SAKTHI COLLEGE OF ARTS AND SCIENCE FOR WOMEN, ODDANCHATRAM

(Recognized Under Section 2(f) and 12(B) of UGC Act 1956)

(Affiliated to Mother Teresa Women's University, Kodaikanal)

DEPARTMENT OF COMPUTER APPLICATIONS

CURRICULUM FRAMEWORK AND SYLLABUS FOR

OUTCOME BASED EDUCATION IN

SYLLABUS FOR

BCA.,

FRAMED BY

MOTHER TERESA WOMEN'S UNIVERSITY, KODAIKANAL

UNDER

CHOICE BASED CREDIT SYSTEM

2015 - 2018

BCA Programme

Part	Category	Theory/ Prac.	Subject	Total Hr.	Credits	Internal	External
SEMESTER - I							
I		Theory	Tamil		3	40	60
II		Theory	English		3	40	60
III	Core	Theory	Programming in C		4	40	60
III	Core	Theory	Digital Principles		4	40	60
III	Allied	Theory	Computational Mathematics		4	40	60
IV			Value Education		3		
			TOTAL Credits		21		
SEMESTER - II							
I		Theory	Tamil		3	40	60
II		Theory	English		3	40	60
III	Core	Theory	Programming in C++		4	40	60
III	Core	Practical	Programming in C &C++ Lab		4	40	60
III	Allied	Practical	Business Automation Lab		4	40	60
IV			EVS		2		
			TOTAL Credits		20		
SEMESTER III							
I		Theory	Tamil		3	40	60
II		Theory	English		3	40	60
III	Core	Theory	Operating System		4	40	60
III	Allied	Theory	Accounting & Financial Management		4	40	60
III	Elective	Theory	Computer Organization		3	40	60
IV	SBE		DTP Lab		2	40	60
IV	NME		Fundamentals of Computer		2	40	60
			TOTAL Credits		21		
SEMESTER - IV							
I		Theory	Tamil		3	40	60
II		Theory	English		3	40	60
III	Core	Theory	RDBMS with Oracle		4	40	60
III	Core	Practical	RDBMS with Oracle Lab		4	40	60
	Allied	Practical	Tally Lab		4	40	60
III	Elective	Theory	Mobile Communication		3	40	60
IV	SBE	Practical	Multimedia Lab		2	40	60
IV	NME		Principles of Information Technology		2	40	60
			TOTAL Credits		25		

SEMESTER - V							
III	Core	Theory	Computer Networks		4	40	60
III	Core	Theory	Computer Algorithms & Data Structures		4	40	60
III	Core	Theory	Resource Management Techniques		4	40	60
III	Core	Theory	System Software		4	40	60
III	Core	Theory	Software Engineering		4	40	60
III	Elective	Practical	Data Structure Lab		3	40	60
IV	SBE	Practical	PHP Lab		2	40	60
			TOTAL Credits		25		
SEMESTER VI							
III	Core	Theory	Programming in JAVA		4	40	60
III	Core	Theory	Computer Graphics		4	40	60
III	Core	Theory	Data Mining		4	40	60
III	Core	Practical	Programming in JAVA Lab		4	40	60
III	Core	Practical	Computer Graphics Lab		4	40	60
III	Elective	Practical	Scripting Language Lab		3	40	60
IV	SBE	Practical	.Net lab		2	40	60
V			Extension Activities		3		
			TOTAL Credits		28		

	I	II	III	IV	V	VI	TOTAL
Credits	21	20	21	25	25	28	**140**

PROGRAMMING IN C

Unit I

Introduction to C: Importance of C – Elementary Program – Features and Structure of C Program – Fundamentals: Tokens – Constant – Variables – Data types – Operators and Expression – Control Statements: Branching – Looping.

Unit II

Functions: String Functions– User defined functions – Recursion – Life time Variables – Storage Class Modifiers.

Unit III

Arrays: Introduction Single Dimensional –Two Dimensional – Multi dimensional array – Array Declaration. And Assigning values

Structures: Introduction – Array of structures – Array within structure – Difference between Structure and Union – Union.

Unit IV

Pointers: Fundamentals – Operation on pointers - Dynamic Memory Allocation.

Unit V

File Management: Fundamentals – Input and Output file operation – Random Access file – Command Line Arguments.

Preprocessor: Macro substitution – File inclusion.

Reference Books:

1. Programming with C by Byron Gottfried, Tata MCGraw-Hill Publishing Company Limited, Second Edition.

2. Programming in C by E.Balagurusamy, Tata MCGraw-Hill Publishing Company, Sixth Edition.

3. Programming in C by Dr.S.Ramaswamy and P.Radhaganesan, Sci Tech Publishing Pvt.Ltd.

4. A first course in Programming using C by T.Jeyapoovan, Vikas Publishing house Pvt.Ltd.

3. Programming Techniques through C – A beginner's companion by M.G.Venkatesh Murthy, Pearson education, New Delhi, 2002.

DIGITAL PRINCIPLES

UNIT I

Number Representation-Number System: Binary, Hexadecimal-Octal Codes-BCD-Excess-3-Gray Code-ASCII-EBCDIC-Binary Arithmetic-1's Complement-2's Complement Representation-Error Detecting Codes-Hamming Codes.

UNIT II

Introduction-Boolean Algebra- Demorgon's Theorem-Sum Of Product method-Product of Sum method-Karnaugh Map.

UNIT III

Introduction-Logic Gates-OR-AND-NOT-NAND-NOR-Universal Gates-EX-OR & EX-Nor Gates.

UNIT IV

Decoder-Encoder-Multiplexer-Demultiplexer-Half Adder-Full Adder-Half Subtractor-Full Subtractor.

UNIT V

Flip-Flops-S-R Flip-flop—J-K Flip Flops-T Flip Flop-D Flip Flop-Counter: Ring Counter-Register-Shift Register.

Text Books:

1. Digital Principles and Applications-Albert Paul Malvino& Donald P.Leach-IV Edition-Tata McGraw Hill Company Limited.

2. Digital Circuits & Design-S.Salivahanan,S.Arivazhagan-II Edition-Vikas Publication.

Reference Book

1. Digital Principles & System Design – P.S.Manoharan-Revised Edition-Charulatha Publication.

COMPUTATIONAL MATHEMATICS

UNIT I

Frequency distribution: Measures of Central Tendency – Arithmetic Mean – Median – mode – Geometric – Harmonic Mean

UNIT II

Curve Fitting – Principles of Least Squares – Correlation – Rank Correlation – Measures of Dispersion.

UNIT III

Simultaneous Equation – Gauss Elimination method – Gauss Sedial method – Iteration method

UNIT IV

Interpolation – Newton's formulae – Gauss Interpolation - Gauss Interpolation formulae – Lagranges's interpolation formula – Inverse Interpolation.

UNIT V

Numerical Differentiation: Newton's formulae – Numerical integration – Simpson's rule – Numerical solution of differential equations: Euler's method – Runge Kutta method.

Text Book:

1. *Statics* by S.Arumugam&TangapandiIssac, New Gamma Publishing House, Palayamkottai.
2. *Numerical Methods* by S.Arumugam&TangapandiIssac, A.Somasundaram, SciTech Publications, Chennai, 2002.

Reference Book:

1. *Elements of Mathematical Statics* by S..C. Gupta &V.K.Kapoor, S.Chand& Sons, NewDelhi.
2. *Introduction of Mathematical Statics* by Robert V.Hogg&T.Craig Collier Macmillan International Edition.

PROGRAMMING IN C++

UNIT I

Principles of Object Oriented Programming – Beginning with C++ Token, Expressions and Control Structure in C++

UNIT II

Functions in C++ - Classes and Objects – Constructors and Destructors.

UNIT III

Operator Overloading and Overriding-Type Conversions – Inheritance and its Types – Pointers.

UNIT IV

Virtual Function – Friend function and polymorphism

UNIT V

Files in C++ - Managing console I/O operations.

TEXT BOOK:

1. Object Oriented Programming with C++ by E. Balagurusamy Tata McGraw Hill Publishing Company Limitedm 1998 chapter: 1 to 11.
2. C++, the Complete Reference Herbert Schlitz, 1997.

PROGRAMMING IN C & C++ LAB

PROGRAMMING IN C

1. Simple Programs
2. Arrays
3. Functions
4. Pointers
5. Files

PROGRAMMING IN C++

1. Simple Programs
2. Call by Value & Call by Reference Method
3. Operator Overloading
4 . Program using Polymorphism
5. Program using Inheritance

BUSINESS AUTOMATION LAB

MS-WORD

Preparing documents using formatting options.

Table Preparation.

Find and Replace.

Mail Merge

Header and Footer

MS-EXCEL

Pay Role Calculation.

Mark Sheet Preparation using Mathematical Function.

Chart Preparation.

MS-ACCESS

Table Creation

Form

Report generation

MS-POWER POINT

Slide Show with animation

OPERATING SYSTEM

Unit I

Introduction: Functions of Operating System –Types of Operating System - Structure of Operating Systems - Operations on I/O Structure - Storage Structure - Storage hierarchy - OS Services.

Unit II

Process Concepts: Process - Process Scheduling. CPU Scheduling: Scheduling Criteria - Scheduling Algorithms. Process Synchronization: Critical Section Problem, Semaphores.

Unit III

Deadlock: Characterization - Deadlock Prevention - Deadlock Avoidance - Deadlock Detection - Deadlock Recovery. Memory Management: Swapping - Contiguous Memory Allocation – Paging – Segmentation.

Unit IV

File System Interface: Access Methods - Directory Structure - File Sharing. Centralized and Distributed Systems – Topology.

Unit V

Case Studies : Linux, Unix, Windows 2000, Window XP.

TEXT BOOK:

1.**"Operating System Concepts"** by Abraham Silberchatz, Peter Baer, Galvin, Greg Gangne, Sixth Edition, Wiley India Publication.

Reference Book:

1.**Operating System** by John J.Donovan –Mc Graw Hill Publications

ACCOUNTING AND FINANCIAL MANAGEMENT

Unit I

Origin and Growth of accounting: Meaning- Objectives & Classifications- Uses of Accounting information- Limitations

Double Entry System: Definition- Rules-Merits &Demerits.

Unit II

Journal- Ledger- Posting Journal to Ledger.

Unit III

Final accounts of Sole Trading Concerns: Trial Balance-Profit and Loss account- Balance Sheet.

Unit IV

Introduction to Financial Management- Origin- Scope-Types.

Unit V

Financial Statement Analysis & interpretation: Accounting ratio their Significance, Utility & Limitations, Analysis for Inequality, Profitability & Solvency

TEXT BOOKS:

1. Double Entry Book Keeping- T.S Grewal
2. Advanced Accountancy- R.L Gupta & m.Radhasamy
3. Advanced Accountancy- M.A Arulantham & S.Raman
4. Advanced Accountancy- S.N Maheswari
5. Advanced Accountancy- M.C Shukhala & T.S Grewal

Reference Books:

1. Accounting- R.L Gupta & Radha Swamy.
2. Financial Management- Khan & Jain

COMPUTER ORGANIZATION

Unit I

Introduction: Machine Language - Assembly language – Assembler - Program Loops - Programming Arithmetic & Logic Operations - Input-Output Programming.

Unit II

Basic Computer Organization and Design Instruction Codes-Computer Registers-Computer Instruction-Timing & Control Instruction Cycles – Memory Reference Instruction.

Unit III

Computer Arithmetic Introduction - Addition & Subtraction - Multiplication & Division Algorithm - Floating Point Arithmetic Operations.

Unit IV

I/O Organization - Peripheral Devices - I/O Interface - Mode of Transfers - DMA

Unit V

Memory Organization - Memory Hierarchy - Main Memory - Auxiliary Memory - Associative Memory - Cache Memory - Virtual Memory.

TEXT BOOKS:

Computer System Architecture, Morris Mano, Pearson Publication,Third Edtion

Reference Book

Computer Organization, Prabhakar Gupta, Vineet Agarwal, Manish Varshey- Word Press

Reference Book:

Computer Architecture & Organization-John L.Hennessy & David A.Patterson.

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DTP LAB

Any Ten

Page Maker

1. Visiting Card in English
2. Letter Pad
3. Advertisement
4. Newspaper Report
5. Certificate
6. Wedding Invitation Card in English
7. Greeting Card
8. Calendar
9. Banner in English
10. Agenda
11. Prospectus
12. Flow Chart
13. Corel Draw
14. Rangoli
15. Front Page of a Book
16. Comic
17. House Warming Ceremony in Tamil
18. Banner in Tamil
19. Advertisement in Tamil
20. Scenery
21. Logos in Tamil
22. Fashion Designing
23. Visiting Card in Tamil
24. Jewel Designing

PhotoShop

1. Album
2. Cine Posters
3. Wall Paper

FUNDAMENTALS OF COMPUTER

Unit I

Introduction to Computers – Generation of Computers – Types of Computers – Characteristics of Computer – Advantages of Computer.

Unit II

Block Diagram of Computer – Input Devices – Output Devices – Storage Devices: Main Memory (RAM) – Secondary Memory Devices(Hard Disc, Diskette, Compact Disc and Flash Drives)

Unit III

Software: System Software, Application Software – Operating System – Functions of OS - Types of Operating Systems.

Unit IV

Number System: (Decimal, Binary, Octal and Hexa decimal) – Algorithms – Flow Charts – Introduction to Programming Language.

Unit V

Introduction to Networks – LAN – MAN – WAN – Intranet – Internet fundamentals.

Reference Book:

Fundamentals of IT – Alexis, Leon, Mathews Leon.

RDBMS WITH ORACLE

Unit I

Introduction to database management System – Database Terminology – Distributed and Centralized Database – Traditional approach to data files – Data Models: Network, Hierarchical, Relational data models.

Unit II

Relational Model : Characteristics of Relational Model– Normalization: First Normal Form, Second Normal Form, Third Normal Form, Boyce – Codd Normal Form – Keys – Integrity Rules – Relational Operations : Union, difference, Intersection, Product, Division, Projection, Selection, Join.

Unit III

Oracle: Table Fundamentals – Viewing Data in to the tables – Sorting data in a table – Eliminating duplicate rows where using a Select Statement – Delete Operations – Updating the Content of a Table – Modifying the Structure of Tables – Renaming Tables – Truncating Tables – Destroying Tables.

Unit IV

Data Constraints – Typing of Data Constraints – Computation done on Table data - Oracle Functions – Date Conversion Function – Date Function – Using Union, Intersect and Minus Clause – Security Management Using SQL.

Unit V

Introduction to PL/SQL –Block Structure - What is a Cursor – Locks.

Text Books:

Oracle Developer 2000 by Ivan Bayross, BPB Publications.

RDBMS WITH ORACLE LAB

1 Program using Conditional Controls, Iterative Controls & Sequential Controls.

2. Programs using Exception Handling.

3. Programs using Explicit Cursors & Implicit Cursors.

4. Programs using PL/SQL Tables & Records.

5. Programs using Database Triggers.

6. Programs to design Procedures using In, Out, Inout Parameter.

7. Program to design Procedure using Functions.

8. Programs to design Procedures using Packages.

9. Program using ADO, DAO & RDO Connectivity.

TALLY LAB

1. Program for Create Company
2. Tally Program for Voucher Editing
3. Tally Program for Purchase Voucher
4. Tally Program for Payment Voucher
5. Tally Program for Receipt Voucher
6. Tally Program for Sales Voucher
7. Tally Program for Receipt Voucher

MOBILE COMMUNICATION

Unit I

Definition-function-Mobile Computing devices- Networks-Middleware and Gateways-Application and services - Mobile Computing Architecture

Unit II

Multiple Access Procedures-Satellite Communication systems - Bluetooth - Wireless broadband-Mobile IP

Unit III

GSM: GSM architecture-SMS: SMS-Value added service through SMS-[WAP: WAP]

Unit IV

GPRS: GPRS and packet data network- GPRS network Architecture- GPRS network operations- Application and Limitations of GPRS

Wireless LAN: Wireless LAN Architecture- Wireless LAN Security-WIFI

Unit V

Information Security Techniques and Algorithms-Security Protocols-Security Models.

Text Book:

"Mobile Computing Technology, Applications and Service Creation",Asoke.K.Talunkder, HasanAhamed, Roopa.R.Yavagal, 2nd Edition, Tata McGraw Hill Publication.

Reference Book:

"Mobile Communications",Jochen Schiller, 2nd Edition, Pearson Education, 2003.

MULTIMEDIA LAB

1. Animation of any Object
2. Morphing using Shape Tweening
3. Using Add Motion Guide Layer
4. Name conversion using Shape Tweening
5. Applying Color to Cradle
6. Create a Jumping Ball
7. Experiment Masking
8. Create a button to draw Traffic Symbol
9. Animation of Moving Object

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit I

Introduction – History of Information – Quality of Information – Database – Characteristics of Data in a Database – DBMS – Types of DBMS – Data Normalization.

Unit II

Internet and World Wide Web

Introduction – Getting Information on the Internet – Providing Information on the Internet – Compiling Information from the Internet – Internet Access – Internet Addressing – WWW – HTML – Web Browsers.

Unit III

Multimedia Tools

Introduction – Graphics Effects and Techniques –Sound & Music –Video – Multimedia Authoring Tools – Virtual Reality.

Unit IV

Transmission of Information: Fundamentals of Communications – Fiber Optics – Wireless Communications Computer Networking: Goals – Topologies - Local Area Networks – Wide Area Networks – Communication Protocols

Unit V

Applications of Information Technology

Computers in Business and Industry – Computers in Home – Educations and Training – Entertainment Science and Engineering and Medicine.

Text Book:

Fundamentals of Information Technology – Alex Leon, Methews Leon

Reference Book:

Advanced Information Technology – S.Jaiswal.

COMPUTER NETWORKS

Unit I

Introduction: Uses of Computer Networks – Network Hardware – Network Software – Reference Models - Network Standardization.

Unit II

Physical Layer: Guided Transmission Media – Wireless Transmission – Communication Satellites – Public Switched Telephone Networks – Mobile Telephone System – Cable Television

Unit III

Data link layer: Design Issues - Error Detection & Correction – Elementary Data Link Protocols – Sliding Window Protocols.

Unit IV

Network Layer & Transport Layer : Design Issues – Routing Algorithm: The Optimality Principle – Shortest path – Flooding – Flow Based Routing - Hierarchical Routing – Broadcast Routing – Multicast Routing – Transport layer :- Transport Services – Elements of Transport Protocols.

Unit V

Application Layer: Electronic Mail – World Wide Web – Multimedia – Network Security – Cryptography

Text Book:

Andrew S. Tanenbaum – Computer Networks (Second Edition), Prentice Hall of India

COMPUTER ALGORITHMS & DATA STRUCTURES

Unit I

Algorithm: Asymptotic Notation – Big Oh Notation – Big Theta Notation – Small Oh Notation.

Data Structure - List Singly Linked List – Doubly Linked List – Circularly Linked list.

Unit II

Stack – Applications of Stack, Queue – Applications of Queue – Sorting:Bubble Sort– Insertion Sorts – Merge and Radix Sorts

Unit III

Binary Trees – Operation on Binary Trees – AVL Tree - Binary Tree Representations– Binary Tree Traversals

Unit IV

Graphs and their Applications: Graphs – Application of Graphs – Graph Representation – Warshall's Algorithm – Shortest Path Algorithm –Dijkstra's Algorithm.

Unit V

Storage Management**:** General Automatic List Management: Reference Count Method, Garbage Collection, Collection and Compaction

Text Book:

1.Tanenbaum A.S., Langram Y. Augestein M.J. – "Data Structures Using C" – Pearson Education, 2004

Reference Books:

1.Robert Kruse & Clovis L. Tondo – "Data Structures and Program design in C" – Prentice Hall, 2nd Edition, 1991.

2.Weiss – "Data Structures and Algorithm Analysis in C" – Addison Wesley Second Edition, 1997

3."Data Structure & Algorithm Analysis in C" – S.Murgavalli , S.K.Somasundaram, M.Shymaladevi , Sri Krishna publication Ist Edition

RESOURCE MANAGEMENT TECHNIQUES

Unit I

Definition of OR – General methods for solving OR Models – Main Characteristics and Phases of OR - Applications of OR.

Unit II

Linear Programming Problems – Mathematical formulation of LPP – Slack and Surplus Variables – Graphical Solutions LPP.

Unit III

Simplex Method –Computational Procedure –Artificial Variable Techniques – Two Phase Method – Duality in Linear Programming.

Unit IV

Mathematical Formula on of Assignment Problem - Method for Solving the Assignment Problem.

Unit V

Mathematical Formula on of Transportation Problem – Optional Solution T.P – Methods for obtaining an Initial feasible Solution – Optimal Solution – Degeneracy in T.P. – Unbalanced.T.P.

Text Books:

1.**Operation Research** – S.D.Sharma

SYSTEM SOFTWARE

Unit I

System Software: Evolution of the Components of a Programming System – Evolution of Operating System.

Unit II

Macro Language & the Macro Processor: Macro Instruction – Features of a Macro Facility – Implementation – A Two Pass Algorithm – A Single Pass Algorithm.

Unit III

Loader: Loader Schemes – Design of an Absolute Loader – Design of a Direct Linking Loader.

Unit IV

Compiler: Recognizing basic elements – Recognizing Syntactic units and meaning Interpretation – Intermediate form – Storage Allocation.

Unit V

Phases of the Compiler: Lexical Analysis – Syntax Analysis – Semantic Analysis – Intermediate Code Generation - Code Optimization - Code Generation.

Text Books:

1.**System Programming** by John J. Donovan – Mc Graw Hill Publications

2.A.C.Shalini**, System Software**:first edition.

3.M.Joseph,**Elements of Compiler Design**-Dhanam Publication-3rd Edition

Reference Books:

1.Leland L.Beck, D.Manjula ,**System Software-An Introduction to System Programming**-3rd Edition.

2.Aho A.V and Ullman J.D, **Principles of Compiler Design**,Addision Wesley,1978.

SOFTWARE ENGINEERING

Unit I

Introduction to Software Engineering: Some Definitions – Some Size Factors.

Planning a Software Project: Defining the Problem – Planning the Development Process – Planning an Organizational Structure.

Unit II

Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques.

Unit III

Software Requirements Definition: The Software Requirement Specification – Languages and Processors for Requirements.

Unit IV

Software Design: Fundamental Design Concepts – Design Notations.

Unit V

Verification and Validation Techniques: Unit Testing – System Testing – Formal Verification -Managerial Aspects of Software Maintenance.

Text Book:

1.Software Engineering Concepts, 1985 Mc Graw Hill Book Company by Richard E.Fairly

Reference Book:

1.Software Engineering: A Practical Approach by Foger S. Pressman McGraw Hill International Books Company 1987 Edition.

DATA STRUCTURE LAB

. Singly Linked List

2. Doubly Linked List

3. Stack using Pointers

4. Queue using Pointers

5. Stack using Arrays

6. Queue using Arrays

7. Tree Traversal

PHP LAB

1. Simple Programs using I/O statements
2. Write a program to perform arithmetic Operations
3. Return data types of a given variables
4. Print the Week days using Control Statements (Switch Case)
5. Fibonacci Series
6. To display the Personal details using Arrays
7. Display the message using Functions
8. Find the square root values using Math Functions
9. Perform String Manipulation
10. Format the Date and Time
11. Form design using HTML
12. To design a form using HTML with PHP
13. Select a Database using MYSQL Query
14. Display the Employee details Using DB Connectivity
15. Login & Registration form of a Webpage with MYSQL

PROGRAMMING IN JAVA

Unit I

Object Oriented Fundamentals - Applications of OOP's – Benefits of OOP's - Java Evaluation – Introduction to Java.

Unit II

Java Keywords – Constants - Data Types – Operators – Expressions – Control Flow Statements – Classes - Packages.

Unit III

Interfaces – Exception Handling – Types of Errors – Multithreaded Programming – Life cycle of Thread – Thread Priority.

Unit IV

Applet Programming – Applet Life cycle – Designing a web page- – Graphics Programming – Introduction to AWT Package.

Unit V

Managing Input/Output Files in Java –JVM - Introduction to Java Script.

Text Book:

"Programming in Java" Fourth Edition, E.Balagurusamy, McGraw Hill Education (India) Private Limited, New Delhi.

Reference Book:

1. Patric Naughton and Herbert Schildt,"Java 2 Complete Reference", TMH, 1999

COMPUTER GRAPHICS

Unit I

Computer Graphics: Application of Computer Graphics .Overview of Graphics Systems: Video Display Devices-Raster Scan Displays- Random Scan Displays-Random Color Monitors-Raster Scan Systems- Random Scan Systems- Input Devices-Hard Copy Devices.

Unit II

Output Primitives: Points and Lines- Line drawing algorithm- Bresenham's line algorithm- Circle generating algorithm- Ellipse generating algorithm.

Unit III

Attributes of Output Primitives: Line Attributes- Curve Attributes- Color and Gray Scale levels- Area fill Attributes- Character Attributes- Bundled Attributes- Antialiasing.

Unit IV

Two Dimensional Geometric Transformations: Basic Transformation- Composite transformation -Two Dimensional Viewing- the viewing pipeline window to view port coordinate transformation.

Unit V

Clipping Operations: Point Clipping- Line Clipping- Polygon Clipping- Curve Clipping- Text Clipping - Graphics User Interface

TEXT BOOK:

1.**Computer Graphics**,Donald Hearn and Pauline Baker, PHI Publication, 2nd Edition, 2004.

Reference Book:

1.Computer Graphics, Mehala Mathivanan, R, Manjula Devi, Charulatha Publications, 2012

DATA MINING

Unit I

Data Warehouse and OLAP: Basic Concepts - Data Warehouse Modeling Data Cube and OLAP - Data Warehouse design and usage.

Unit II

Data Mining: Kinds of Patterns can be Mined - Technologies used – Advantages and major issues in Data Mining.

Unit III

Data Preprocessing: Overview - Data Cleaning - Data Integration - Data Reduction - Data Transformation and Data Discretization.

UNIT IV

Association: Basic Concepts - Frequent Item Set Mining Methods - Classification: Basic Concepts - Decision Tree Induction.

UNIT V

Cluster Analysis: Basic Concepts, Partitioning Methods,

Web Mining: Web Mining - Text Mining - Image Mining

Text Books

1."Data Mining Methods "by Rajan Chattamvelli,, Narosa Publishing House.

2.. Introduction to Data Mining with Case Studies, G.K. Gupta, PHI Private limited, New Delhi, 2008. 2nd Edition, PHI , 2011

3. Data Mining Concepts and Techniques-Jiawei Han and Michaline Kamber.

Reference Book:

1.Data Mining Techniques, Arun K Pujari , University Press

PROGRAMMING IN JAVA LAB

1. Arrays and Flow Control Statements.
2 Run Time Exception and I/O Exception.
3. Multi Threading.
4. Layout Management.
5. GUI Components (Lables, Check box, Menus, Text, etc.)
6. Event Handling(Focus Events, Key Events, Paint Events, Text Events, Mouse Events, Windows Events, etc.)
7. Animation and Images.

COMPUTER GRAPHICS LAB

1. Line Drawing Algorithms
2. Circle Generation Algorithms
3. Two Dimensional Transformations about an arbitrary point, orgin and fixed point.

a. Rotation b. Translation c. Scaling

4. Windowing
5. Clipping.

SCRIPTING LANGUAGE LAB

Any One

VB SCRIPT

1. Greatest among three numbers using Branching Statements
2. Sorting
3. Fibonacci Series
4. Palindrome Checking
5. Looping through Arrays
6. Temperature Color Changing
7. Background Color Changing
8. Functions
9. Date and Time Function
10. String Function
11. Numeric Function
12. Quiz using Forms
13. Online Shopping

JAVA SCRIPT

1. Students Mark List using Arrays
2. String Manipulation
3. Swapping using Function
4. Java Script using GUI
5. Java Script using Frame
6. Mathematical Function
7. Form Validation
8. Number Searching
9. Program using Properties, Methods and Events
10. Sum of Digits.

.NET LAB

ASP.NET

1. Designing Login Form
2. Show the data in Data Grid
3. Program using request and response object
4. Program using Cookies

5. Create and Advertisement using Ad Rotator Control
6. Validate Control
7. String Function
8. Program using System data OLEDB
9. Payroll Detail in ASP.NET using Access as Background
10. Generate the Hotspots in the Image

B.NET

1. Biggest of three numbers
2. Enumeration
3. Structure Exception Handling
4. Display Welcome Message
5. Display address of the College
6. Find Factorial and Fibonacci Series