**Semester: I** **Credits: 5**

**Category: MC** **No.of hrs/week: 5**

## CS- 1505 PROGRAMMING IN C

**Objective: This course aims at an easy understanding and mastering of C Language by the students. This covers in-depth all the major concepts of programming languages.**

### UNIT I

Steps involved in computer programming – Algorithm development – Developing flowchart. Fundamentals: Character set – Identifiers and keywords – Data types – Constants – Variables — Expression – Statements. Operators and Expressions: Unary operators and binary operators – Library functions – Input and Output in C: Formatted Input/Output - Unformatted Input/Output.

### UNIT II

Control statements: if-else, switch case, while, do-while, for statements – Nested control structure – Break and continue statements. Arrays: Definition of array – One dimensional, two dimensional arrays and multi dimensional arrays - Initialization and Processing of arrays.

### UNIT III

Strings: Declaration and Initialization of strings –Reading and Writing Strings - Standard string functions – Pointers: Declaration of Pointers, Arithmetic Operations with Pointers – Pointers and Arrays –Array of Pointers – Pointers to Pointers – Pointers and Strings.

### UNIT IV

User defined Functions: Definition – function prototypes – passing arguments to a function – recursion - passing arrays to a function – Call by value and call by reference – function returning more values - Category of functions – Pointers to functions. Storage class - Automatic, External, Static and Register variables.

### UNIT V

Structure: Definition – Processing a structure – Structure within a structure – Array of Structures – Pointer to Structures – Structure and functions – typedef – Bit fields - Enumerated data type – Union – Files: Introduction – Streams and file types - Opening and closing a data file – Reading and writing Operations on files - Command Line Arguments.

**Text books:**

E. Balagurusamy, Programming in Ansi C, IV Edition - Tata McGraw-Hill, New Delhi.

Ashok N. Kamthane, Programming with ANSI and Turbo C , Seventh Impression, 2009.

**Reference books:**

Deitel & Deitel - C How to Program, III Edition, Pearson Education, New Delhi, 2001.

Bian W.Kernighan and Dennis Ritchie - C Programming Language, PHI, New Delhi, 1990.

**Semester: I** **Credits: 4**

**Category: MC** **No. of hrs/week: 4**

**CS- 1506 PROGRAMMING IN C - LAB**

Simple applications in C are to be developed using the following:

1. Arithmetic Expressions
2. Formatted Input/Output
3. Library functions (Mathematical, String)
4. Different types of Operators
5. Decision Making
6. Looping statements.
7. Enumerated data type.
8. Arrays (1-D, 2-D)
9. Strings
10. User Defined Functions
11. Structures
12. Pointers
13. Reading and writing with files

**Semester: II** **Credits:4**

**Category: MC** **No. of Hours/Week: 3**

**CS- 2503** **WEB DESIGN**

**UNIT I**

Introduction to HTML: Internet Basics - Formatting text in HTML- Lists- Adding Graphics to HTML- Internal and External Linking in HTML- Frames and framesets - Creating Tables.

**UNIT II**

HTML Forms - Cascading style Sheets: HTML cascading style sheets-Inline styles-Creating style sheets with the style elements- Building a web page.

**UNIT III**

JavaScript: Introduction to scripting –operators: logical-Increment and decrement operators –Control structures- Functions: Definition-scope rules-recursion-Arrays: Declaring arrays-passing arrays to functions-sorting arrays-object: Math object-string Object-Date object-Boolean object and Number object.

**UNIT IV**

XML-XML overview- features-HTML XML –processing instructions-Applications of XML-COMMENTS-XML names spaces-Schema- Style sheets: Cascading style sheets (css) Extensible Style Language (XSL)-Document object model (DOM)-DOM methods- SAX.

**UNIT V**

Flash MX: Interface fundamentals drawing in Flash –Working with Text-Time line Animation fundamentals -Applying layer types: guide layers, motion guides, and mask layers – Action Script.

**TEXT BOOKS:**

Ivan Bayross, "Web Enables Commercial Application Development Using HTML, DHTML Java Script, Perl CGI", BPB Publications, New Delhi, 3rd Edition, 2005.

Robert Reinhardt & Snow Dowd, "Macromedia Flash MX Bible", Wiley Publishing inc. 2002.

H.M Deitel, T.R. Nieto," Internet & World Wide Web How to program", Fifth Edition, prentice Hall of India pvt. Ltd, New Delhi.

**REFERENCE BOOKS:**

Dinesh Maidasani, "Multimedia Applications and Web Designing" Firewall Media, Laxmi Publications, First Edition 2008.

Deitel, Nieto, Lin, Sadhu, "XML HOW TO PROGRAM" Pearson Education, 2005.

**Semester: II** **Credits: 3**

**Category: MC** **No. of Hours/Week: 3**

## CS- 2504 WEB DESIGN LAB

1. Create application form using various text formats.
2. Linking documents and images.
3. Creation of hyperlinks and frames in HTML.
4. Creation of Lists in HTML.
5. Create Mark sheet preparation using table in HTML.
6. Create LOYOLA COLLEGE website using HTML tags.
7. Create style sheets with the style elements.
8. Create Calculator format using Java script.
9. Create Login format using arrays in Java Script.
10. Demonstration of Dialog boxes using Java script.
11. Create Objects using Java script.
12. Create Employee details using schemas.
13. Create our department details using CSS
14. Create Internal and External DTD which contains student information using XML.
15. Create Payroll system using XSL.
16. Working with different layers.
17. Draw an image in flash.
18. Animation – text and image.
19. Animation with different layers.
20. Adding script.
21. Working with layers and frames.

Semester: II Credits: 2

Category: MC No. of Hours/Week: 3

## CS- 2505 COMPUTER ORGANISATION AND ARCHITECTURE

**UNIT I**

Digital Logic Circuits (8 hrs.) - Digital Computers - Logic Gates - Boolean Algebra - Map Simplification - Product - of - Sums Simplification - Don't - Care Conditions - Combination Circuits - Flip-Flops - SR, D, JK, T, Edge-Triggered Flip-Flops - Excitation Tables.

**UNIT II**

Digital Components (6 hrs.) - Integrated circuits - Decoders - NAND Gate Decoder - Decoder Expansion - Encoders - Multiplexers - Registers with Parallel Load - Shift Registers - Bi-directional Shift Registers with Parallel Load - Binary Counters with Parallel Load - Memory Unit - RAM - ROM - Types of ROMs.

**UNIT III**

Basic Computer Organization: (10 hrs.) - Data types - Number Systems - Octal & Hexadecimal - Instruction codes - Operation codes - Stored Program Organization - Indirect Address - Effective Address - Computer Registers - Common Bus System - Computer Instructions - Instruction Formats - Instruction Set Completeness - Timing and Control - Clock Pluses - Hardwired Control - Micro programmed Control - Control Unit - Timing Signals - Instruction Cycle - Fetch and decode - Determine the Type of Instruction - Register - Reference Instructions - Memory - Reference Instructions - AND, ADD, LDA, STA, BUN, BSA, ISZ - Control Flowchart - Input-Output and Interrupt - I/O Configuration - I/O Instructions - Program Interrupt - Interrupt Cycle.

**UNIT IV**

Complete Computer Description (5 hrs.) - Flowchart for Computer Operation - Design of a Basic Computer - Control Logic Gates - Control of Registers and Memory - Control of Single Flip - Flops - Control of Common Bus - Design of Accumulator Logic - Control of AC Register - Adder and Logic Circuit.

**UNIT V**

Central Processor Organization: (13 hrs.) - Introduction - General Register Organization - Control Word - ALU - Example of Micro operations - Stack Organization - LIFO - Stack Pointer - Register Stack - PUSH & POP - Memory Stack - Stack Limits - Instruction Formats - Three Types of CPU Organization - Three, Two, One, Zero - Address, RISC Instructions - Addressing Modes - Mode Field - Implied, Immediate, Register, Register Address, Autoincrement, Autodecrement, Direct Address, Indirect Address, Relative Address, Indexed Address and Base Register Addressing Modes - Numerical Example - Data Transfer and Manipulation - Set of Basic Operations - Data Transfer Instructions - Data Manipulation Instructions - Arithmetic Instructions - Logical and Bit Manipulation Instructions - Shift Instructions - Program Control - Status Bit Conditions - Conditional Branch Instru3ctions - Numerical Example - Subroutine Call and Return - Program Interrupt - Program Status - Word - Supervisor Mode - Three Types of Interrupts.

**Text Books:**


1. M. Morris Mano, Computer System Architecture, Prentice Hall of India, III Edition.
2. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India, IV Edition.


**Reference Books:**


1. William Stallings, Computer Organization and Architecture, Pearson Education, V edition.
2. Carl Hamacher, Computer Organization, Mc Graw Hill International, V Edition.