PG DIPLOMA IN
COMPUTER SCIENCE & APPLICATIONS

(PGDCSA)

SYLLABUS (2007-2010)

Under
CHOICE BASED CREDIT SYSTEM
(CBCS)

ST. JOSEPH'S COLLEGE (AUTONOMOUS)
(Nationally Reaccredited with A+ Grade/
College with Potential for Excellence)
TIRUCHIRAPPALLI - 620 002

FEATURES OF CHOICE BASED CREDIT SYSTEM (PG COURSES)

The Autonomous St. Joseph's College (1978) Reaccredited with A+ Grade from NAAC (2007) has introduced the choice based credit system (CBCS) for UG and PG courses from the academic year 2001-2002.

OBJECTIVES of Credit System:

* To provide mobility and flexibility for students within and outside the parent department
* To provide broad based education
* To help students learn at their own pace
* To provide students scope for acquiring extra credits
* To impart more job oriented skills to students
* To make any course multi-disciplinary in approach

What is credit system?

Weightage to a course is given in relation to the hours assigned for the course. Generally one hour per week has one credit. However, there could be some flexibility because of practicals, field visits and tutorials. The following Table shows the relation between credits and hours.

Hours in a week	Hours (2-3)	Hours (4)	Hours (5-6)
Theory Credits	1	3	4
Practicals Credits	1	2	3

For PG courses (2 years) a student must earn a minimum of 100 credits. For MCA course (3 years) the student must earn 140 credits to get a pass. For a two year PG degree course the minimum number of papers offered by a department is 18.

COURSE PATTERN

The Postgraduate degree course consists of three major components. They are Core Course, Optional Course and Extra Department Course (EDC).

Core Course

A core course is the course offered by the parent department, totally related to the major subject, components like Practicals, Projects, Group Discussion, Viva, Field Visit, Library record form part of the core course. All the students of the course must take the core courses.

Optional Course

The optional course is also offered by the parent department. The objective is to provide choice and flexibility within the department. The student can choose his/her optional. The optional is related to the major subject. The difference between core course and optional course is that there is choice for the student. The department is at liberty to offer optional course every semester or in any two semesters. It must be offered at least in two semesters. The staff too may experiment with diverse courses.

Extra Department Course (EDC)

EDC is an interdepartmental course offered by a department for the students belonging to other departments. The objective is to provide mobility and flexibility outside the parent department. This is introduced to make every course multi-disciplinary in nature. It is to be chosen from a list of courses offered by various departments. The list is given at the end of the syllabus copies. Two EDCs must be taken by students.

Day College student may also take an EDC from PG SFS Course and *vice versa.* This provision enables students to earn extra credits. The EDCs are offered in the II and III semesters. For the day college student it is offered in the last hour and for the PG SFS course students in the first hour or zero hour. The EDCs are expected to be application oriented and inter-disciplinary.

For Two Year Degree Programme

	Credits	
Core	- 84	
Optionals	- 8	(2 semesters)
EDC	- 6	
Shepherd	- 2	
Total	- 100	

For Three Year MCA Programme

	Credits	
Core	- 121	
Optionals	- 8	(2 semesters)
EDC	- 9	
Shepherd	- 2	
Total	- 140	

Credit System Codes:
The various papers in the different courses are coded. The following code system is adopted.
Each code indicates the following particulars

1) The year of introduction/revision of syllabus (07)
2) Whether it is undergraduate or postgraduate course (U or P)
3) The discipline's name is indicated by two letters as shown below:

Sl. No.	Course	Subject Code
1.	Biochemistry	BI
2.	Biotechnology	BT
3.	Business Administration	BU
4.	Chemistry	CH
5.	Commerce	CO
6.	Computer Applications	CA
7.	Computer Science	CS
8.	Economics	EC
9.	English	EN
10.	English - General	GE
11.	Electronics	EL
12.	Foundation Course	FC
13.	French	FR
14.	Hindi	HI
15.	History	HS
16.	Human Resource Management	HR
17.	Information Technology	IT
18.	Mathematics	MA
19.	Physics	PH
20.	Plant Biology & Plant Biotechnology	PB
21.	Personnel Management & Industrial Relations	PM
22.	Sanskrit	SA
23.	Statistics	ST
24.	Tamil	TA
25.	Tamil - General	GT
26.	Transport Management	TM
27.	Journalism (EDC)	JO
28.	Law (EDC)	LA
29.	Short Hand (English) (EDC)	SH

4) The semester number (1 or 2 or 3 or 4 for 2-year course)
5) The paper number: The courses in the discipline fall into three categories
   Core papers-numbers : 20 to 39
   Optional papers - numbers : 41 to 49
   EDC's : 61 to 70
   For MCA course offered by Department of Computer Science, the following paper numbers used:
   Core papers : 51 to 80
   Optional Papers : 81 to 90

The following examples illustrate the above concept.
The first semester Core papers in Chemistry is given the code 07PCH121
The EDC offered by Chemistry department in Semester III is given the code 07PCH362

Evaluation:
For each course there is formative continuous internal assessment (CIA) and semester examinations (SE) in the weightage ratio 50:50. The following table illustrates how one evaluates the Overall Percentage Marks (OPM) for a student in Chemistry PG course in the all papers put together
OPM= $(a_1b_1+a_2b_2+ .. a_{23}b_{23}) / (b_1+b_2+ \ldots + b_{23})$
Where a_1 ,a_2 ... a_{23} indicate the marks obtained in the 4 semesters for 23 papers and b_1 ,b_2 … b_{23} indicate the corresponding credits for the 23 courses.
For example if total credit points in 23 papers is 6860 then the OPM is given by
OPM = 6860/total number of credits = 6860.0/98=70.0

If OPM is between 50 and 60, the student gets II class. If OPM is 60 and more, then the student is placed in I class. If the OPM score is 75 and more the student gets first class with distinction.
The performance in shepherd programme is indicated by a pass and is not taken into account for computing OPM.

Declaration of result

———————— has successfully completed M. Sc. degree course with FIRST CLASS. The student's overall average percentage of marks is 70. The student has acquired 2 more credits in SHEPHERD programme.

PG DIPLOMA IN COMPUTER SCIENCE AND APPLICATIONS

COURSE PATTERN

Sem	Subject Code	Subject Title	Hrs/ Week
I	07DCA101	C Programming	5
	07DCA102	Multimedia	5
	07DCA103	Operating Systems	5
	07DCA104	PC Software	5
	07DCA105	Practical I : C Programming	3
	07DCA106	Practical II: MS-Office & Multimedia	3
		Total for Semester I	**26**
II	07DCA207	Programming with Visual Basic	5
	07DCA208	Systems Analysis and Design	5
	07DCA209	Object oriented Programming using C++	5
	07DCA210	Internet Concepts	5
	07DCA211	Practical III: Internet & Visual Basic	3
	07DCA212	Practical IV: Programming in C++	3
		Total for Semester II	**26**

Sem-I Hours/week 5
07DCA101

C PROGRAMMING

Objective

- ✧ To give an introduction to computer programming and to highlight the various features of C language.

1. An Overview of C-Basic structure of C programs, Programming style, Executing a programs. C fundamentals- Constants, Variables, Data types, Operators, Expression. Managing Input and Output operators (12)

2. Branching – IF, IF-ELSE, ELSE-IF, Switch statement, The GOTO Statement. Looping – The WHILE - DO statement, The DO statement, The FOR statement, jump in loops. Arrays – one dimensional array, two dimensional array, multi dimensional array. (12)

3. Handling of character strings – Declaring and initializing string variables, reading and writing strings, putting strings together, comparison of string, string handling functions, return values, calling a function, category of functions, nesting of functions, recursion. (12)

4. Structures and union – Definition, initialization, Array of structures, Arrays within structures, Structures within structures, structure and functions, unions. File management in C – Defining and opening a file, closing a file, Input/Output operations on files, Error handling during I/O operations, Random access I/O files.

(12)

5. Pointers – understanding pointers, Accessing the address of the variable, Declaring and Initializing pointers, Accessing a variable through it a pointer, pointer expressions, pointers and function, pointer and structure. The preprocessor – Macro substitution, file inclusion, compiler control directives. (12)

Book for Study

1. Balagurusamy. E, *"Programming in ANSI C"*, 2nd Edition, Tata McGraw-Hill Publishing Company Ltd., New Delhi,2002.

Books for Reference

2. Less Hancock, Morris Drieger, *"The C Primer"*, Second Edition, McGraw Hill Book Company, New Delhi, 1987.
3. Gottfried S Byron, *"Programming with C"*, Schaum's Outline Series, Tata McGraw-Hill, New Delhi, 2001.

Sem-I Hours/week 5
07DCA102

MULTIMEDIA

Objective

- ✧ To understand the basic concepts of multimedia and hands on experience of multimedia tools

1. Introduction to Multimedia :. What is Multimedia – Components of Multimedia – History of Multimedia - Overview of Multimedia software tools – Multimedia Authoring and tools –Multimedia Authoring – Some useful editing and Authoring tools – Graphics and image data representation – Data types – Popular File formats – Color in Image and Video – Color models in Images. (12)
2. Photoshop: Fundamentals – Opening and Importing images – Resolution – Modes and colour spaces – Layers - Painting pixels - The painting tools – Erasing – Fills – Type - Selection and allied operation – Marquee selection and cropping – Lasso selection – Paths – Combining and Transforming selections –Extracting objects – Selecting by colours – Masks – Adjustments and Retouching - Tonal and colour adjustments – Retouching by Hard - Effects & Filters – Blurring and sharpening - Special effects and Distortion – Layer effects and layer styles - Photoshop7 – Interface Enhancement - patterns –brushes. (12)
3. Flash: Basic concepts – Drawing - Importing artwork & manipulating images – Animation – Animating one frame at a time – Motion Tweening – Symbols and Instances – Shape Tweening – Sound – actions –Buttons – Button Actions – Frame Actions – Actions and movie clip symbols –Actions – Browsers and networks – Beyond the basic actions - Flash MX: Interface elements – Accessibility – Video – Components. (12)
4. Illustrator : Vector graphics – Drawing – Stroke and fill – Shape Tools – Freeform drawing – Manipulating Objects – Selection – Transforming Objects – reshaping – Appearance – Complex Fills and Strokes – Effects, Filters and Styles – Drawing Aids – Grids – Layers – Type – Bitmaps – Web graphics- Illustrator 10 – Minor Enhancements and Additions – Symbols – Data Driven Graphics. (12)
5. Dream weaver: Web Sites : Web Pages and Sites – Formatting Web Pages – HTML Formatting – CSS Typography – Flash Text – Images and Other embedded objects – Links – page Properties and head Elements – Forms – Tables – Page Layout – Layers – layout View – frames – Dynamic HTML – Rollovers and Navigation bars – Behaviors – Timelines – Editing HTML code – Sites. (12)

Books for Study

4. Ze - Nian Li and Mark S. Drew, *" Fundamentals of Multimedia"*, Prentice Hall of India, New Delhi. 2005. Unit I : Ch – 1.1.1, 1.2.1, 1.4, 2.1, 2.2, 3.1, 3.2, 4.2.
5. Nigel Chapman and Jenny Chapman, *"Practical Multimedia"*, 2nd Edition ,Wiley Dream Technology India(p) Ltd. Units II, III, IV & V : Ch -3, 3a, 5, 5a, 6, 6a, 7

Book for Reference

6. Vaughan Tay, *" Multimedia – Making IT Work",* Tata McGraw Hill, New Delhi 2000.

Sem-I Hours/week 5
07DCA103

OPERATING SYSTEMS

Objective

- ✧ To present fundamental aspects of various managements in an operating system and also the basic concepts of the Linux operating system.

1. Introduction: What is an Operating system? -simple batch system - multiprogrammed batch systems- time sharing-personal computer system , parallel, distributed and real time systems. Computer-System Structures: Computer-system operation- I/O structure. Operating System Structures: System components – operating system services – system calls – system programs – system structures – virtual machines – system design and implementation –system generation. (12)
2. Process management: Processes: process concept – process scheduling – operation on processes – cooperating processes - threads – interprocess communication. CPU scheduling: Basic concepts – scheduling algorithms. Process synchronization: background – critical – selection problem – synchronization hardware. Deadlock: system model – deadlock characterization – methods for handling deadlocks- deadlock prevention – deadlock avoidance –deadlock detection – recovery from deadlock. (12)
3. Storage management: Memory management: Background – logical versus physical address space – swapping – contiguous allocation – paging – segmentation – segmentation with paging. File system interface: file concept – access methods – directory structure – protection – consistency semantics. File system implementation: file-system structure – allocation methods – free space management – directory implementation. (12)
4. I/O systems: I/O hardware – application I/O interface-kernel I/O subsystem – transforming I/O requests to hardware operations –performance. Secondary storage structure: disk structure – disk scheduling – disk management – swap-space management – disk reliability – stable storage implementation. Protection: goals of protection – domain of protection – access matrix –implementation of access matrix – capability based systems- language based protection. (12)
5. What is Linux- Linux as an operating system- a multitasking operating system-multi user operating system-Linux application- what is Linux command- executing Linux command-common Linux commands (sw ,pwd ,cd , ls, more, less, find, locate, grep, tar, gzip, man and xman)-working With files-copying, deleting files-creating, moving, renaming files-creating and deleting Directories. (12)

Books for Study

1. Silberschatz Abraham and Galvin Peter Baer, *"Operating Systems Concepts"*, Fourth edition, Addison Wesley Longman Inc, California, 1998.
   Unit I to IV : Ch: 1.1 – 1.8, 2.1-2.2,3.1-3.8,4.1-4.4.6,5.1,5.3,6.1-6.3,7.1-7.7,8.1-8.7,9.1-9.5,10.1- 10.5,11.1-11.6,12.2-12.6,13.1-13.6,19.1-19.4,19.6,19.7,20.1-20.5,20.7-20.8.
2. Arman Danesh, *"Mastering Red Hat Linux"*, BPB Publications, New Delhi, 1st Edition, 2001. Ch : 1,13,14.

Books for Reference

1. Sridhar.R,*" Fundamentals of Operating Systems"*, Dynaram Publications, Bangalore, 1993
2. Harvey M.Deitel, *"Operating Systems "*, Addison Wesley Publishing Co. 2nd Edition,1999.

Sem-I Hours/week 5
07DCA104

PC SOFTWARE

Objective

- ✧ To have a basic knowledge in Ms-Word, Ms-Excel, Ms-Power Point and Ms-Access, and hands on experience of the same packages.

1. What is Office 2000 -Starting and exiting Office applications-Understanding common Office elements-Selecting and Editing text-Selecting and manipulating objects-Getting help-MS Word: Introduction-Creating and saving documents-Editing a document-Formatting text. (12)

2. Working with several documents in MS Word-Using templates-Creating sections and including headers and footers in a document-Incorporating tables-Grammar and spell check-Automating correspondence-Using mail merge. (12)

3. MS Excel: Introduction-Creating a simple worksheet-Editing and Formatting a worksheet- Printing in Excel-Using functions-Creating charts-Creating Excel database-Entering, editing and Organizing data-Introduction to a workbook-Selecting sheets-Inserting and Deleting or renaming a sheet-Moving or copying a sheet-Understanding cell references-Naming cells-Linking cells in a workbook and between workbooks. (12)

4. MS Access: Review of database concepts-Understanding Access objects-Starting and exiting Access-Opening and closing database files-Opening and closing database objects-Displaying a hidden object-Creating and using a database-Creating and editing database tables-Querying the database-Using custom forms-Creating reports. (12)

5. MS PowerPoint: Getting started with PowerPoint-Creating presentations-Opening, saving and closing a presentation-Editing a presentation-Including data in a presentation-Printing in PowerPoint-Customizing a presentation-Making a professional slide show. (12)

Book For Study

1. Bruck Bill, *"The Essential Office 2000 Book"*, Galgotia Publications Pvt Ltd, New Delhi, 1999.

Books For Reference

1. Editorial Board, *"Easy Office 2000",* SISO Books, Trivandrum, 2001.
2. Maarfield Ron, *"Working in Microsoft Office"*, Tata McGraw-Hill Publishing Co. Ltd, New Delhi, 1996.

Sem-I Hours/week 3
07DCA105

PRACTICAL-I
C PROGRAMMING

1. Evaluating simple mathematical expressions
2. Evaluating sine and cosine series
3. Printing the given numbers in words using functions
4. Sorting the given set of numbers in Ascending order and search the particular number and find its position in the array
5. Matrix Operation (Addition, Subtraction & Multiplication)
6. String manipulation using Pointers (String copy, concatenation, Compare two strings)
7. Accept and display the student bio data using structure
8. Mark-Sheet processing using structure and files (sequential)
9. Payroll slip for a particular employee using structures and files (Random)

Sem-I Hours/week 3
07DCA106

PRACTICAL-II

MS-OFFICE & MULTIMEDIA

MS-OFFICE

1. Using MS-Word creates a document with proper heading, sub Heading, headers, footers, tables
2. Using MS-Word apply mail merge
3. Using Worksheet create a payroll in MS-Excel
4. Using PowerPoint, create a presentation working with text, Graphics and Pictures

Multimedia

1. Create an image, and perform various tonal adjustments and color adjustments.
2. Type each letter of alphabet at a lower size using many fonts. With each letter on a separate layer. Apply combinations of layer effects to each letter and try arranging letters into words.
3. Program using various tweening methods.
4. Program using Button Actions and Frame Actions.
5. Develop a program using Effects, filters and grids.
6. Develop a program to Import Bitmaps and Converting Bitmaps to Vectors.
7. Create a Web page for your resume contains qualifications, experience and so on.
8. Create a web page containing links to all of your favourite web sites.Use Navigation bars and Rollover Buttons to jump to each site and add a short description of each link.

SEM - II Hours/week :5
07DCA207

PROGRAMMING IN VISUAL BASIC

Objective

- ✧ To learn the fundamentals of the environment and programming aspects of Visual Basic with Database.

1. Visual Basic: Features – Editions – Controls – Properties – Events – Methods – ToolBox – Project Explorer Window – Properties Window – Form Window – Code Editor Window – Form Layout Window – Menu Bar – Tool Bar. (12)

2. Data Types – Variables – Constants – Arrays - Control Structures: For..Next –Do..Until – Do..While Loop – While..Wend – If..Then – If..Else..Endif – Select Case…End Select.

3. Toolbox Controls : Command button - Textbox – Label – Frame – Check box – Option button – Combo box - List box – HScroll bar – VScroll bar – Timer control – Drive Listbox – Dir List box - File List Box – Shape control– Line control – Image control – Programming with Toolbox Controls - Mouse and Keyboard events. (12)

4. Menu: Menu system – Menu conventions – Menu editor – MDI Forms – Common Dialog Control - File System Object: Creating files – Adding data to files – Writing data to files - Moving, Copying and Deleting files. (12)

5. ntroduction to Databases – Working with Data control – Data Access Objects – Data Reports – Data report designer – Parts of Data report – Data report controls. (12)

Book for Study

1. Mohammed Azam, *"Programming with Visual Basic 6.0*", Vikas Publishing House Pvt. Ltd., New Delhi, 2004.
   Ch: 1-8, 10-13, and 16

Books for Refrence

1. Gary Cornell, *"Visual Basic 6 from the Ground up*", Tata McGraw Hill Publication, New Delhi, 1998.
2. *"Microsoft VB 6.0 Programmer's Guide*", Microsoft Press, 1998.
3. Evangelos Petroustous, *"Mastering Visual Basic 6.0",* BPB Publication, New Delhi, 1998.

SEM - II Hours/week :5
07DCA208

SYSTEMS ANALYSIS AND DESIGN

Objective

- ✧ To give understanding of the System Concepts and to Impart knowledge on Analysis Design and Implementation of the System.

1. System Concept and Information System Environment: The System Concept - Characteristics of System- Elements of A System-Types of System - System Development - System Development Cycle. The System Development Life Cycle Considerations For Candidate Systems. Role of System Analyzer: Definition –Academic and Personal Qualification Of SA - Role of Analyzer - Analyzer User Interface - Place of Analyzer In MIS Organization. (12)

2. System Planning And Initial Investigation: Bases For Planning-Initial Investigation - Information Gathering: Kinds of Information–Sources -Information Gathering Tools– Tools of Structured Analysis: Meaning -Tools of Structured Analysis. (12)

3. Feasibility Study: Introduction - System Performance – Definition - Feasibility Study - Cost Benefit Analysis – Introduction - Data Analysis - Cost Benefit Analysis –System Proposal. The Process and Stages of System - Design: The Process - Design Methodologies – Development – Activities – Audit Consideration. (12)

4. Input/Output Form Design: Input Design – Output Design - File Organization and Database Design: File Structure – File Organization - Database design - Role of Database Administrator. System Testing And Quality Assurance: Reason for Testing - Test Plan –Quality Assurance - Data Processing Audit. (12)

5. Hardware/Software Selection: Hardware Industry - Software Industry-Procedure for Selecting Software and Hardware - Evaluation Process –Financial considerations. Implementation and Maintenance. Conversion – Post Implementation Review – Maintenance. Security Disaster/Recovery, and Ethics in System Development (12)

Book for Study

1. M.Awad Elias, *"Systems Analysis And Design"*, Galgotia Publication & Pvt. Ltd, 2nd edition, 2005. Ch: 1-14,16

Books for Reference

1. Yourdon Edward, *"Modern Structured Analysis"*, Prentice-Hall Of India, New Delhi, 2001.
2. Lee & Lee, *"Introducing System Analysis And Design"*, Volume I & II Galgotia Publication Pvt Ltd, New Delhi, 1982

SEM - II Hours/week :5
07DCA209

OBJECT ORIENTED PROGRAMMING USING C++

Objective

- ✧ To introduce Object Oriented Programming techniques and to impart programming skills in C++

1. Principles of object oriented programming – Software crisis – Software evolution – Procedure Oriented programming – Object Oriented Programming paradigm – Basic concepts and benefits of OOP – Object Oriented Languages – Applications of OOP – Structure of C++ - Applications of C++ - Tokens, Expressions and Control structures. (12)
2. Functions in C++ - Function prototyping – Call by reference – Return by reference – Inline functions – Default, constant arguments – Function overloading – Friend and virtual functions – Classes and Objects – Member functions – Nesting of member functions – Private member functions – Memory allocation for objects – Static data members – Static member functions – Arrays of objects – returning objects – Constant member functions – Pointers to members. (12)
3. Constructors – Parameterized constructor - Multiple constructors in a class – Constructors with default arguments – Dynamic initialization of objects – Copy and Dynamic constructor – Destructor – Operator overloading – Overloading unary and binary operators - Overloading binary operators using friends. (12)
4. Inheritance – Defining derived classes – Single inheritance – Multilevel inheritance – Multiple, Hierarchical and Hybrid inheritance – Virtual base classes – Abstract classes – Constructors in derived classes – Nesting of classes. (12)
5. Unformatted I/O operations – Classes for file stream operations – Opening and closing a file – Detecting end of file – File modes – File pointers and their manipulations – Sequential input and output operations – Random access – Error handling during file operations – Command line arguments. (12)

Book for Study

1. Balagurusamy E, *"Object Oriented Programming with C++"*, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2001.

   Ch 1,2-(2.2,2.6), 3, 4,5 (5.4,5.7,5.8,5.10-5.13,5.16-5.18), 6, 7(7.2-7.5), 8, 10(10.4), 11.

Book for Reference

1. Lafore Robert, "Object Oriented Programming in Turbo C++", Galgotia Publications Pvt. Ltd, New Delhi, 1998.

SEM - II Hours/week :5
07DCA210

INTERNET CONCEPTS

Objective

- ✧ To introduce the basic concepts of Internet, the facilities available in Internet and to learn HTML and VBScript.

1. Networking Concepts: Internet - History –Applications –Users - Protocols -Host machines and host names-Internet architecture and packet switching – in charges to various committees-client/server model-bandwidth and asynchronous communications. (12)
2. Connection: Dial-upacces- direct and dedicated connections –Shell or TCP/IP accounts-domains and address -domain name system –IP addresses. Faculties: E-Mail-WWW - FTP-TELNET-HTTP-USENET-Search Engines. (12)
3. HTML:Tags-Document layout-comments-headings-Paragraphs breaks-texts-lists-special characters-links - images-form-tables-frames. (12)
4. VBScript: What is VBScript-What is all the type about? –What can you do with-Language structure-Variables-Arrays –Data types-Expressions-operators-constants. Control structures: IF…THEN-IF…THEN…ELSE-Select…Case…Endselect-For…Next…Loop-While-Do…Loop-DoWhile…Loop-procedures and functions: need–named functions-parameter passing-Returning values-code reuse modularity –writing procedures – placing functions and procedures within HTML. Error Handling: What is Error handling-using the onerror statement – using the Errobject-properties of error object-methods of the error object-differed error handling (12)
5. VBScript(contd..) Input/Output-Data validation-integration with forms:Client/server scripting with forms-scripting object model-Form tag-Input tag-button-reset-submit-text-text area-password-check box-radio-hidden element-image-select. ActiveX control & Scripting: What are objects? –object tag-inserting objects into HTML -<object>tag parameters-<param> element-inserting ActiveX control into web pages. (12)

Books for Study

1. Wendy G. Lehnert, *"Internet 101-A beginners guide to the internel and the world wide web"*, Addison Wesley, California, 2003. Unit 1 & 2: Ch: 2
2. R.Bremanath, C.S.SenthilRaja,V.Siva kumar, *"Web Technology version1.0"*, Pratheeba Publishers, Coimbatore, 2004. Unit 3: Ch
3. Christopher J.Goddard, Mark White, *"Mastering VBScript"*, Galgotia Publications New Delhi 1998. Units IV & V: Ch: 4 to 8,10 to 12

Books for Reference

1. Achyut S Godbre, Atul Khala, *"Web Technologies TCP/IP internet application Architectures"*, Tata McGraw Hill publishing company Ltd, New Delhi 2003.
2. C.Xavier,*"Web Technology & design"*, New Age International Publishers, 2002.

SEM - II Hours/week: 3
07DCA211

Practical – III
INTERNET & VISUAL BASIC

INTERNET

1. Display your class time-table using HTML.
2. Create a BIO-DATA form and display using HTML.
3. Design a simple calculator using HTML and VB script.
4. Create and validate BIO-DATA form fields using VB script.

VISUAL BASIC

1. Generate ‘n’ prime numbers using control structures.
2. Simulation of free-hand drawing.
3. Simple menu creation.
4. Student information system along with marks using data control.
5. Simple bank transaction using DAO control.
6. Creating text editor without using common dialog box.

SEM - II Hours/week: 3
07DCA212

PRACTICAL -IV
PROGRAMMING IN C++

1. Simple program to test
   i. Function Prototype
   ii. Function Overloading
   iii. Default Arguments
   iv. Inline Functions
2. Create an Object to manipulate a one dimensional array,
3. Create an object with Constructors and Destructors to manipulate a string,
4. Operator Overloading (+,-,*,==,<,>)
5. Inheritance (Single, Multiple, Multilevel),
6. Polymorphism,
7. Simple Programs for String Handling Functions ,
8. Formatted I/O and File Operations,
9. Simple Graphics Programs,
10. Command Line Arguments.