

DEPARTMENT OF COMPUTER SCIENCE

**OUTCOME BASED EDUCATION
With
CHOICE BASED CREDIT SYSTEM**

THREE YEARS B.Sc. COMPUTER SCIENCE PROGRAMME

ACADEMIC YEAR 2020 - 2021



**DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE
(AUTONOMOUS)**

College with Potential for Excellence

Linguistic Minority Institution affiliated to University of Madras

E.V.R. PERIYAR HIGH ROAD,

ARUMBAKKAM, CHENNAI - 600106, TAMILNADU.

Head
Department of Computer Science
Dwaraka Doss Goverdhan Doss
Vaishnav College (Shift II)
Arumbakkam, Chennai-600 106.

PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.

OBJECT ORIENTED PROGRAMMING USING C++

SI No.	Contents of Module	Hrs	Cos
1	Basic concepts of OOP- I/O statements - Data types – Operators - Control Structures : Decision making statements - Looping Statements.	10	CO1
2	Functions - Function declarations and definitions - Passing arguments - Inline functions –Function Overloading- Arrays –one dimensional and two-dimensional arrays - Passing arrays to functions.	10	CO2
3	Classes& Objects : Class - Defining member functions, Static Data Members - Passing objects to function - Returning objects - Friend function - Default Arguments. Constructor - Types of Constructors - Destructors.	15	CO3
4.	Operator Overloading - Rules for overloading operators - Overloading of unary and binary operators. Inheritance - Types of inheritance - Virtual base classes	15	CO4
5.	Pointers - this pointer – Pointer to an Object - Virtual functions . Working with files - Classes for file stream operations - Opening and closing a file - Detecting EOF - File modes for opening	10	CO5

TEXT BOOKS:

1. E.Balaguruswamy, “Object Oriented Programming in C++”, Sixth Edition, 2012, TMH.

REFERENCE BOOKS:

1. H. Schildt, “The Complete Reference C++”, Fourth Edition, 2002, TMH
2. Kanetkar Y, ” Let us C++”, Third Edition, 1999, BPB Publishers.
3. John R Hubbard, “Programming with C++”, Third Edition, 2009, TMH.

E-REFERENCES:

1. <http://en.highscore.de/cpp/boost/>
2. <http://bookboon.com/en/structural-programming-with-c-plus-plus-ebook>

COURSE OUTCOME

1. Discuss and elaborate the concept of OOPs.
2. Analyze the problem and apply the retreated concept in Application areas.
3. Usage of pointers and Outline of files.

JAVA PROGRAMMING

SI No.	Contents of Module	Hrs	Cos
1	Introduction to Java - Features of Java –Java Tokens - Data Types - Variables - Arrays - Operators - Control Statements.	10	CO1
2	Classes - Objects - Constructors - Overloading method - Static and Final members - String Objects - String Class - String Buffer - Inheritance - Overriding methods - Using super-Abstract class.	15	CO2
3	Packages - Interfaces - Exception Handling –User-Defined Exception – Multithreading - Thread - Runnable Interface.	10	CO3
4	I/O Streams: Stream classes – Byte stream classes - Character stream classes - File Streams – Using File class – File exceptions – Creation of file – Reading or writing characters/bytes – Random access files.	10	CO4
5	Applets – Preparing to write applets – Building Applet code – Applet life cycle – Applet tag – Passing parameters to Applets - AWT Controls - Layout Managers.	15	CO5

TEXT BOOKS:

1. E. Balagurusamy, “Programming with Java”, Fourth Edition, 2010, Tata McGraw-Hill.
2. P Radha Krishna, “Object Oriented Programming through Java”, Second Edition, 2007, Universities Press.

REFERENCE BOOKS:

1. K. Arnold and J. Gosling, “The Java Programming Language”, Second Edition, 1996, Addison Wesley.
2. P. Naughton and H. Schildt, “Java2 (The Complete Reference)”, Eight Edition, 2005, Tata McGraw Hill.
3. Kathy Sierra and Bert Bates, “Head First Java”, Second Edition, 2003, Oreilly

E-REFERENCES:

1. www.tutorialspoint.com/java/java-quick-guide.htm
2. www.ntu.edu.sg/home/ehchua/programming/java/J3a_OOPBasics.html
3. www.tutorialspoint.com/java/java_overview.htm

COURSE OUTCOME

1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
2. Read and make elementary modifications to Java programs that solve real-world problems.
3. Be able to create an application using string concept.
4. Be able to create a program using files in application.
5. Be able to create an Applet to create an application.
6. Identify and fix defects and common security issues in code.

WEB DESIGN

Sl No.	Contents of Module	Hrs	Cos
1	Internet: Basic Concepts – Communicating on Internet – Internet Domains – Internet Server Identities – Establishing Connectivity on the Internet	10	CO1
2	Introduction to HTML -Anchor Tag – Hyperlink - Head and Body Section – Heading - Horizontal Ruler – Paragraphs – Tags - Images and Picture – Lists – Tables – Frames - Forms and forms elements.	10	CO2
3	DHTML and Style sheets - Defining styles - Elements of style - Linking a style sheet to a html documents - Inline style - External style sheets - Multiple styles- Web page designing.	15	CO3
4	Introduction to Java script - Advantage of JavaScript - Data type - Variable – Array -Operator and Expression - Control and looping Constructs - Functions - Dialog Boxes.	15	CO4
5	JavaScript Document Object Model - Event Handling - Form Object - Built in Object - User Defined Object-Cookies.	10	CO5

TEXT BOOKS:

1. Ivan Bayross, “Web Enabled Commercial Application Development using HTML, JavaScript, DHTML and PHP”, Fourth Edition, 2010, BPB Publications

REFERENCES:

1. Harvey M. Deitel, Paul J. Deitel, Tem R. Nieto, “Internet & World Wide Web – How to program”, Third Edition, 2002, Prentice Hall

E-REFERENCES:

1. http://books.google.co.in/books?id=BrASwbtAGGUC&pg=PA69&source=gbs_selected_pages&cad=2#v=onepage&q&f=false

COURSE OUTCOME

1. Able to classify the HTML Tags and DHTML Style Sheets
2. Able to create webpages using JavaScript Document Object Model and Event Handling.

PROGRAMMING IN PHP

Sl No.	Contents of Module	Hrs	COs
1	Introduction to PHP -Basic development concepts-creating first php scripts-using variables and operators-storing data in variable-understanding data types-setting and Checking variables Data types – Using Constants – Manipulating Variables with Operators. Controlling Program Flow: Writing Simple Conditional Statements - Writing More Complex Conditional Statements – Repeating Action with Loops – Working with String and Numeric Functions.	15	CO1
2	Working with Arrays: Storing Data in Arrays – Processing Arrays with Loops and Iterations – Using Arrays with Forms - Working with Array Functions – Working with Dates and Times.	10	CO2
3	Using Functions and Classes: Creating User-Defined Functions - Creating Classes – Using Advanced OOP Concepts.	10	CO3
4	Working with Files and Directories: Reading Files-Writing Files- Processing Directories – Cookies – Session Management.	10	CO4
5	Working MySQL with PHP-database connectivity- Usage of MYSQL commands in PHP - Processing result sets of queries- Validating user input through Database layer and Application layer- Formatting query output with Character, Numeric, Date and time.	15	CO5

TEXT BOOKS:

1. **Vikram Vaswani**, “PHP A Beginner’s Guide”, McGraw-Hill
2. **Vikram Vaswani**, “How to Do Everything with PHP and MySQL”, McGraw-Hill/Osborne

REFERNCE BOOKS:

1. **Rasmus Lerdorf, Kevin Tatroe**“Programming PHP”, O'Reilly, ISBN 1565926102.
2. **Leon Atkinson** “Core PHP Programming”, Prentice Hall, ISBN0130463469.
3. **W. Jason Gilmore**, “Beginning PHP5 and MySQL: From Novice to Professional”, 2004, Apress, ISBN:1-893115-51-8
4. **Steven Holzner**, “The PHP Complete Reference”, Tata McGraw-HillEdition.
5. **Steven Holzer**, “Spring into PHP5”, Tata McCraw HillEdition
6. **Robin Nixon O'Reilly**, “PHP, MySQL, and JavaScript: A Step-By-Step Guide to Creating Dynamic Websites by Media”, Firstedition

E-REFERENCES:

1. <http://www.tutorialspoint.com/php/>
1. <http://www.w3schools.com/php/>

COURSE OUTCOME

1. To make the students learn best practices in programming approach
2. Enable the students to create attractive web pages using hypertext

PYTHON PROGRAMMING

Sl No	Contents of Module	Hrs	COs
1	Introduction to Python – Values and types – Variables – Variable names and keywords – Operators and Operands-Expressions and Statements-Order of Operations- Comments. Functions: Function calls- Type conversion functions-Math functions – Definitions and uses_ Parameters and arguments- Local variables and parameters- Fruitful functions. Conditionals and Recursion: Modulus operator – Boolean expressions – Logical operators- Conditional execution – Alternative execution-Chained Conditionals-Nested Conditionals-Recursion.	15	CO1
2	Iteration -Multiple Assignment-Updating variables-While statement-break- String – Len-String slices- Looping and counting- String methods-in operator-String comparison.	10	CO2
3	Lists : List operations-list slices-list methods-Deleting Elements-Lists and strings- Dictionaries : Dictionary as a set of counters-Looping and dictionaries-Reverse lookup- Global Variables.	10	CO3
4	Tuples : Immutable-Tuple Assignment-Tuples as return values- Lists and tuples- Dictionaries and tuples. Files : Reading and writing-Format operator- Filenames and Paths- Catching exceptions.	10	CO4
5	Classes and Objects : User-defined types-Attributes- Instances as return values. Classes and functions: Time-Pure Functions-Modifiers. Classes and methods : Object oriented features-init method-str method-Operator overloading- Polymorphism- Inheritance- Class diagrams- Data encapsulation.	15	CO5

TEXT BOOK:

1. **Allen B. Downey O'Reilly** “Think Python: How to Think Like a Computer Scientist”, Second Edition, 2015, O'Reilly Media,Inc.

REFERENCE BOOK:

1. Jeff McNeil, “Python 2.6 Text Processing: Beginners Guide “, PacktPub Publications.
2. Mark Pilgrim,“Dive Into Python” , Academic Press.

E- REFERENCES:

- 1.<http://www.greenteapress.com/thinkpython/thinkpython.pdf>

COURSE OUTCOME

1. To acquire programming skills in core Python
2. Apply the OOP concept in Python

ASP.NET PROGRAMMING

SI NO	Content of module	Hrs	Cos
1	Overview of ASP.Net Framework - Page Structure - Compiler Directives -Namespace.	10	CO1
2	Understanding ASP.Net Control: Standard Controls: Displaying information - Accepting user input - Submitting form data - Displaying images – Hyper Link control.	10	CO2
3	Overview of Validation Control- Required Field Validator Control-Range Validator Control-Compare Validator Control-Custom Validator Control-Validation Summary Control - Rich Controls: AdRotator, Calendar control.	15	CO3
4	Overview of Data Access: Data Bound Control - Data Source Control - Data Binding – SqlDataSource control -OleDb Connection - OleDb Command - OleDb Transaction - Data Adapter - Data Reader –Dataset.	15	CO4
5	List Control: Dropdown List – RadioButtonList – List Box Checkbox List – Bulleted List - Grid View Control – Repeater - Data List Control - Building Data Access Component with ADO.NET - Maintaining Application State: Browser Cookies - Session State, Web Services.	10	CO5

TEXT BOOK:

1. Stephen Walther, Kevin Hoffman and Nate Dudek, “ASP.Net 4 Unleashed”, 2011, Pearson Education.

REFERENCE BOOKS:

1. Garvey M. Deitel, Paul J. Deitel, Tem R. Nieto, “Internet & World Wide Web – How to program”, Third Edition, 2002, Prentice Hall.
2. Greg Buczek,” ASP.NET Developer’s guide”, 2002, Tata McGraw-Hill.

E-REFERENCE:

- 1.http://books.google.co.in/books?id=BrASwbtAGGUC&pg=PA69&source=gbs_selected_pages&cad=2#v=onepage&q&f=false

COURSE OUTCOME

1. Able to use ASP.NET controls in web applications
2. Apply the concept to create database driven ASP.NET web applications and web services
3. To create applications that use ADO.NET, cookies and web services