔		
10	B.sc CS	SCS8	Computer Networks	2016 − 2015	✔		
11	B.sc CS	SCS8	Web Programming	2016 − 2015	✔		
12	B.sc CS	SCS8	Data Mining	2016 − 2015	✔		
13	B.sc CS	SCS8	Mobile Computing	2016 − 2015	✔		

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14	B.sc CS	SCS8	Java Programming	2016 − 2015	✔		
15	B.sc CS	SCS8	Operating System	2016 − 2015	✔		
16	B.sc CS	SCS8	Software Engineering	2016 − 2015	✔		
17	B.sc CS	SCS8	Web Technology	2016 − 2015	✔		
18	B.sc CS	SCS8	Computer Graphics	2016 − 2015	✔		
19	B.sc CS	SCS8	Business Application Programming	2016 − 2015	✔		
20	B.com CA	CCA8	Data Base Application	2016 − 2015	✔		
21	B.com CA	CCA8	Introduction to Visual Programming	2016 − 2015	✔		
22	B.com CA	CCA8	Fundamentals of Internet & Web Technology	2016 − 2015	✔		
23	B.com CA	CCA8	Introduction to Multimedia and DTP	2016 − 2015	✔		

2016 – 2015

S. No	Name of Course	Name of Programme
1	BCA	Object Oriented Programming with C ++
2	BCA	Computer Based Financial Accounting
3	BCA	Java Programming
4	BCA	Digital Principles and Computer Organization
5	BCA	Data Structure and Computer Algorithms
6	BCA	Computer Graphics and Multimedia
7	BCA	Operating Systems
8	BCA	Software Engineering
9	BCA	Dot Net Programming
10	BCA	Computer Networks
11	BCA	Web Programming
12	BCA	Data Mining
13	BCA	Mobile Computing
14	B.sc Computer Science	Java Programming
15	B.sc Computer Science	Operating System
16	B.sc Computer Science	Software Engineering
17	B.sc Computer Science	Web Technology
18	B.sc Computer Science	Computer Graphics
19	B.com CA	Business Application Programming
20	B.com CA	Data Base Application
21	B.com CA	Introduction to Visual Programming
22	B.com CA	Fundamentals of Internet & Web Technology
23	B.com CA	Introduction to Multimedia and DTP

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Introduction to Internet:

NME 2 : Introduction to Internet
(2 Hours – 2 Credits - Second Semester)

Unit I :
    Introduction to internet-History of internet-Who runs internet?-How internet works?-Information on Internet-Requirements for connecting to Internet-Basic internet terms-HTML-Net Etiquette-Internet Services and Governance-Impact of Internet on Society
    Internet Technology and Protocols – Understanding protocols-TCP/IP Protocols-IP Address in Internet-Serial line internet protocol(slip)-point to point protocol(ppp)-Introduction to networking-Networking basics-Networking terms-Network Architecture-Resource sharing-Security-Ethernet-Carrier Sense Multiple Access with Collision Detection(CSMA/CD)-Asynchronous Transfer Mode(ATM)-Types of Networking-Local Area Network-Wide Area Networks(WAN)-Types of Wide Area Networks-Topology-packet Switching-accessing Methods and Technologies-special Consideration for the Blinds-Internet addressing system-Domain name-Client server architecture-popular client servers-Getting connected to internet-Using internet connection wizard-Levels of connectivity.

Unit II :
    Introduction world wide web-Evolution of world wide web-Basic features-Web browsers-Popular web browsers-Web servers-Hypertext Transfer protocol(HTTP)-Uniform resource locator(URL)-Search engines-search engine categories-searching criterion-Hypertext
    Browsers- What is a browser?-Basic features of web browsers-Running a browser-Working of internet Explorer-Toolbar Buttons -Getting to a web site-working with favorites-working with history-Back and forward buttons- bookmarks -working on the web using the browsers-Customization of Browsers-Netscape Browser-Keyboard shortcuts for working in internet explorer

Unit III
    Working with email-e-Mail-Opening of email account-e-mail organization-parts of e-mail Text-Working with Messages-Reading a Message-Reading the Message-Replying to a Message-Forwarding a Message-Deleting a Message-Changing View – Using your Own Stationery-Starting and Addressing a Message-Creating Stationery-Creating a Signature-Attaching a File or an Item to a Message-E-mail Protocols-E-mail Clients-Signature file

Unit IV:-
    HTML-Introduction-HTML Command Tags-Quotation Marks-Spacing-Special Symbols-New Web Page Creation Looking at Your Page Creation-Looking at Your Page in a Browser –Defining Web Page-Main Body of the Text-Putting Headers- Adding Paragraph-formatting Text in HTML-Font Type-Font Size-Using Big and Small-Using

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CS4: Lab 3: Object Oriented Programming with C++
(6 Hours - 4 credits)

Section A

1. Printing Prime numbers between two given numbers.
2. Printing 3 digit numbers as a series of words. *(Ex. 543 should be printed out as Five Four Three).*
3. Finding area of geometric shapes using function overloading.
4. Inline functions for simple arithmetic operations.
5. Demonstrating the use of Pre-defined Manipulators.
6. Demonstrating the use of friend function.
7. Creating student mark list using array of objects,
8. Demonstrating constructor overloading.
9. Overloading the unary – operator.
10. Demonstrating single inheritance.
11. Demonstrating the use of "this" pointer.
12. Designing our own manipulator.
13. Illustrating function templates.
14. Illustrating class templates.

Section B

1. Overloading the binary + operator.
2. Demonstrating Multiple inheritance.
3. Demonstrating Multilevel inheritance.
4. Demonstrating Hierarchical inheritance.
5. Demonstrating Virtual functions.
6. Processing mark list using binary file.
7. Count number of objects in a file.
8. Demonstrating the use of Command-line arguments.

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Java Programming:

New Delhi, 2009.
2. Using the Internet the Easy Way, Young Kai Seng, Minerva Publications, First Edition, 2000.
3. Fundamentals of Information Technology By Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd., Revised Edition.

<div align="center">

CS 5: Java Programming
(4 Hours – 4 Credits)

</div>

Objective:
- To inculcate knowledge in Java programming concepts.
- To provide knowledge in Package and Applet concepts.
- To enrich the knowledge in Multithread and Graphics concepts.

Unit I:
JavaEvolution: Java Features – How Java differs from C and C++ – Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements – Java Environment. **Overview of Java Language:** Simple Java Program – Java Program Structure – Java Tokens – Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants – Variables – Data types – Declaration of Variables – Giving Values to variables – Scope of Variables – Symbolic Constants – Type Casting. **Operators and Expressions:** Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Operator Precedence and Associativity – Mathematical Functions. **Decision Making and Branching:** Decision Making with If statement – Simple If Statement – If else Statement – Nesting If Else Statement – the ElseIf Ladder – The switch Statement – The ?: operator. **Decision Making and Looping:** The while statement – The do statement – The for statement – Jumps in Loops.

Unit II:
Class, Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Finalizer Methods – Abstract Methods and Classes – Visibility Control. **Arrays, Strings and Vectors:** One – dimensional Arrays – creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types. **Interfaces:** Multiple Inheritance : Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

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8. ...strate the concept of Friend function.
9. Demonstrate default constructor ...
10. Demonstrate param...
11. Dem...

Unit III:

Packages: Java API Packages – Using system Packages – Naming Conventions Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package – Hiding Classes – Static Import. **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.

Unit IV:

Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax Exception Handling Code – Multiple Catch Statements – Using Finally Statement Throwing our own Exceptions – Using Exceptions for debugging. **Applet Programming** How Applets differ from Applications – Preparing to write Applets – Building Applet Code – Applet Life Cycle – Creating an executable Applet – Designing a WebPage – Applet ? – Adding Applet to HTML file – Running the Applet.

Unit V:

Graphics Programming: The Graphics Class – Lines and Rectangles – Circles Ellipses, Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops Applets – Drawing Bar Charts. **Managing Input/Output Files in Java:** Concept of Stream – Stream Classes – Byte Stream Classes – Character Stream Classes – Using Streams Other Useful I/O Classes – Using the file Class – I/O 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.

Text Book:
Programming with Java, E.Balagurusamy, A primer, Tata McGraw Hill, Fourth Edition 2008.

Chapters: Unit I : 1, 2, 3, 4, 5, 6, 7.
             Unit II : 8, 9, 10.
             Unit III: 11, 12.
             Unit IV: 13, 14
             Unit V:15, 16

Reference Books:
1. Object Oriented Programming Through JAVA- P.Radha Krishna, University Press 2007.
2. Java and Object-Oriented Programming Paradigm, Debasish Jana, Prentice Hall of India Private Limited, New Delhi, 2008. Edition, July 2014 Reprint.
3. The Complete Reference, Java2, Herbert Schildt, Tata McGraw Hill, Fifth Edition, 2002.
4. Introduction to Java Programming ,K.Somasundaram, Jaico Publications 2013.
5. Core Java - Vol. I – Fundamentals, Cay S. Hor... edition, 2016.

Multimedia:

UNIT I: Chapter-1(1.1, 1.2, 1.4,1.,1.8,1.9,1.10,1.11)
UNIT II: Chapter-3 (3.1, 3.2, 3.3,3.3.1,3.3.2,3.3.3.,3.3.4,3.4,3.5)
UNIT III: Chapter-5 (5.1,5.2,5.2.1,5.3,5.4,5.5.4)
           Chapter- 7 (7.1,7.2,7.3,7.4)
UNIT IV: Chapter-7 (7.5) (Statements only); 7.6, 7.7
           Chapter 11(11.2,11.3,11.4)
UNIT V: Chapter-12 (12.2 to 12.8)

Reference Books:

1. Operation Research, Nita H.Shah, Ravi M.Gor and Hardik soni,Prentice-Hall of India Pvt. Ltd., New Delhi 2008.
2. Operation Research, R.Sivarethinamohan, Tata McGraw Hill, 2005.

SBS3: Lab 6: Multimedia

(2 hours - 2 Credits)

Photoshop:

1. Basic tools used in Photoshop.
2. Design an image by cutting the objects from 3 files and organize them in a single file and apply feather effects.
3. Design an image by applying mirror effect.
4. Design an image by extracting flower only from given photographic image
5. Design an image by applying Text and Transform Tool.
6. Design an image by using patch or healing brush tool to remove damaged parts of an image.
7. Design an image by applying Color Balance to change the color of an image.
8. Design an image by applying Lighting effect Filter.
9. Design an image by applying Blending options to make a text effect.
10. Design an image by applying rainbow effect.
11. Design an image by applying text masking effect.
12. Design a college id card using any tools.
13. Design a banner for your college with images and text.

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Flash:
1. Basic tools used in Flash.
2. Develop a Flash application using motion tween.
3. Develop a Flash application using shape tween.
4. Develop a Flash application for ball bouncing using motion guide path.
5. Develop a Flash application for masking effect.
6. Develop a Flash application using layer based animation.
7. Develop a Flash application to represent the growing moon
8. Write action script to play and stop an animation.
9. Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.

CS8: Java Programming
(4 Hours – 4 Credits)

UNIT I:

Introduction : Features of Java Language – Types of Programs – Java Architecture – Literals – Data types – Variables – Structure of Java Program – Comments – Expression and Statements – Type Conversion – Arithmetic Operators – Bitwise Operators – Relational Operators – Logical Operator – Ternary Operator – Operator Precedence.

UNIT II:

Control Structure and Arrays: If...else Statement – Switch Statement – while Statement – do...while Statement – for Statement – Break in Loop – One Dimensional Array – Multi Dimensional Array.

UNIT III:

Class and Interface: Definition – new operator and objects – dot operator – Method Declaration and Calling – Constructors – Instance Variable – this in Constructor – Method Overloading – Passing Objects as Parameters – Sub Class – Method Overriding – Final Class – Method – Variable – Object destruction – Static Class – Method – Variable – Abstract Class – Package – Import Statement – Access modifier – Interfaces.

UNIT IV:

String, Wrapper & Exception classes: Number Class – Character Class – Boolean Class – String Class – String Buffer Class – Types Of Exception – Catching Exception – Rethrowing Exception – User Exception – Finally Block – Checked and Unchecked Exceptions.

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PHP Programming:

algorithms
Cryptosystems.

Text book:
Principles of Information Security, Michael E Whitman and Herbert J Mattord, Fo...
Edition, CENGAGE Learning, 6th Indian Reprint, 2013.

    Unit I : Chapter 1
    Unit II : Chapter 2, 3
    Unit III : Chapter 4
    Unit IV : Chapter 5
    Unit V : Chapter 7, 8

Reference books:
1. Handbook of Information Security Management, Micki Krause, Harold F. Tip...
   Vol. 1-3, CRC Press LLC, 2004.
2. Hacking Exposed, Stuart McClure, Joel Scrambray, George Kurtz, Tata McGr...
   Hill, 2003 3. Computer Security Art and Science, Matt Bishop, Pearson/PHI, 200...
3. Information Security: A Complete Guide to IT Security, RajatKhare, Printice Hal...
   India, 2006.
4. Information Security: The Complete Reference, Mark Rhodes-Ousley, 2013.

SBS 5: Lab 10 : PHP and MySQL
(2 Hours – 2 Credits)

Section A:
1. Write a program to compute the sum of the digits of a number. (Input get Using Form)
2. Write a program to inserts a new item in an array in any position. (Input get Using Form)

   Expected Output :
   Original array :
   1 2 3 4 5
   After inserting '$' the array is :
   1 2 3 $ 4 5
3. Write a program to sort the following associative **array** :
   array("Sophia"=>"31","Jacob"=>"41","William"=>"39","Ramesh"=>"40") in
   a) ascending order sort by value
   b) ascending order sort by Key
   c) descending order sorting by Value
   d) descending order sorting by Key
   e) transform a string all uppercase letters.
   f) transform a string all lowercase letters.
   g) make a string's first character of all the words uppercase.
4. Write a program using nested for loop that display a chess board

5. Write a program to compute and return the square root of a given number (Without default array function) (Input get Using Form)
6. Write a program to print Fibonacci series using recursion.
7. Write a program to validate given input is date or not and create simple 'birthday countdown' script, the script will count the number of days between current day and birthday
8. Write a program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Upload and Display images in particular directory

Section B:
1. To design an student details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option
2. To design an Employee details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option

Note: Use MySqli or PDO for database connectivity

CS 15: Computer Networks
(5 Hours – 4 Credits)

Unit I:
Introduction: Uses of Computer Networks - Network Hardware – LAN, MAN and WAN- Network Software - Reference Models- Example Networks.

Unit II:
Physical Layer: The Theoretical Basis For Data Communication - Guided Transmission media - Wireless Transmission - Communication Satellites- Public Switched Telephone Network- The Mobile Telephone System

Unit III:
Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction – Elementary data link protocols - Sliding Window Protocols – Example Data Link Protocols.

Unit IV:
Network Layer: Network Layer Design Issues- Routing Algorithms-Congestion Control Algorithms- Quality of Service –Internetworking.**Transport Layer:** Transport Services – Elements of transport protocols – Performance issues.

Unit V:
Application layers: Domain name system – Electric mail – The World Wide Web. **Network security:** Cryptography- Symmetric-Key algorithms- Public-Key algorithms – Digital signature.

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Soft Computing:

ES 12: Soft Computing
(5 Hours – 4 Credits)

Objective
- To Learn the various soft computing frame works
- To understand design of various neural networks
- Be exposed to fuzzy logic
- To study the genetic programming.

Unit I:
Introduction, Artificial Intelligence, Artificial Neural Networks, Fuzzy System, Genetic Algorithm and Evolutionary Programming, Swarm Intelligent Systems, Expert Systems: Expert System Architecture.

Unit II:
Introduction to Neural Networks, Biological Inspiration, Biological Neural Networks, to Artificial Neural Networks, Classification of ANNs, First-generation Neural Network, Introduction to Second-generation Neural Networks, Introduction to Third-Generation Neural Networks.

Unit III:
Introduction to Fuzzy Logic, Human Learning Ability, Imprecision, and Uncertainty, Undecidability, Probability Theory vs Possibility Theory, Classical Sets and Fuzzy Set, Fuzzy Set Operations, Fuzzy Relations, Fuzzy Composition.

Unit IV:
Introduction to Genetic Algorithms, Genetic Algorithms, Procedures of Ga, Working of Gas.

Unit V:
Introduction to Swarm Intelligence, Background of Swarm Intelligent Systems, Ant Colony System, Working of Ant Colony Optimisation, Ant Colony Optimisation Algorithm for TSP.

Text Book:
"Soft computing with MATLAB programming", N.P.Padhy, S.P.Simon, Oxford University Press, 2015

Unit 1: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7(1.7.1).
Unit 2: 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 4.1.
Unit 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
Unit 4: 7.1, 7.2, 7.3, 7.4.
Unit 5: 8.1, 8.2, 8.3, 8.4, 8.5.

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Computer Networks:

5. Write a program to compute and return the square root of a given number (Without default array function) (Input get Using Form)
6. Write a program to print Fibonacci series using recursion.
7. Write a program to validate given input is date or not and create simple 'birthday countdown' script, the script will count the number of days between current day and birthday
8. Write a program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Upload and Display images in particular directory

Section B:
1. To design an student details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option
2. To design an Employee details database using HTML Form and process using PHP(Add, Edit, delete, View records) with login option

Note: Use MySqli or PDO for database connectivity

CS 15: Computer Networks
(5 Hours – 4 Credits)

Unit I:
   Introduction: Uses of Computer Networks - Network Hardware – LAN, MAN and WAN- Network Software - Reference Models- Example Networks.

Unit II:
   Physical Layer: The Theoretical Basis For Data Communication - Guided Transmission media - Wireless Transmission - Communication Satellites- Public Switched Telephone Network- The Mobile Telephone System

Unit III:
   Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction – Elementary data link protocols - Sliding Window Protocols – Example Data Link Protocols.

Unit IV:
   Network Layer: Network Layer Design Issues- Routing Algorithms-Congestion Control Algorithms- Quality of Service –Internetworking.**Transport Layer:** Transport Services – Elements of transport protocols – Performance issues.

Unit V:
   Application layers: Domain name system – Electric mail – The World Wide Web. **Network security:** Cryptography- Symmetric-Key algorithms- Public-Key algorithms – Digital signature.

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Web Programming:

CS 16: Web Programming
(5 Hours – 4 Credits)

Unit I:
INTRODUCTION: Internet Principles – Basic Web Concepts – Client/Server mo
– retrieving datafrom Internet – HTM and Scripting Languages – Standard Genera
Mark –uplanguages – Next Generation – Internet –Protocols and Applications.

Unit II:
COMMON GATEWAY INTERFACE PROGRAMMING: HTML forms – 0
Concepts – HTML tags Emulation – Server – BrowserCommunication – E-mail genera
– CGI client Side applets – CGI server applets– authorization and security.

Unit III:
SCRIPTING LANGUAGES: Dynamic HTML-Cascading style sheets-Object mo
and Event model- Filtersand Transitions-Active X Controls-Multimedia-Client side scri
VB Scriptprogramming – Forms – Scripting Object.

Unit IV:
SERVER SIDE PROGRAMMING: XML – Server side includes – communicatio
DTD – Vocabularies – DOMmethods – Firewalls– Proxy Servers.

Unit V:
SERVELETS AND JSP: JSP Technology Introduction-JSP and Servelets- Runnir
JSP Applications BasicJSP- JavaBeans Classes and JSP-Tag Libraries and Files- Support i
the ModelView-Controller Paradigm- Case Study- Related Technologies.

Text Books:
1. Deitel H.M. and Deitel P.J., "Internet and World Wide Web How
   program",Pearson International, 2012, 4th Edition. (Ch-1, 4, 5, 6, 12, 14, 26, 27)
2. Gopalan N.P. and Akilandeswari. J, "Web Technology", PHI,2011. (Ch-1 to 11)
3. Paul Dietel and Harvey Deitel,"Java How to Program", PHI,8th Edition. (Ch-29)

Reference Books:
1. Mahesh P. Matha, "Core Java A Comprehensive study", Prentice Hall ofIndia, 2011
2. UttamK.Roy, "Web Technologies", Oxford University Press, 2011.

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Python Programming:

SBS 5: Lab 10: Python Programming
(2 Hours - 2 Credits)
List of Exercises for Python Programming:
Section: A (Simple programs)

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.

2. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:

Grade A: Percentage >=80
Grade B: Percentage>=70 and <80
Grade C: Percentage>=60 and <70
Grade D: Percentage>=40 and <60
Grade E: Percentage<40

3. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.

4. WAP to display the first 'n' terms of Fibonacci series.

5. WAP to find factorial of the given number.

6. WAP to find sum of the following series for n terms: $1 - 2/2! + 3/3! - - - - - n/n!$

7. WAP to calculate the sum and product of two compatible matrices.

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Data Communication and Computer Networks:

CS15: Data Communication and Computer Networks
(5 Hours – 4 Credits)

Unit I:
Introduction: A Brief History – Applications – Computer Networks – Categories of Networks – Standards and Standards Organizations – Network Architecture – Open Systems and OSI Model – TCP/IP Architecture. **Communication Media and Data Transmission:** Fourier Analysis – Analog and Digital Data Transmission – Modulation and Demodulation – Transmission Media – Wireless Communications – Data Transmission Basics – Transmission Mode – Interfacing – Multiplexing. **Error Detection and Correction:** Types of Errors – Error Detection – Error Correction.
Data Link Control and Protocol Concepts: Flow Control – Error Control – Asynchronous Protocols – Synchronous Protocols – High-Level Data Link Control (HDLC).

Unit II:
Local Area Networks: Types of Networks and Topology –LAN Transmission Equipment – LAN Installation and Performance.
Ethernet: IEEE Standard 802.3 **Token Bus:** IEEE Standard 802.4 **Token Ring:** IEEE Standard 802.5 – Fiber Distributed Data Interface (FDDI) – **Distributed Queue Dual Bus (DQDB):** IEEE Standard 802.6 – LAN Operating Systems and Protocols – Ethernet Technologies.
Wide Area Networks: WAN Transmission Methods – WAN Carrier Types – WAN Transmission Equipments – WAN Design and Multicast Considerations – WAN Protocols.

Unit III:
Integrated Services and Routing Protocols: Integrating Services – ISDN Services – ISDN Topology – ISDN Protocols – Broadband ISDN – Asynchronous Transfer Mode (ATM) – Principal Characteristics of ATM – Frame Relay – Comparison of ISDN, ATM and Frame Relay.
Wireless LANS: WLAN Applications – Wireless LAN Requirements – Planning for Wireless LANs – Wireless LAN Architecture – IEEE 802.11 Protocol Layer – IEEE 802.11 Physical Layer – Designing the Wireless LAN Layout – WAP Services.

Unit IV:
Internet Working: Principles of Internet Working – Routing Principles – Internetwork Protocols (IP) – Shortcomings of IPv4 – IP Next Generation.
TCP Reliable Transport Service: Transport Protocols – The Service TCP Provides to Applications – End –to-End Service and Datagrams – Transmission Control Protocol – User Datagram Protocol.
Unit V:
Network Applications: Client-Server Model – Domain Name System (DNS) – Telnet – File Transfer and Remote File access – Electronic Mail – World Wide

Web (WWW)

Network Management: Goal of Network Management – Network Management Standards – Network Management Model – Infrastructure for Network Management – Simple Network Management Protocol (SNMP).

Text Book:
    Data Communications and Computer Networks, Brijendra Singh ,Second Edition, PHI, 2006.

Unit I	:	Chapters 1,2,3,5
Unit II	:	Chapters 6, 7
Unit III	:	Chapters 8, 9
Unit IV	:	Chapters 10,11
Unit V	:	Chapter 12

Reference Books:
1. Computer Networks, Andrew S Tanenbaum, 4th Ed, Prentice Hall of India, 2006.
2. Data Communications and Computer Networks , Prakash C. Gupta, Prentice Hall of India, 2005.
3. Data and Computer Communications, William Stallings, PHI, 2007.
4. Data Communication and Networking ,Behrouz A. Forouzan, TMH, 2005.
5. Data Communications and Networks , Achyut S Godbole, TMH,2005.

CS16: Lab 11: Web Technology
(6 Hours – 4 Credits)
(Select one question from JavaScript and ASP.net)

JavaScript & JSP
1. Write a JavaScript Program To Generate Fibonacci Series
2. Write a JavaScript Program For Checking Palindrome Or Not
3. Write a JavaScript Program To Validate Form
4. Write a JavaScript Program To Create Popup Window
5. An Html Form With A JavaScript Event Handler
6. Write a JavaScript Program To Remove Items From A Dropdown List
7. Write a JavaScript Program To Display A Random Image
8. Write a JavaScript Program To Valid An Email Address.
9. Write a JSP to add the contents of another JSP file using **@include** directive.
10. Write a JSP to check whether the given number is prime or not.
11. Write a JSP to forward one JSP file to another JSP file using **forward** action.

ASP.Net
12. Working with Page and Forms Using Asp .Net.
13. To Create An Account Registration Form And Perform The Following Validation
    a) User Name

11. Bouncing ball Animation

12. Tree Animation

CORELDRAW EXERCISES

1. Designing a Logo

    1. Designing a Banner

    2. Text Effects

            1. Extrude and Contour Effect

            2. Artistic Effect

            3. Perspective Effect

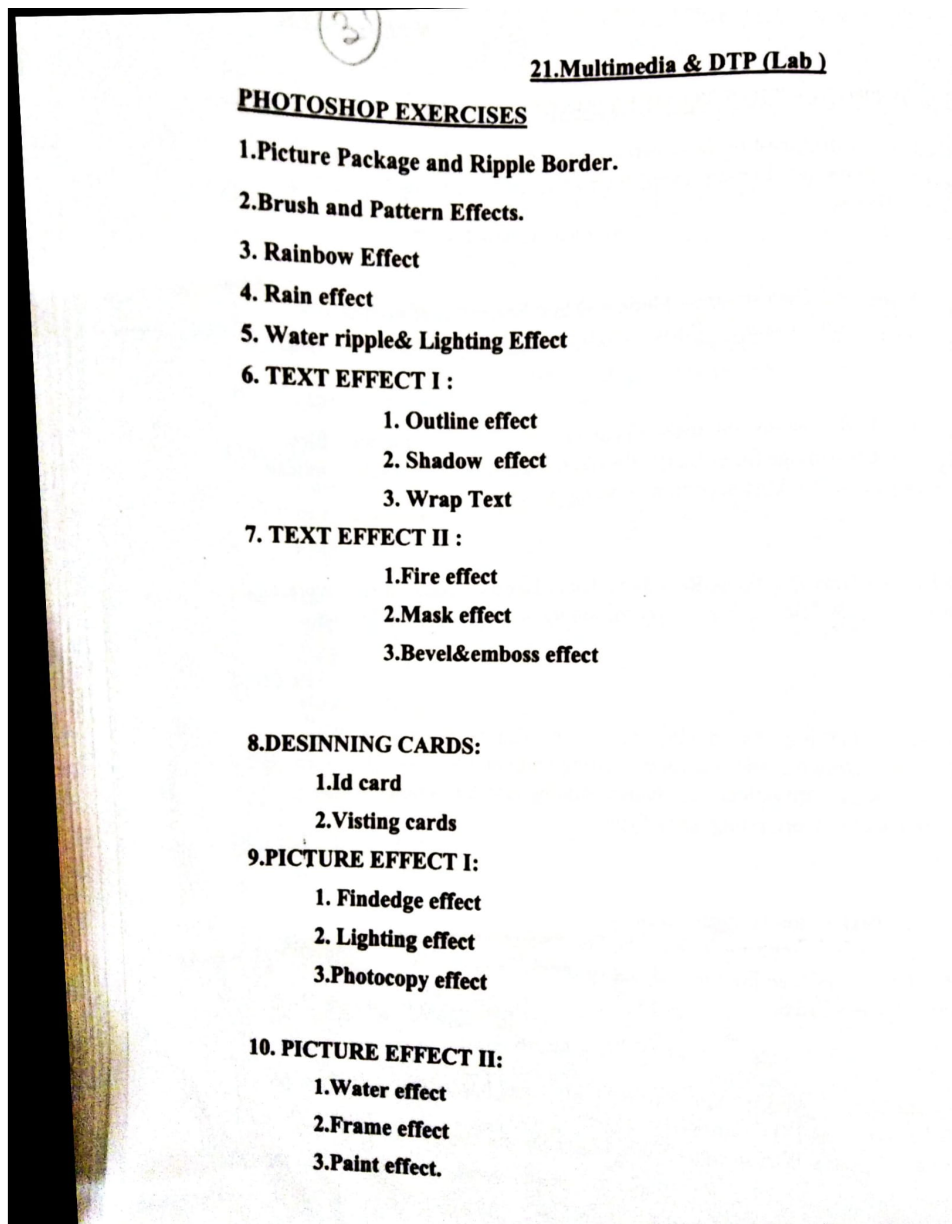   4. Powerclip Effect

4. CD Design

5. Bitmap Effects

            1. Page curl Effect

            2. Particles Effect

            3. Frame Effect.

6. Designing a Book Cover.

Multimedia Application:

21.Multimedia & DTP (Lab)

PHOTOSHOP EXERCISES

1.Picture Package and Ripple Border.

2.Brush and Pattern Effects.

3. Rainbow Effect

4. Rain effect

5. Water ripple& Lighting Effect

6. TEXT EFFECT I :

    1. Outline effect

    2. Shadow effect

    3. Wrap Text

7. TEXT EFFECT II :

    1.Fire effect

    2.Mask effect

    3.Bevel&emboss effect

8.DESINNING CARDS:

    1.Id card

    2.Visting cards

9.PICTURE EFFECT I:

    1. Findedge effect

    2. Lighting effect

    3.Photocopy effect

10. PICTURE EFFECT II:

    1.Water effect

    2.Frame effect

    3.Paint effect.

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Database Applications:

8.DATABASE APPLICATIONS – (ORACLE) Lab

DDL COMMANDS

1. Create a library database/table with the following fields:
sno,accno,title,author,publisher,Pubyear,edition,rate,noc,pubaddr,isbn

2. Clear the screen
3. Show the structure of the library database/table
4. Add the new field purdate to the library table
5. Modify the size of the field rate in the library database.
6. Delete the library table.
7. Check the existence of the table.

DML COMMANDS

8. Insert 5 rows into the library table
9. Display all the records of the library table
10. Display only the book titles and authors for all the books.
11. Display the name and author of all the books which published in the year 200
12. Change the rate of the books from 200 to 500.
13. Change the rate of the book to 350 whose accno is 101.
14. Delete the book whose accno is 102.
15. Delete all the records of the library table.

STRING FUNCTIONS

16. Joining two strings.
17. Convert lowercase of any string
18. Convert uppercase of any string
19. Replace one string to another
20. Apply lpad to any string
21. Apply rpad to any string

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22. Convert first letter is caps in any string
23. Remove left side of any string
24. Remove right side of any string
25. Find the length of any string.
26. Find the ASCII value of any string.

DATE FUNCTIONS

27. Display the current date.
28. Display the current day of the date.
29. Display the current month of the date.
30. Display the current year of the date.
31. Display the current time.
32. Find the next Monday from the current date

NUMERIC FUNCTIONS

33. Find the absolute value of any number.
34. Find the floor value of any number
35. Apply the ceil function
36. Find the round value of any number
37. Find the square root of any number

AGGREGATE FUNCTION

38. Find the largest book rate among books of the library table.
39. Display the book rate which is minimum among all the books.
40. Find the total number of books available in the library.
41. Find the total amount of all the books.
42. Find the average value of all the book rates.

PL/SQL PROGRAMS

1. Odd or Even Number
2. Positive or Negative Number
3. Factorial Number
4. Multiplication Table
5. Display Numbers
6. Prime Number Or Not
7. Armstrong Number Or Not
8. Fibonacci Series
9. Student Mark list Preparation
10. Electricity Bill Preparation

Introduction to Visual Programming:

PART IV   IV SEMESTER
II YEAR

12.INTRODUCTION TO VISUAL PROGRAMMING

Objective : This syllabus is designed to guide the students in developing applications with GUI interfaces.

UNIT: 1

INTRODUCTION: Starting & Exiting Visual Basic-Using Project Explorer-Working with forms-Using Toolbox-Working with projects-Printing projects-Building & Running applications. ADDIND CODE AND USING EVENTS-Using Code window-Using Naming Conventions-Using variable-Scope-Subroutines & Functions.

UNIT: 2

USING INTRINSIC VISUAL BASIC CONTROLS: Labels & Textbox controls-Using command button control-Using frame, Checkbox, option button controls-List Box and combo Box controls-Formatting controls-Using control Arrays-Using Tab Order. WORKING WITH STRINGS-Using strings-Converting Strings-Concatenating Strings-Formatting Strings-Manipulating Strings-Comparing Strings.

UNIT: 3

WORKING WITH NUMBERS: Using Numeric values-Using Numeric operators-Math functions-Random numbers   USING CONTROL STATEMENTS-If & IIF-Select Case-Do-For-Exit Statements.

UNIT: 4

USING DIALOGUE BOXES:MsgBox-Input Box-Common Dialogue Control-Open & Save as Dialogue Boxes-Color Dialogue Box-Font Dialog Box-Print Dialogue Box-Show Help method. USING MENUS: Creating Menus-Adding code to menu-creating shortcut menu-Using Picture box-Rich text box.

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Unit:5

USING FILES & DATA BASES: Opening, Closing & Deleting files and Readin Writing to files-Building Your Own Active X Controls:First step-Testing the control. Polishing the presentation of your control-Adding the functionality.

BOOKS FOR STUDY:

1. SCOTT WARNER—TEACH YOURSELF VB6—TATA MCGRAWHILL, NEWDELHI, 1999. CHAPTERS: 1—8, 10.1, 10.2

2. GARY CORNELL—VISUAL BASIC 6 FROM GROUNDUP, TMH, NEWDELHI, CHAPTER-6(PAGE 206-214).

BOOK FOR REFERENCE:

Mastering visual Basic6-Evangel Pertoutsos-BPB Publishers.

Fundamentals of Internet & web technology:

PART III   VI SEMESTER
III YEAR

24.FUNDAMENTALS OF INTERNET AND WEB TECHNOLOGIES

Objective : This syllabus is focus on the basic knowledge of internet and designing a web pages using scripting languages.

UNIT-I

Computer Networks: Basic of computer Network –Topogies of computer networks- Layers in networking – Types of networks.

Basic of Internet: Internet – History of Internet – Internet services –uses of Internet – protocols – Web concepts

UNIT- II

HTML: Introduction –SGML –Outline of HTML document – Head Section – Body section – HTML Forms

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Java Scripts : Introduction – Language Elements - Objects of java scripts – O
objects – Arrays

UNIT III

DHTML & CSS: Introductions – CSS-DHMTL document object model and
Collections – Event Handling – Filters and Transitions – Data Binding

UNIT IV

XML: Introduction – HTML vs XML –Syntax of XML – XML attributes – X
validation – XML DTD – Building Blocks of XML document – DTD Elements –DT
attributes.DTD entities – DTD validation – XSL – SXL – Transformation – XML
Namespace – XML schema

UNIT V

JSP: Introduction – Advantage of JSP – Developing First JSP – Components o
– Retrieving data form HTML to JSP – JSP session –cookies

Books for study:

1. Internet and Web Technologies – Rajkamal – Tata MC –Graw Hill Publishing
   Chapter 1 (page 10 – 25,31-47)
2. Web Technology – A Developer's Perspective – M.P. Gopalan, J.Akilandeswar
   Prentice Hall of India Private Limited Chapters: 1 4,5,7,8,11.

Introduction to Multimedia and DTP:

20. INTRODUCTION TO MULTIMEDIA AND DTP

Objective : This syllabus is designed to demonstrate knowledge of terminology related to desktop publishing, graphics and animation using Photoshop and Corel Draw.

UNIT 1:

Introduction- Media and Data streams- Medium-Main Properties of multimedia system- multimedia: Images and Graphics- Basic Concepts- Computer Image Processing.

Unit –II

Getting started with Photoshop- Photoshop Program window –working with files-Working with images- Images-Image Size- Image Resolution-Editing Images-Color modes –Setting Fore and Background- Making selection –editing selection.

Unit-III

The Painting Tools- Drawing Tools-Retaching Tools-Layers-Layers palette- working with layers-Hiding ,showing & deleting layers-Repositioning layers-Flattening Images-Filters.

Unit –IV:

Corel Draw Basics : Getting Started with Corel Draw –Corel Draw Screen- Property Bar- Handling Files-Views-Drawing and selection- Getting Familiar with Tool Box- Getting Started With Project- Working with object and shapes- Adding effectsto object- Working with text- text tool-Book Cover-Converting Text Type.

Unit V:

Formatting Text –Text editor-Working with Images-Images-Importing Images-Resizing ,Rotating, Skewing and cropping Images-Adding Special effects- Exporting Files-Publishing –Changing Page size-Page Layout and Background- Page Frame-Inserting ,Deleting and renaming Pages-Rulers.

Books for study:

1. Multimedia computing & Applications Ralf stein Metz and Klara Nahrstedt- Pearson Eduction Chaper 2(Page9-17) Chapter4(Page55-80)
2. Comdex-Multimedias and Web design –Vikas Gupta,Dream Tech Press (Page 47-264)

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M.Aarthi - B4E11101

From **AMBIGA COLLEGE, MADURAI** has done her Final Year Academic Project Training at **Zealsoft Technology Solutions** from **December 2015 to April 2016.**

The Project Internship work entitled **"A PROBABILISTIC MODEL OF (T,N) VISUAL CRYPTOGRAPHY SCHEME WITH DYNAMIC GROUP"** embodies the original work done by **M.Aarthi** during her above full training period.

Platform	:	**Dotnet**
Operating System	:	**Windows XP/7**
Database	:	**SQL Server**

Head – IT Practice

Head - Operations

Zealsoft Technology Solutions (P) Ltd.

Corporate office: # 24B/1, Soundarya Towers, Kuruvikaran salai 2nd Street, Annanagar, Madurai-20.Tamilnadu.
Branch Office: Lakshmi Towers, Ist Floor, Avvai Thirunagar, 5th Street, Koyambedu, Chennai - 92.
725-A1, Viruthunagar Main Road, Thiruthangal, Near Sivakasi, VNR district, Tamilnadu. India.Pin: 626130.

Project Completion Certificate

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ANNANAGAR, MADURAI-20.

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DEPARTMENT OF COMPUTER APPLICATION

PROJECT WORK

APRIL-2016

BONAFIDE CERTIFICATE

This is to certify that project entitled "KEY AGGRGATE CRYPTOSYSTEM FOR SCALABLE DATA SHARING IN CLOUD STORAGE"is a Bonafide workdone by N. MAHABOOB BEGUM(B3119156) , M.J. SHARMILA(B3119164) in partial fulfillment of the requirements for the award of the degree of Bachelor of computer application during the year 2015-2016.

HEAD
Department of Computer Application
AMBIGA COLLEGE OF ARTS &
SCIENCE FOR WOMEN
Anna Nagar, Madurai-625 020

Project guide

Head of the Department

The viva-voce examination of this project held on..2:.04.:.2016...............

External Examiner

r Women

PHOENIX SOFTECH

PROJECT COMPLETION CERTIFICATE

This is to certify that, **MS. G. ANUSIYA (Reg.No: B4E11103)** doing final year **M.Sc.,** (Computer Science and Information Technology) in **Ambiga College of Arts and Science for Women, Madurai** has successfully completed her project titled **"A Lightweight Scheme for Detecting Provenance Forgery and Packet Drop Attack using Wireless Sensor Networks"** using **Java** as the Programming Language during the period of project work from December 2015 to April 2016 in our organization.

We wish her the in all her endeavors.

For **PHOENIX SOFTECH**

SUMATHI
Project Manager

ience For Women
I-625 020

AMBIGA COLLEGE OF ARTS AND SCIENCE FOR WOMEN

ANNA NAGAR,MADURAI-625 020.

Mail Id:ambiga_college@yahoo.co.in

DEPARTMENT OF COMPUTER SCIENCE

PROJECT WORK

MARCH-2016

BONAFIDE CERTIFICATE

This is to certify that project entitled "DACHE: A DATA AWARE CACHE FOR BIG-DATA APPLICATION USING MAPREDUCE FRAMEWORK"is a bonafide work done byN.SUBHA (B3119289) &L.K.SRIDEVI (B3119288) in partial fulfillment of the requirement for the award of the Degree of Bachelor of Computer Science during the year 2015-2016.

PROJECT GUIDE　　　　**HEAD OF THE DEPARTMENT**

HEAD
Department of Computer Science
AMBIGA COLLEGE OF ARTS & SCIENCE FO 1 W.M.
Annanagar, Madurai-625 020

The Viva-voce examination of this project held on .02.04..2016..

EXTERNAL EXAMINER

Ambiga College of Arts and Science For Women
Anna Nagar, Madurai-625 020

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PS InfoTech

PROJECT COMPLETION CERTIFICATE

This is to certify that **Ms. P.S. MUTHUMEENAKSHI, (Reg. No. B4E11112)** doing final year **M.Sc (Computer Science and Information Technology)** in **Ambiga College of Arts and Science for Women, Madurai** has successfully completed her project titled **"Discovery of Ranking Fraud for Mobile Apps"** using **PHP** as the Web Application and **MYSQL** as the Database during the period of project work from December 2015 to April 2016 in our organization.

We wish her the in all her endeavors.

For **PS INFOTECH.**

S. **THANGAPANDIAN**
Authorized Signatory

For Women
020

130

Department of Computer Science

Training Division

This is to certify that

M.Prema - B4E11114

From **AMBIGA COLLEGE, MADURAI** has done her Final Year Academic Project Training
at **RADICAL INFOSYSTEMS** from **December 2015** to **April 2016.**

The Project Internship work entitled "**An Adaptive Traffic Engineering Systems based on
Virtual Routing Topologies**" embodies the original work done by **M.Prema** during her
above full training period.

Platform	:	**Dotnet**
Operating System	:	**Windows XP/7**
Database	:	**SQL Server**

Head – IT Practice

Head – Operations

ence For Women
625 020

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DEPARTMENT OF COMPUTER SCIENCE

PROJECT WORK

MARCH-2016

BONAFIDE CERTIFICATE

This is to certify that project entitled "CONGESTION CONTROL USING NETWORK BASED PROTOCOL" is a bonafide work done by V.DIVYABHARATHI (B3119258), V.S.ABIRAMI (B3119299) in partial fulfillment of the requirement for the award of the Degree of Bachelor of Computer Science during the year 2015-2016.

PROJECT GUIDE

HEAD OF THE DEPARTMENT

HEAD
Department of Compu
AMBIGA COLLEGE OF
Annanagar, Madurai

The Viva-voce examination of this project held on 2|4.|.16 ....

Department of Computer Science

Training Division

This is to certify that

G.M.Rekhamai - B4E11117

From **AMBIGA COLLEGE, MADURAI** has done her Final Year Academic Project Training
at **RADICAL INFOSYSTEMS** from **December 2015 to April 2016.**

The Project Internship work entitled **"Towards Effective Bug Triage with Software Data
reduction Techniques"** embodies the original work done by **G.M.Rekhamai** during her
above full training period.

Platform	:	**Dotnet**
Operating System	:	**Windows XP/7**
Database	:	**SQL Server**

Head – IT Practice   **Head Operations**

S. No	Program Name	Program code	Program Name that include experimental learning through project work/field/internship	Years of Offering	Project	Internship	Field work
1	BCA	SCA8	Internet Applications	2015-2014	✔		
2	BCA	SCA8	Object Oriented Programming with C ++	2015-2014	✔		
3	BCA	SCA8	Computer Based Financial Accounting	2015-2014	✔		
4	BCA	SCA8	Java Programming	2015-2014	✔		
5	BCA	SCA8	Digital Principles and Computer Organization	2015-2014	✔		
6	BCA	SCA8	Data Structure and Computer Algorithms	2015-2014	✔		
7	BCA	SCA8	Operating Systems	2015-2014	✔		
8	B.sc CS	SCS8	Software Engineering	2015-2014	✔		
9	B.sc CS	SCS8	Dot Net Programming	2015-2014	✔		
10	B.sc CS	SCS8	Soft Computing	2015-2014	✔		
11	B.sc CS	SCS8	Computer Networks	2015-2014	✔		
12	B.sc CS	SCS8	Web Programming	2015-2014	✔		
13	B.sc CS	SCS8	Data Mining	2015-2014	✔		

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14	B.sc CS	SCS8	Mobile Computing	2015-2014	✔		
15	B.sc CS	SCS8	Script Programming	2015-2014	✔		
16	B.sc CS	SCS8	Java Programming	2015-2014	✔		
17	B.sc CS	SCS8	Operating System	2015-2014	✔		
18	B.sc CS	SCS8	Software Engineering	2015-2014	✔		
19	B.sc CS	SCS8	Web Technology	2015-2014	✔		
20	B.sc CS	SCS8	Computer Graphics	2015-2014	✔		
21	B.sc CS	SCS8	Multimedia	2015-2014	✔		
22	B.sc CS	SCS8	Data Communication and Computer Networks	2015-2014	✔		
23	B.com CA	CCA8	Information Technology	2015-2014	✔		
24	B.com CA	CCA8	Business Application Programming	2015-2014	✔		
25	B.com CA	CCA8	Data Base Application	2015-2014	✔		
26	B.com CA	CCA8	Introduction to Visual Programming	2015-2014	✔		
27	B.com CA	CCA8	Fundamentals of Internet & Web Technology	2015-2014	✔		
28	B.com CA	CCA8	Introduction to Multimedia and DTP	2015-2014	✔		

2014 – 2015

S. No	Name of Course	Name of Programme
1	BCA	Internet Applications
2	BCA	Object Oriented Programming with C ++
3	BCA	Computer Based Financial Accounting
4	BCA	Java Programming
5	BCA	Digital Principles and Computer Organization
6	BCA	Data Structure and Computer Algorithms
7	BCA	Operating Systems
8	BCA	Software Engineering
9	BCA	Dot Net Programming
10	BCA	Soft Computing
11	BCA	Computer Networks
12	BCA	Web Programming
13	BCA	Data Mining
14	BCA	Mobile Computing
15	BCA	Script Programming
16	B.sc Computer Science	Java Programming
17	B.sc Computer Science	Operating System
18	B.sc Computer Science	Software Engineering
19	B.sc Computer Science	Web Technology
20	B.sc Computer Science	Computer Graphics
21	B.sc Computer Science	Multimedia
22	B.sc Computer Science	Data Communication and Computer Networks
23	B.com CA	Information Technology
24	B.com CA	Business Application Programming
25	B.com CA	Data Base Application
26	B.com CA	Introduction to Visual Programming
27	B.com CA	Fundamentals of Internet & Web Technology
28	B.com CA	Introduction to Multimedia and DTP

Problem Solving using C++:

Unit IV:

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

Unit V:

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

Text Book:

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

Unit I   : Chapter 1 (Except 1.3, 1.4), Chapter 2 (Only 2.6), Chapter 3 (Except 3.20, 3.21, 3.22) and Chapter 4
Unit II : Chapter 5 (Except 5.18, 5.19), Chapter 6 (Except 6.8, 6.9, 6.10)
Unit III: Chapter 7 and Chapter 8
Unit IV: Chapter 9 and Chapter 10
Unit V: Chapter 11 (Except 11.8) and Chapter 12 (Only 12.2, 12.3 and 12.4)

Reference Books:

1. C++ - The Complete Reference, Herbert Schildt, TMH, 1998.
2. C++ How to Program, Paul Deitel, Harvey Deitel, PHI, Ninth edition (2014).
3. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C —. Pearson Education, 2006.
4. Object-Oriented Programming Using C++, Alok Kumar Jagadev. Amiya Kumar Rath and SatchidanandaDehuri, Prentice-Hall of India Private Limited, New Delhi, 2007.

CS 4: Lab 3: Problem Solving using C++
(6 Hours – 4 Credits)

Section- A

1. Generate prime numbers between the given two numbers.
2. Perform arithmetic operations using Inline function.
3. Accept a three digit number and display it in words.(Example 123 should be printed out as One Two Three)
4. Find the sum of given numbers using function with default arguments.
5. Swap two values using methods of passing arguments in function
6. Prepare a student Record using class and object.
7. Find the area of geometric shapes using function overloading.

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Anna Nagar, Madurai-625 020

1. Demonstrate constructor with default arguments.
2. Program using manipulators.
3. Perform operator overloading for Unary minus, unary increment and unary decrement
4. Concatenate two strings using the concept of Binary operator overloading.
5. Perform addition and subtraction of complex numbers using Binary Overloading.
6. Create student mark sheet using single inheritance.
7. Prepare employee information using multiple inheritance.
8. Process employee details using hierarchical inheritance.
9. Implement the concept of Virtual functions.
10. Implement the concept of virtual base class.
11. Sort the given set of numbers using function templates
12. Search the key element in the given set of numbers using class template.
13. Processing mark list using binary file.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.
16. Implement a file handling concept using sequential access.
17. Implement file handling concept using random access

AS 2: Computer based Financial Accounting
(4 Hours – 4 Credits)

Unit I:

Financial Accounting: Meaning, Nature and scope, Limitations – **Accounting Principles** : Basic Concepts and Conventions – Objectives of accounting – Accounting rules.

Unit II:

Books and records : Recording of business transactions – Types of accounts – Journal – Ledger – Journal Vs Ledger, Subsidiary books – Trial balance.

Unit III:

Final Accounts: Introduction – Trading account – Profit and loss account – Balance sheet. (Simple problems)

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Computer Based Financial Accounting:

1. Demonstrate constructor with default arguments.
2. Program using manipulators.
3. Perform operator overloading for Unary minus, unary increment and unary decrement
4. Concatenate two strings using the concept of Binary operator overloading.
5. Perform addition and subtraction of complex numbers using Binary Overloading.
6. Create student mark sheet using single inheritance.
7. Prepare employee information using multiple inheritance.
8. Process employee details using hierarchical inheritance.
9. Implement the concept of Virtual functions.
10. Implement the concept of virtual base class.
11. Sort the given set of numbers using function templates
12. Search the key element in the given set of numbers using class template.
13. Processing mark list using binary file.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.
16. Implement a file handling concept using sequential access.
17. Implement file handling concept using random access

AS 2: Computer based Financial Accounting
(4 Hours – 4 Credits)

Unit I:

Financial Accounting: Meaning, Nature and scope, Limitations – **Accounting Principles** : Basic Concepts and Conventions – Objectives of accounting – Accounting rules.

Unit II:

Books and records : Recording of business transactions – Types of accounts – Journal – Ledger – Journal Vs Ledger, Subsidiary books – Trial balance.

Unit III:

Final Accounts: Introduction – Trading account – Profit and loss account – Balance sheet. (Simple problems)

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ntroduction to Tally: Features of Tally 9 – Company info: Create, Select, Alter se or Shut Company – Ledger Creation: Creating, Displaying, Altering and Deleting. 'eatures and F12 – Configuration.

/:

Voucher Creation: Receipt, Payment, Contra, Journal, Sales, Purchase, Memo, ay, Alter, Delete, Insert, Statement of Reports: Trail balance, Profit and Loss account, nce sheet.

t Books
1. Financial Accounts – R.S.N. Pillai and Bagavathi, S.Chand, 2007
   Unit I: Pg. Numbers – 1 to 22
   Unit II : Pg. Numbers – 30 – 65
   Unit III: Pg. Numbers – 154 to 170
2. Tallly (version 9) – C.NellaiKannan, 2007
   Unit IV : Pg. Numbers – 5 to 61
   Unit V : Pg. Numbers – 62 to 102

Reference Books
1. Comdex Tally 9 – Dr. NamrataAgrawal, Dream Tech Publications
2. Tally (Accounting Software) S.Palanivel, Margham Publications, 2010

SBS 2: Lab 4:Business Accounting
(2 Hours – 2 Credits)

I. Company Creation
II. Ledger Creation
III. Voucher Creation
   a) Contra voucher
   b) Payment voucher
   c) Receipt voucher
   d) Journal voucher
   e) Purchase voucher
   f) Sales counter
IV. Reports
   a) Day book
   b) Trail balance
   c) Final Accounts
   d) Purchase Register
   e) Sales Register
   f) Outstanding Receivable
   g) Outstanding Payable
   h) Cheque Printing
   i) Bank Reconciliation Statement

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Data Structures and Computer Algorithms:

CS 8: Data Structures and Computer Algorithms
(4 Hours – 4 Credits)

Objective:
Learning concept of data structures, including its representation and operations performed on them, which are then linked to sorting, searching and indexing which are performed on them, to increase the knowledge of usage of data structures in algorithmic perspective.

Unit I:
Introduction, Basic Terminology, Elementary date, organization, data structure, Date structure operations, Algorithmic Notation, Control structures, complexity of algorithms, variables, data types.

Unit II:
Arrays: Introduction, Linear arrays, representation of linear arrays in memory, Traversing Linear arrays, Inserting & Deleting, Sorting: Bubble sort, searching: Linear search, Binary search, multidimensional arrays, Pointers, records.

Unit III:
Linked Lists: Introduction, Linked List, representation of Linked list in memory, traversing a linked list, Searching a linked list, Memory allocation, Garbage collection, Insertion into a linked list, Deletion from a linked list.

Unit IV:
Stacks: Introduction, Stacks, array representation of stacks, Linked representation of stacks, Quick sort. Recursion: Tower of Hanoi, Queues: Linked representation of Queues, Deques.

Unit V:
TREES: Introduction, Binary Trees, Representing Binary Trees in Memory, Traversing Binary Trees, Traversal Algorithms using Stacks, Binary Search Trees, Searching and Inserting in Binary Search Trees, Deleting in a Binary Search Tree. Graph: introduction, graph theory terminology, operation on graph.

Text book:
"Data structures", Seymour Lipschutz, Tata Mc-Graw Hill, 2006
UNIT 1: 1.1, 1.2, 1.3, 1.4 , 2.3, 2.4, 2.5, 2.8.
UNIT 2: 4.1, 4.2, 4.3, 4.4. 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11.
UNIT 3: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8.
UNIT 4: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12.
UNIT 5: 7.1, 7.2, 7.3, 7.4, 7.5, 7.7, 7.8, 7.9, 8.1, 8.2, 8.6.

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Operating Systems:

Refer
1. Data structures Education/Oxford University In C++, Ellis Horowitz, Sartajsanni, Dinesh
2. Fundamentals of Data structures In C++, Ellis Horowitz, Sartajsanni, Dinesh University press, 2007.
3. Data Structures using C, Tanaenbaum A.S.,Langram Y. Augestein M.J, Education , 2004.
4. Introduction to the Design and Analysis of Algorithms, AnanyLevitin, Education 2003.

CS 9: Lab 7: Data Structures and Computer Algorithms
(6 Hours – 4 Credits)
SECTION - A

1. Implementing Stack as an array.
2. Implementing Stack as a linked list.
3. Convert Infix expression to Postfix expression using stack.
4. Convert Infix expression to Prefix expression using Stack.
5. Implementing Queue as an Array.
6. Implement Queue as a linked list.
7. Binary tree traversals.
8. Implement Binary Search Tree.

SECTION - B

1. Linear Search
2. Binary Search
3. Bubble Sort Algorithm.
4. Insertion Sort Algorithm.
5. Merge Sort Algorithm.
6. Quick Sort Algorithm.
7. Selection Sort Algorithm.

CS 10: Operating Systems
(4 Hours – 4 Credits)

Unit I:

Introduction to Operating Systems: Introduction, What is an Operating system, Operating system components and goals, Operating systems architecture. Process Concepts Introduction, Process States, Process Management, Interrupts, Interprocess Communication.

Unit II:

Asynchronous Concurrent Execution: Introduction, Mutual Exclusion, Implementing Mutual Exclusion Primitives, Software solutions to the Mutual Exclusion Problem, Hardware solution to the Mutual Exclusion Problem, Semaphores. Concurrent Programming: Introduction, Monitors.

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Unit III:

Deadlock and Indefinite Postponement: Introduction, Examples of Deadlock, Related Problem Indefinite Postponement, Resource concepts, Four Necessary conditions for Deadlock, Deadlock solution, Deadlock Prevention, Deadlock Avoidance with Dijkstra's Banker's algorithm, Deadlock Detection, Deadlock Recovery. **Processor Scheduling:** Introduction, Scheduling levels, Preemptive Vs Non-Preemptive Scheduling Priorities, Scheduling objective, Scheduling criteria, Scheduling algorithms.

Unit IV:

Real Memory Organization and Management: Introduction, Memory organization, Memory Management, Memory Hierarchy, Memory Management Strategies, Contiguous Vs Non-Contiguous Memory allocation, Fixed Partition Multiprogrammimg, Variable Partition multiprogramming. **Virtual Memory Management:** Introduction, Page Replacement, Page Replacement Strategies, Page Fault Frequency (PFF) Page replacement, Page Release, Page Size.

Unit V:

Disk Performance Optimization: Introduction, Why Disk Scheduling is necessary, Disk Scheduling strategies, Rotational optimization. **File and Database Systems:** Introduction, Data Hierarchy, Files, File Systems, File Organization, File Allocation, Free Space Management, File Access control.

Text Book:
Operating Systems, Deitel&Deite.Choffnes, Pearson education, Third edition, 2008.

      Unit I : Chapters 1.1, 1.2, 1.12, 1.13 & 3.1 to 3.5
      Unit II : Chapters 5.1, 5.2, 5.3, 5.4(up to 5.4.2), 5.5, 5.6 & 6.1, 6.2
      Unit III: Chapters 7.1 to 7.10 & 8.1 to 8.7
      Unit IV: Chapters 9.1 to 9 6, 9.8, 9.9 & 11.1, 11.5, 11.6, 11.8, 11.9, 11.10
      Unit V: Chapters 12.1, 12.4 to 12.6 & 13.1 to 13.8

Reference Books

1. An introduction to Operating systems concepts and Practice, Pramod Chandra P. Bhatt, PHI, Second Edition, 2008.
2. Operating System Concepts, Abraham Silberschatz Peter Galvin Greg Gagne, 6th edition Windows XP Update, Wiley India edition, 2007.
3. Operating Systems Principles and Design, Pal Choudhury, PHI Learning, 2011.
4. Operating Systems, A Concept Based Approach DhananjayM.Dhamdhere Tata McGraw Hill, 3rd Edition, 2012.

Software Engineering:

CS 12: Software Engineering
(4 Hours – 4 Credits)

Objectives

- To acquaint students with the basic concepts and major issues of software engineering
- To impart knowledge on the basic principles of software development life cycle.
- To know the benefits of software analysis, design, testing and documentation efforts

Unit I:
Introduction to Software Engineering: Some Definitions – Some Size factors – Quality and Productivity Factors – Managerial Issues. Planning a Software Project: Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure – Other Planning Activities.

Unit II:
Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing-Level Estimation – Estimating Software Maintenance Costs.

Unit III:
Software Requirements Definitions: The Software Requirements Specification – Formal Specification Techniques – Languages and Processors for Requirements Specification.

Unit IV:
Software Design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notations – Design Techniques – Detailed Design Considerations – Real-Time and Distributed System Design – Test Plans – Milestones, Walkthroughs, and Inspections - Design Guidelines.

Unit V:
Verification and Validation Techniques: Quality Assurance – Static Analysis – Symbolic Execution – Unit Testing and Debugging – System Testing – Formal Verification.Software Maintenance: Enhancing Maintainability During Development – Managerial Aspects of Software Maintenance – Configuration Management – Source-Code Metrics – Other Maintenance Tools and Techniques.

Text book :
Software Engineering Concepts, Richard Fairley, Tata McGrawHill Publishing Company Limited, NewDelhi, 1997.

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Web Technology:

ES1 – 1. WEB TECHNOLOGY
(4 Hours – 5 Credits)

UNIT I
Introduction- History of the Internet-Services and Accessibility -uses. Protocols. Web Concepts-Internet Standards. HTML-Introduction - SGML-HTML document - Head section- Body section- HTML Forms.

UNIT II
JAVASCRIPT – Introduction - Language Elements- Objects of JavaScript-Other Objects- Arrays.

UNIT III
VBSCRIPT – Introduction-Embedding VBScript Code in an HTML Document- Comments-Variables- Operators- Procedures – Conditional Statements-Looping constructs – Objects and VBScript – Cookies.

UNIT IV
SERVLETS-Introduction-Advantages of Servlets over CGI- Installing Servlets- The Servlet Life Cycle- Servlet API- A Simple Servlet- Handling HTTP GET Requests-Handling HTTP POST Requests- Cookies – Session Tracking- Multi-tier .Applications using Database Connectivity- Servlet Chaining.

UNIT V
JAVA SERVER PAGES (JSP) – Introduction- Advantages of JSP- Developing First JSP- Components of JSP – Reading Request Information- Retrieving the Data Posted from HTML File to a JSP File – JSP Sessions- Cookies- Disabling Sessions.

Text Book:

1. Web Technology – A Developer's Perspective , N.P.Gopalan and J.Akilandeswari. Prentice-Hall of India Pvt. Ltd. New Delhi, 2008.

   UNIT 1 - 1 : Chapter 1 and 4
   UNIT 2 : Chapter 5

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Introduction to Visual Programming:

12.INTRODUCTION TO VISUAL PROGRAMMING

Objective : This syllabus is designed to guide the students in developing applications with GUI interfaces.

UNIT: 1

INTRODUCTION: Starting & Exiting Visual Basic-Using Project Explorer-Working with forms-Using Toolbox-Working with projects-Printing projects-Building & Running applications. **ADDIND CODE AND USING EVENTS**-Using Code window-Using Naming Conventions-Using variable-Scope-Subroutines & Functions.

UNIT: 2

USING INTRINSIC VISUAL BASIC CONTROLS: Labels & Textbox controls-Using command button control-Using frame, Checkbox, option button controls-List Box and Combo Box controls-Formatting controls-Using control Arrays-Using Tab Order.
WORKING WITH STRINGS-Using strings-Converting Strings-Concatenating Strings-Formatting Strings-Manipulating Strings-Comparing Strings.

UNIT: 3

WORKING WITH NUMBERS: Using Numeric values-Using Numeric operators-Math functions-Random numbers   **USING CONTROL STATEMENTS**-If & IIF-Select Case-Do-For-Exit Statements.

UNIT: 4

USING DIALOGUE BOXES: MsgBox-Input Box-Common Dialogue Control-Open & Save as Dialogue Boxes-Color Dialogue Box-Font Dialog Box-Print Dialogue Box-Show Help method. **USING MENUS:** Creating Menus-Adding code to menu-creating shortcut menu-Using Picture box-Rich text box.

Unit:5

USING FILES & DATA BASES: Opening, Closing & Deleting files and Rea Writing to files-Building Your Own Active X Controls:First step-Testing the control. Polishing the presentation of your control-Adding the functionality.

BOOKS FOR STUDY:

1. SCOTT WARNER—TEACH YOURSELF VB6—TATA MCGRAWHILL, NEWDELHI, 1999. CHAPTERS: 1—8, 10.1, 10.2

2. GARY CORNELL—VISUAL BASIC 6 FROM GROUNDUP, TMH, NEWDELHI CHAPTER-6(PAGE 206-214).

BOOK FOR REFERENCE:

Mastering visual Basic6-Evangel Pertoutsos-BPB Publishers.

13. INTRODUCTION TO VISUAL PROGRAMMING (LAB)

1. Write a VB program to perform Arithmetic Operations.
2. Write a VB program using list box to sort the Numbers in ascending and desc order.
3. Write a VB program to calculate simple interest and compound interest values function.
4. Write a VB program to generate Fibonacci Series.
5. Write a VB program to perform String Manipulation.
6. Write a VB program to Change the Color Using Scrollbar.
7. Write a VB program to perform number checking.
8. Write a VB program to find Item Details.
9. Write a VB program to Create Arithmetic Calculator.
10. Write a VB program using Drive, Directory and list box to open image and t
11. Write a VB program using menu editor to format files
12. Write a VB program to format font in different styles.
13. Write a VB program to Create Circle Animation.
14. Write a VB program to display student details using DAO.

Project Completion Certificate

30/04/15

Fiona Info Tech
No.19, A-1, First floor,
Chandravilas,
9th Street, Dr.Radhakrishnan salai,
Mylapore,
Chennai 600 004
Contact: +91 8883067847

To whomsoever it may concern

This is to certify that MEENAKSHI S (REG.NO B3712805) has completed project work
entitled **"FAFC: Fast Adaptive Fuzzy AQM Controller for TCP/IP Networks"** using
.NET technology with us Fiona at Chennai, between the periods from December 2014 to
April 2015 for partial fulfillment of the Master of Computer Science at Amiga College of
Arts and Science for Women, Madurai., Affiliated to Madurai Kamaraj University

If you have any questions, please contact me at +91 8883067847

Best Wishes,

V.VarunVijay
(Operations Manager)

Fiona Info Tech
No.19, A-1, First floor,Chandravilas,9th Street, Dr.Radhakrishnan salai,Mylapore,Chennai 600 004
Contact: +91 8883067847   E-Mail: mail2fionainfotech@gmail.com

Principal
Ambiga College of Arts and Science For Women
Anna Nagar, Madurai-625 020

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DOCSER

PROJECT COMPLETION CERTIFICATE

This is to certify that, student **Ms. R. JANANI,** (Reg. No: B3712804) final year
M.Sc, (Computer Science & Information Technology) Ambiga College of Arts and
Science for Women, Madurai has successfully completed her project titled "**A New
Cell Counting Based TOR Against Attack**" using **C#.net** as the windows application
and **Sql Server** as the Database during the period from December 2014 to April 2015
project work in our organization.

With Best Wishes

For DOCSER TECHNOLOGIES

Priya Raymond
HR Manager

30/04/15

Fiona Info Tech
No.19, A-1, First floor,
Chandravilas,
9th Street, Dr.Radhakrishnan salai,
Mylapore,
Chennai 600 004
Contact: +91 8883067847

To whomsoever it may concern

This is to certify that SUDANDRA DEVI S (REG.NO B3712813) has completed project

work entitled "**Document Clustering for Forensic Analysis: An Approach for Improving**

Computer Inspection" using.NET technology with us Fiona at Chennai, between the periods

from December 2014 to April 2015 for partial fulfillment of the Master of Computer Science

at Amiga College of Arts and Science for Women, Madurai., Affiliated to Madurai Kamaraj University

If you have any questions, please contact me at +91 8883067847

Best Wishes,

V.VarunVijay

(Operations Manager)

Fiona Info Tech

No.19, A-1, First floor,Chandravilas,9th Street, Dr.Radhakrishnan salai,Mylapore,Chennai 600 004

24.03.2015

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the project titled "**Semantic Web Search Engines**" done by **Miss. S.Nandhini(Reg.No: B3712807)** from Amibika College Of Arts and Science, in partial fulfillment of Master of Science in Computer Science and Information Technology is a bonafied work of project work done at Nandhi Institute of Technology between October 2014 to March 2015.

It is seen that the project was successfully completed and complies with all the requirements suggested initially.

"We wish her all success"

For **NIT**,

R.Nantha Gopal
Managing Director

Pacific Blue Technologies Ltd.

Ground Floor, New No. 79, Old No. 38,
7th Avenue, Ashok Nagar,
Chennai - 600 083.
Telefax : 24748424, 23716854, +91-86809 80819
E-mail : pacificbluetech@yahoo.com
            pbtl@md3.vsnl.net.in

PROJECT COMPLETION CERTIFICATE

This is to certify that **Ms. V. MUTHUMEENAKSHI,** (Reg. No. B3712806) doing her final year **M.Sc, (Computer Science & Information Technology)** student of **Ambiga College of Arts and Science for Women, Madurai** has successfully completed her project titled **"Three Tier Security Scheme in Wireless Sensor Networks with Mobile Sinks"** using C#.NET as the Windows Application during the period five months from December 2014 to April 2015 in our organization. During the project work her attendance and Conduct was very good.

We wish her the best in all her endeavors.

For Pacific Blue Technologies Ltd.

R. Ganesh Babu
Authorized Signatory

Eminent
Technology Solutions
moving forward with innovation

BP Plaza, 91/6, TC Palya N
Next to RK A
Ramamoorthy Nagar, Bangalo
Phone : +91 80 42135350, Mobile : +91 9

TO WHOM SO EVER IT MAY CONCERN

ETS/HRD/2014

This is to certify that **S.MUTHUMARI. K AND M.PRINCYADEVI student** of **AMBIKA COLLEGE OF ARTS & SCIENCE FOR WOMEN , MADURAI** has undergone the project named **"VEHICULAR AD-HOC NETWORK"** as a part of her curriculum for a period from **December 2013 to Mar 2014** in our Organization and Successfully Completed the project work and Submitted the project report under the guidance of **Mr.G.Thirukkumaran**, Software Programmer.

She was sincere and took keen interest in the work assigned to her. Her attendance during the project duration is 100%.Her conduct and behaviors were found to be good.

We wish her all success in future.

For Eminent Technology Solution,

Project Manager

TO WHOM SO EVER IT MAY CONCERN

ETS/HRD/2014

This is to certify that **T.MALATHI AND M.POORNIMA** student of **AMBIKA COLLEGE OF ARTS & SCIENCE FOR WOMEN**, **MADURAI** has undergone the project named **"FAST IP NETWORK RECOVERY USING MULTIPLE ROUTERS"** as a part of her curriculum for a period from **December 2013 to Mar 2014** in our Organization and Successfully Completed the project work and Submitted the project report under the guidance of **Mr.G.Thirukkumaran**, Software Programmer.

She was sincere and took keen interest in the work assigned to her. Her attendance during the project duration is 100%. Her conduct and behaviors were found to be good.

We wish her all success in future.

For Eminent Technology Solution,

Project Manager

pb Pacific Blue Technologies Ltd.

Ground Floor, New No. 79, Old No. 38,
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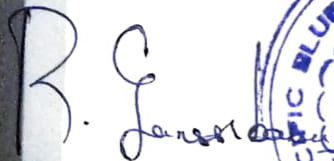Telefax : 24748424, 23716854, +91-86809 80819
E-mail : pacificbluetech@yahoo.com
pbtl@md3.vsnl.net.in

PROJECT COMPLETION CERTIFICATE

This is to certify that **Mrs. P. ANITHA,** (Reg. No. B3712802) doing her final year **M.Sc, (Computer Science & Information Technology)** student of **Ambiga College of Arts and Science for Women, Madurai** has successfully completed her project titled **"Optimal Multicast Capacity and Delay Tradeoffs in MANETs"** using C#.NET as the Windows Application during the period five months from December 2014 to April 2015 in our organization. During the project work her attendance and Conduct was very good.

We wish her the best in all her endeavors.

For Pacific Blue Technologies Ltd.

R. Ganesh Babu
Authorized Signatory

PROJECT COMPLETION CERTIFICATE

This is to certify that, student **Ms. S. SANTHIYA,** (Reg. No: B3712808) final year **M.Sc,** (Computer Science & Information Technology) Ambiga College of Arts and Science for Women, Madurai has successfully completed her project titled "**Mining Weakly Labeled Web Facial Images for Search Based Face Annotation**" using **Asp.net** as the web application and **Sql Server** as the Database during the period from December 2014 to April 2015 project work in our organization.

With Best Wishes

For DOCSER TECHNOLOGIES

Priya Raymond
Priya Raymond
HR Manager