

Annexure No.	32 J
SCAA Dated	29.02.2008

**BHARATHIAR UNIVERSITY, COIMBATORE-46
SCHOOL OF DISTANCE EDUCATION**

B.Sc.[CT]

SCHEME OF EXAMINATION FOR THE ACADEMIC YEAR 2007-08 (Non-semester)

Year	Subject	Ex. Hrs.	Max. Marks
I	PART-I: Language-I	3	100
	PART-II: Language-II(English)	3	100
	Allied 1: MATHEMATICAL FOUNDATION FOR COMPUTER SCIENCE	3	100
	Core 1: DIGITAL FUNDAMENTALS AND ARCHITECTURE	3	100
	Core 2: DATA STRUCTURES AND C PROGRAMMING	3	100
II	Core 3: OBJECT ORIENTED PROGRAMMING WITH C++	3	100
	Core 4: SYSTEM SOFTWARE AND OPERATING SYSTEM	3	100
	Core 5: SOFTWARE ENGINEERING	3	100
	Core 6: INTERNET and JAVA PROGRAMMING	3	100
	Core (Lab-1): C++ and JAVA	3	100
III	Core 7: DATA COMMUNICATION AND NETWORKS	3	100
	Core 8: CLIENT/SERVER COMPUTING	3	100
	Core 9: VISUAL PROGRAMMING	3	100
	Core 10: WEB TECHNOLOGY	3	100
	Core (Lab-2) : VISUAL PROGRAMMING LAB – VB WITH MS ACCESS	3	100
	Total		1500

Course	B. Sc(Computer Technology) - SDE
Effective from	2007-2008 and Onwards
Year	I
Subject	ALLIED 1 : MATHEMATICAL FOUNDATIONS FOR COMPUTER SCIENCE

Subject Description:

This subject deals with mathematical concepts like matrices, numerical analysis and statistical methods for computer science and applications

Goal: To learn about the mathematical structures for computer applications.

Objective:

On successful completion of this subject the students should have :

- Understanding the concepts of mathematics
- Learning applications of statistical and numerical methods for computer science

Unit I

Matrices – Introduction – Determination – Inverse of a matrix – Rank of a Matrix - Eigen value Problems

Unit II

Set theory-Introduction-Set & its Elements-Set Description-Types of sets-Venn-Euler Diagrams- Set operations & Laws of set theory-Fundamental products-partitions of sets-minsets-Algebra of sets and Duality-Inclusion and Exclusion principle

Unit III

Mathematical logic – Introduction- propositional calculus –Basic logical operations-Tautologies-Contradiction-Argument-Method of proof- Predicate calculus.

Unit IV

Relations – Binary Relations – Set operation on relations-Types of Relations – Partial order relation – Equivalence relation – Composition of relations – Functions – Types of functions – Invertible functions – Composition of functions.

Unit V

Graph Theory – Basic terminology – paths, cycle & Connectivity – Sub graphs - Types of graphs – Representation of graphs in compute memory - Trees – Properties of trees – Binary trees – traversing Binary trees – Computer Representation of general trees.

Text Book:

1. Engineering Mathematics Volume II – Dr M.K. Venkataraman – NPC (Unit I)
2. Discrete Mathematics – J.K. Sharma Second Edition – 2005 , Macmillan India Ltd.

Reference Books:

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

Course	B.Sc (Computer Technology) - SDE
Effective from	2007-2008 and Onwards
Year	I
Subject	CORE 1 :DIGITAL FUNDAMENTALS AND ARCHITECTURE

Subject Description: This subject deals with fundamentals of digital computers, Microprocessors and system architecture.

Goal:To learn about computer fundamentals and its organization.

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

- Knowledge on digital circuits
- Microprocessor architecture
- Interfacing of various components

Unit I :

Number System and Binary Codes: Decimal, Binary, Octal, Hexadecimal – Binary addition, Multiplication, Division – Floating point representation, Complements, BCD, Excess3, Gray Code.Arithmetic Circuits: Half adder, Full adder, Parallel binary adder, BCD adder, Half subtractor, Full subtractor, Parallel binary subtractor - Digital Logic: the Basic Gates – NOR, NAND, XOR Gates.

Unit II:

Combinational Logic Circuits: Boolean algebra –Karnaugh map – Canonical form 1 – Construction and properties – Implicants – Don't care combinations - Product of sum, Sum of products, simplifications. Sequential circuits: Flip-Flops : RS, D, JK, T - Multiplexers – Demultiplexers – Decoder – Encoder - Counters.

Unit III:

MICROPROCESSOR: Architecture – Bus Organization – Functional diagram and pin out diagram of 8085 - Addressing modes of 8085 – Instruction set of 8085 – I/O Schemes – Peripherals and Interfaces.

Unit IV:

Input – Output Organization: Input – output interface – I/O Bus and Interface – I/O Bus Versus Memory Bus – Isolated Versus Memory – Mapped I/O – Example of I/O Interface. Asynchronous data transfer: Strobe Control and Handshaking – Priority Interrupt: Daisy-Chaining Priority, Parallel Priority Interrupt. Direct Memory Access: DMA Controller, DMA Transfer. Input – Output Processor: CPU-IOP Communication.

Unit V

Memory Organization: Memory Hierarchy – Main Memory- Associative memory: Hardware Organization, Match Logic, Read Operation, Write Operation. Cache Memory: Associative, Direct, Set-associative Mapping – Writing Into Cache Initialization. Virtual Memory: Address Space and Memory Space, Address Mapping Using Pages, Associative Memory Page Table, Page Replacement.

Text Books:

1. Digital Electronics Circuits and Systems, V.K. PURI, TMH.
2. Computer System Architecture, M. MORRIS MANO, Pearson Education Pub,3rd Edition.

Reference Books:

1. Digital principles & applications, Albert paul malvino, Donald P Leach, TMH 1996.
2. Computer Architecture, Carter, Schaums outline series, TMH.

Course	B.Sc (Software System) – SDE
Effective from	2007-2008 and Onwards
Year	I
Subject	CORE 2 : DATA STRUCTURES AND C PROGRAMMING

Subject Description: This subject deals with the methods of data structures using C programming language.

Goal: To learn about C programming language using data structural concepts.

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

- Writing programming ability on data structures dealing with Stacks, Queues, List, Searching and Sorting algorithms etc.,

UNIT I:

Programming development methodologies – Programming style – Problem solving techniques: Algorithm, Flowchart, Pseudocode - Structure of a C program – C character set – Delimiters – Keywords – Identifiers – Constants – Variables – Rules for defining variables – Data types – Declaring and initializing variables – Type conversion.

Operators and Expressions – Formatted and Unformatted I/O functions – Decision statements – Loop control statements.

UNIT II:

Arrays – String and its standard functions. Pointers – Functions – Preprocessor directives: #define, #include, #ifndef, Predefined macros.

UNIT III:

Structure and Union: Features of structure, Declaration and initialization of structure, Structure within structure, Array of structure, Pointer to structure, Bit fields, Enumerated data types, Union. Files: Streams and file types, Steps for file operation, File I/O, Structures read and write, other file functions, Command line arguments, I/O redirection.

UNIT IV:

Linear data structures: Introduction to data structures – List: Implementations, Traversal, Searching and retrieving an element, Predecessor and Successor, Insertion, Deletion, Sorting, Merging lists – Stack: Representation, Terms, Operations on stack, Implementation. Single linked list, Linked list with and without header, Insertion, Deletion, Double linked list – Queues: Various positions of queue, Representation

UNIT V:

Searching and Sorting – Searching: Linear, Binary.

Sorting – Insertion, Selection, Bubble, Quick, Tree, Heap.

TEXT BOOK:

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

REFERENCE BOOK:

1. E Balagurusamy: Programming in ANSI C, Tata McGraw-Hill, 1998.
2. Ellis Horowitz & Sartaj Sahni: Fundamentals of Data Structure, Galgotia Book Source, 1999.
3. Data structure using C – Aaron M Tanenbaum, Yedidyeh langsam, Moshe J Augenstein, PHI Pub

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	II
Subject	CORE 3 : OBJECT ORIENTED PROGRAMMING WITH C++

UNIT – I	Introduction to C++ - Key Concepts of OOP – Advantages – OO Languages – I/O in C++ - C++ Declarations - Control Structures – Decision Making Statements – If...Else – Jump – GOTO – Break – Continue – Switch Case Statements – Loops in C++ - For – While – Do...While loops – Functions in C++, In line Functions – Function Overloading.
UNIT – II	Class and Objects: Declaring objects – Defining member functions – Static member variables and functions – Array of objects – Friend functions – Overloading member functions – Bit fields and Class – Constructor and Destructors – Characteristics – Calling constructor and Destructors – Constructor and Destructor with static member.
UNIT – III	Operator Overloading: Overloading unary, Binary operators – Overloading friend functions – Type conversion - Inheritance: Types of inheritance: Single, Multilevel, Multiple, Hierarchical, Hybrid and Multi path inheritance – Virtual Base classes – Abstract Classes.
UNIT – IV	Pointers: Declaration – Pointer to class, object – THIS pointer – Pointer to derived classes and base classes – Arrays – Characteristics – Arrays of classes – Memory models – New and delete operators – Dynamic objects – Binding, Polymorphisms and Virtual functions.
UNIT – V	Files: File stream classes – File Modes – Sequential read/write operations – Binary and ASCII files – Random access operation – Templates – Exception handling – Strings – Declaring and initializing string objects – String attributes – Miscellaneous functions.
Text Book(s)	Ashok N Kamthane: Object Oriented Programming with ANSI and Turbo C++, Pearson Education Publ., 2003.
Ref. Book(s)	1. E. Balagurusamy: Object Oriented Programming with C++, TMH Pub., 1998. 2. Maria Litvin and Gary Litvin: C++ for you++, Vikas Publ, 2002. 3. John R Hubbard: Programming with C++, TMH Publ. II Edition, 2002.

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	II
Subject	CORE 4: SYSTEM SOFTWARE & OPERATING SYSTEM

UNIT – I	<p>Introduction –System Software and machine architecture-Assemblers-Basic assembler functions - Machine dependent features-program relocation-Machine independent features – literals - symbol defining statements-expressions-program blocks-control sections and program linking - Assembler design options-one pass assemblers-multi pass assemblers.</p> <p>Loader and Linkers: Basic Loader Functions - Machine dependent loader features – relocation – program – linking - Machine independent loader features - Automatic Library search - Loader options - Loader design options - linkage editor - dynamic linking - Bootstrap loader.</p>
UNIT – II	<p>Macroprocessor: Basic macroprocessor functions - Machine independent macroprocessor features - concatenation of macro parameter macro processor design options-recursive macro expansion - general purpose macro processor - macro processing within language translators. Text Editors: Overview of editing process - user interface - editor structure.</p>
UNIT – III	<p>Machine dependent compiler features - Intermediate form of the program-Machine dependent code optimization-machine independent compiler features-Compiler design options-division into passes-interpreters-p –code compilers-compiler-compilers.</p>
UNIT – IV	<p>Introduction: Definition of DOS – History of DOS – Definition Of Process - Process states - process states transition – Interrupt processing – interrupt classes - Storage Management Real Storage: Real storage management strategies – Contiguous versus Non-contiguous storage allocation – Single User Contiguous Storage allocation- Fixed partition multiprogramming – Variable partition multiprogramming.</p> <p>Virtual Storage: Virtual storage management strategies – Page replacement strategies – Working sets – Demand paging – page size.</p>
UNIT – V	<p>Processor Management Job and Processor Scheduling: Preemptive Vs Non-preemptive scheduling – Priorities – Deadline scheduling - Device and Information Management Disk Performance Optimization: Operation of moving head disk storage – Need for disk scheduling – Seek Optimization – File and Database Systems: File System – Functions – Organization – Allocating and freeing space – File descriptor – Access control matrix.</p>
Text Book(s)	<p>1. Leland –L-Beck, “System Software-An Introduction to Systems Programming”, Pearson Education Publishers, Third Edition-2003.</p> <p>2. H. M Deitel , “ Operating Systems “ , 2nd Edition, Perason Education Publication,2003.</p>
Ref. Book(s)	<p>1. Achyut s Godbole , “ Operating Systems” , TMH Publications , 2002</p> <p>2. John J. Donovan , “Systems Programming ” , TMH Publications , 1991</p> <p>3. D.M. Dhamdhrer, “Systems Programming and Operating Systems “ , 2nd Revised Edition.</p>

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	II
Subject	Core 5: SOFTWARE ENGINEERING

UNIT – I	Introduction to Software Engineering: Some Definition – Size Factors – Quality and Productivity Factors – Planning a Software Project – Defining the Problem – Developing a Solution Strategy – Planning the Development Process
UNIT – II	Software Cost Estimation: Software Cost Factors – Software Cost Estimation Technique – Estimating Software Maintenance Costs – Software Requirements Definition – Formal Specification Techniques
UNIT – III	Implementation Issues: Structured Coding Techniques: Single Entry, Single Exit Constructs – Efficiency Considerations – Violations of Single Entry, Single Exit – Data Encapsulation – The Goto Statements – Recursion – Coding Style – Standard and Guidelines – Documentation Guidelines. Verification and Validation Techniques: Quality Assurance – Walkthroughs and Inspections
UNIT – IV	Testing for Quality – Functional Testing – System Testing – User Satisfaction Testing – Test Cases and Test Plans. Advanced Topics in Software Engineering: Development of Critical Systems – The Future of Software Engineering
UNIT – V	Special Topics in Software Engineering: Web Applications Development Engineering – Component-based software engineering – Class room software engineering – Software system maintenance – Software verification for QA – Software engineering support tools – Overview of PERT /CPM – Reengineering and software reengineering
Text Book(s)	1. Richard Fairley, “Software Engineering Concepts”, Tata McGraw-Hill Publishing Company Limited, 25 th reprint, 2007 2. S. Jawadkar, “Software Engineering-Principles and Practice” Tata McGraw-Hill Publishing Company Limited, Fifth reprint, 2007

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	II
Subject	Core 6: INTERNET AND JAVA PROGRAMMING

UNIT – I	Internet – An Introduction – The World Wide Web – Internet / Web Browsing – Internet addressing – Internet Protocols – Electronic Mail – Basic concepts of HTML
UNIT – II	Java Programming: Constants, Variables and Data Types – Operators and Expressions – Decision Making and Branching – Decision Making and Looping
UNIT – III	Classes, Objects and Methods – Arrays, Strings and Vectors – Interfaces : Multiple Inheritance
UNIT – IV	Multi threaded Programming: Creating Threads, Extending the Thread class – Stopping and Blocking a Thread – Life cycle of a thread – Using Thread Methods – Thread Priority. Managing Errors and Exceptions – Types of errors – Syntax – Multiple Catch statements
UNIT – V	Applet Programming: Building Applet code – Applet Life cycle – Creating an executable applet – Designing a web page – Running the applet – Passing parameters to applets – Program examples. Graphics programming: Graphics class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs and Polygons
Text Book(s)	E.Balagursamy, “ Programming with Java – A Primer”, Tata McGraw-Hill Publishing Company Limited, Third Edition, 2007

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	II
Subject	Core Lab 1: C++ and JAVA

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

JAVA	
7	<p>Define a class with the following attributes</p> <ol style="list-style-type: none">1) Xname2) Date of birth3) Date on which leg injection has to be given (60 days from date of birth)4) xdate on which polio drops is to be given (45 days from date of birth) <p>Write a constructor too construct the baby object. The constructor must find out the leg and polio drops dates from the date of birth. In the main program define a baby and display its details.</p>
8	<p>Write a program which creates and displays a message on the window.</p>
9	<p>Write a program to draw several shapes in the created window.</p>
10	<p>Write a program to create an applet and draw grid lines.</p>
11	<p>Write a Java program to create a frame with two buttons called father and mother. When we click the father button the name of the father, his age and designation must appear. When we click mother similar details of mother appear.</p>
12	<p>Write a Java Program to create four TEXT fields for the name, street, city and pincode with suitable labels. Also add a button called my details. When you click the button your name, street, city and pincode must appear in the TEXT fields.</p>

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	III
Subject	CORE 7 : DATA COMMUNICATION AND NETWORKS

UNIT- I

Introduction to communications and Networking : Introduction – Fundamental concepts - Data communications – Protocols- standards - Standards organizations - Signal propagations- Analog and Digital signals- Bandwidth of a signal and a medium - Fourier analysis and the concept of bandwidth of a signal - The data transmission rate and the bandwidth.

Information encoding: Introduction – Representing different symbols- Minimizing errors- Multimedia – Multimedia and Data compression.

UNIT- II

Analog and digital transmission methods: Introduction - Analog signal, Analog transmission - Digital signal, Digital transmission - Digital signal , Analog transmission - Baud rate and bits per second - Analog signal, Digital (Storage and) transmission - Nyquist Theorem.

Modes of data transmission and Multiplexing: Introduction – Parallel and Serial communication - Asynchronous, Synchronous and Isochronous communication - Simplex, Half-duplex and Full-duplex communication – Multiplexing - Types of Multiplexing - FDM versus TDM.

Transmission Errors: Detection and correction : Introduction – Error classification – Types of Errors – Error detection.

UNIT- III

Transmission media: Introduction - Guided media - Un Guided media - Shannon capacity.

Network topologies, switching and routing algorithms: Introduction - Mesh topology - Star topology - Tree topology - Ring topology - Bus topology - Hybrid topology - Switching basics- Circuit switching – Packet switching - Message switching - Router and Routing – Factors affecting routing algorithms - Routing algorithm -Approaches to routing.

UNIT- IV

Networking protocols and OSI model: Introduction – Protocols in computer communications - The OSI model - OSI layer functions.

Integrated services digital networking (ISDN): Introduction – Background of ISDN - ISDN architecture – ISDN interfaces - Functional grouping – Reference points - ISDN protocol architecture - Broadband ISDN (B-ISDN).

UNIT- V

Asynchronous transfer mode (ATM): Introduction- Overview of ATM – Packet size – Virtual circuits in ATM – ATM cells – Switching – ATM layers – Miscellaneous Topics.

Text book:

Data Communications and Networks, ACHYUT. S. GODBOLE, Tata McGraw-Hill Publishing Company, 2007.

Course	B.Sc. (Computer Technology) (SDE)
Effective from	2007-2008 and Onwards
Year	III
Subject	CORE 8: CLIENT / SERVER COMPUTING

Subject Description:

This Subject deals with the C/S Computing

Goal:

To learn about C/S Computing

Objective:

On Successful Completion of this subject the students should have:
- C/S Applications , GUI ETC.,

UNIT I:

Introduction to Client/Server Computing – What is Client/Server Computing – Benefits of Client/Server Computing – Evolution of C/S Computing – Hardware Trends – Software Trends-Evolution of Operating Systems – N/w Trends – Business Considerations..

UNIT II:

Overview of C/S Applications: Components of C/S Applications – Classes of C/S Applications – Categories of C/S Applications . Understanding C/S Computing : Dispelling the Myths – Obstacles – Upfront & Hidden – Open Systems & Standards – Standards – Setting Organizations – Factors of Success .

UNIT III:

The Client Hardware & Software : Client Component – Client Operating Systems – What is GUI – Database Access – Client Software Products : GUI Environments – Converting 3270/5250 Screens – Database Tools – Client Requirements : GUI Design Standards – Open GUI Standards – Interface Independence – Testing Interfaces .

UNIT IV:

The Server : Categories of Servers – Features of Server Machines – Classes of Server Machines – Server Environment : N/W Management Environment – N/W Computing Environment – Extensions – Network Operating System – Loadable Module..

UNIT V:

Server Operating System : OS/2 2.0 – Windows New Technology – Unix Based OS – Server Requirements : Platform Independence – Transaction Processing – Connectivity – Intelligent Database – Stored Procedure – Triggers – Load Leveling – Optimizer – Testing and Diagnostic Tools – Backup & Recovery Mechanisms..

TEXT BOOK:

Dawna Travis Dewire –“Client / Server Computing “ – Tata McGraw Hill.

Course	B.Sc. Computer Technology (SDE)
Effective from	2007-2008 and Onwards
Year	III
Subject	Core 9: VISUAL PROGRAMMING

Subject Description: This Subject deals with the Visual Programming.

Goal: To learn about Visual Programming.

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

- Writing Programming ability on Visual Basic.

UNIT I:

Getting Started – Visual Basic Environment – Initial VB Screen – Single Document Interface – Tool Bars and System Control & Components – Use of File, Edit , View , Project , Format , Run and Debug , Tools , Window Menu , Properties Window , Procedures , Image Controls , Text Boxes , Labels , Navigating between Controls , Message Controls , Message Boxes and Grids.

UNIT II:

Steps in Programming – The Code Window – Editing Tools – Statements in VB – Assignment – and Property Setting – Variables , Numbers , Constants , Displaying Information – Controlling Program Flow – Repeating Operation – Making Decisions – GOTO – String Function – RND Functions – Data and Time Functions – Financial Functions.

UNIT III:

Control Arrays – Lists : One Dimensional Arrays – Array with More than One Dimension – Using Lists Functions and Procedures – Passing by Reference / Passing by Values – Code Module – Global Procedure and Global Variables – Documents for User Defined Types with Statements – Common Dialog Box – MDI Forms.

UNIT IV:

Fundamentals of Graphics and Files – Screen – The Line and Shapes – Graphics Via Codes , Lines & Boxes , Circle , Ellipse , Pie Charts Curves , Paint Picture Method – Graph Control – File Commands – File System Controls – Sequential Files – Random Access Files – Binary Files.

UNIT V:

Clip Board , DDE , OLE , Data Control – Programming with Data Control – Monitoring Changes to the Databases – SQL – Basics Database Objects.

TEXT BOOK :

Gary Comell – “Visual Basic 6.0 Programming”– Tata McGraw Hill Edition.

Course	B.Sc. Computer Technology (SDE)
Effective from	2007-2008 and Onwards
Year	III
Subject	Core 10 : WEB TECHNOLOGY

UNIT – I	Networking protocols and OSI model : protocols in computer communications - the OSI models – OSI layer functions. Internet working concepts, devices, basics, history and architecture : Why internetworking – problems in internetworking – dealing with incompatibility issues – a virtual network – internetworking devices- repeaters - bridges – routers – gateways - a brief history of the internet - growth of the internet – internet topology – internal architecture of an ISP
UNIT – II	TCP/IP Part I : introduction to TCP /IP , IP , ARP, RARP, ICMP : TCP/IP basics – Why IP address ? – logical address – TCP / IP example – the concepts of IP addresses – Address resolution protocol – Reverse Address Resolution Protocol – Internet Control Message Protocol – Datagram Fragmentation and reassembly. TCP/IP Part II : (TCP, UDP) Basics of TCP – Features of TCP – Relationship between TCP and IP – ports and sockets – connections- passive open and active open – TCP connections – What makes TCP reliable ? – TCP packets format – persistent TCP connections – used datagram protocol – UDP packets – difference between UDP and TCP
UNIT – III	TCP/IP part III – (DNS, E-mail, FTP, TFTP) – domain name system (DNS) – Electronic mail (E-mail) – File Transfer Protocol (FTP) – Trivial File Transfer Protocol (TFTP). TCP/IP Part IV – (WWW, HTTP, TELNET) : A brief history of WWW – the basics of WWW and Browsing – locating information on the internet – Hyper Text Markup Language (HTML) – Web – Browser Architecture – Web pages and Multimedia – Remote login – TELNET
UNIT – IV	Introduction to web technology – features required for enabling e-commerce – web-pages – types and issues - Tiers – the concept of a Tier – a comparison of microsoft and java technologies – web pages – static web pages – plug-ins – introduction to frames and forms – frames - forms . Dynamic Web pages : the need for dynamic web pages – the magic of dynamic web pages – an overview of dynamic of web page technologies – an overview of dynamic HTML (DHTML) – common gateway interface (GCI) – Microsoft’s Active Server Pages (ASP) – Basics of ASP technologies ASP example – modern trends in ASP. Java and the Concepts of a Virtual Machine – Java servlets and java server pages (JSP) – Java servlets – Java server pages (JSP)
UNIT – V	Active web pages – Active web pages is a better solution java applets – Why are active web pages powerful ? when not to use active web pages – lifecycle of Java applets – Active X controls – Java beans . Extensible Markup Languages(XML) – Standard generalised Markup language (SGML) - Basics of XML – XML parsers – the need for Standard
Text Book(s)	Achyut S. Godbole, Atul Kahate , Web technologies , Tata McGraw Hill, Sixth reprint, 2007.

Course	B.Sc. Computer Technology (SDE)
Effective from	2007-2008 and Onwards
Semester	III
Subject	CORE LAB 2 :VISUAL PROGRAMMING LAB – VB WITH MS ACCESS

1. Develop a VB Project to Check User Name & Password Given by User.
2. Develop a VB Project to Add & Remove Items From List Box.
3. Develop a VB Project to Copy all Items in a List Box to Combo Box.
4. Develop a VB Project to Enter and Display Student Information.
5. Develop a VB Project to Scroll Text from Left to Right Using Timer.
6. Develop a VB Project to Mini Calculator Functions.
7. Develop a VB Project to Documents typing using MDI Form.

Use Employee Information For the Following Projects.

8. Develop a VB Project to Search a Record in MS-ACCESS database using data control.
9. Develop a VB Project to Delete a Record from MS-ACCESS database using data control.
10. Develop a VB Project to Perform following Operations in MS-ACCESS database using DAO. A). Move First Record. B).Move Next Record C).Move Previous Record. D).Move Last Record.
11. Develop a VB Project to Insert a Record in MS-ACCESS database using ADO.
12. Develop a VB Project to Modify a record in MS-ACCESS database using ADO.