DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE
(AUTONOMOUS)
Re-accredited with "A++" by NAAC
College with Potential for Excellence, Linguistic Minority Institution
Affiliated to University of Madras
Arumbakkam, Chennai – 600 106

PROGRAMME SPECIFIC OUTCOMES [PSOs]

B.Sc Computer Science

PSO1	Learning the applications of various software elements which help to identify various analysis and design methodologies
PSO2	Demonstrate by developing computer programs in the area related to algorithm, web designing, facilitating efficient design for complex problems.
PSO3	Enables the students to be familiar with the modern- day issues, latest trends in computing and technology and create ideas and solutions to existing problems
PSO4	Building code in Various Programming Languages andapplications
PSO5	Detailed Glimpse of Orientation and Interconnection.
PSO6	Gains Knowledge in the various aspects of new Trends and Technologies.

PROGRAMME OUTCOMES [POs]

PO1	• To attain suitable scientific knowledge and technical skills to realize, calibrate and develop innovative processes / skills for creation of inventive products which are beneficial to society.
PO2	• To implement discipline, professionalism, team spirit, communication skills, social and ethical commitment in the post graduates in order to embellish leadership roles expediting perfection in different sector with a categorical professional distinctiveness, business savvy, international recognition and imperishable expansion.
PO3	• To be habituated with the emerging expanses of erudition and their applications in several domains of biological sciences and to enlighten the students of its relevance in forthcoming studies.
PO4	• To enhance the insight of research-oriented knowledge in conjunction with literature survey, design of experimental methodology, analysis and interpretation of results and draw valid conclusions.
PO5	• To provoke entrepreneurship among the students along with strong ethics and communication skills.
PO6	• To engage in Lifelong learning and enduring proficient progress.

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FIRST SEMESTER

Course Title: CORE THEORY T1- FUNDAMENTALS OF PYTHON PROGRAMMING

CO1	• Learn the basics of PYTHON • Do simple programs on python • Utilize the control statement and recursion
CO2	• Work with Looping statements • Do programs on Loops and String methods • Do programs on Various string operations
CO3	• Learn string, list slices and dictionaries • Do work with reverse lookup • Learn in depth about Global variable utilization
CO4	• Learn Immutable • Learn Dictionary and tuple management
CO5	• Work with files and Learn file management concept

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FIRST SEMESTER

Course Title: CORE THEORY T2- FUNDAMENTALS OF DIGITAL ELECTRONICS

Course Outcomes: At the end of the Course, the Student will be able to:

CO1	• To demonstrate the functional codes of Binary Systems. • To study about the concepts of Logic Gates.
CO2	• To clarify the concepts of Boolean Functions. • To gain knowledge about universal gates
CO3	• Extracting the nature of Combinational Logic Circuits
CO4	• To impart the applications of Encoders and Decoders. Classification of Flip-flops. • To differentiate the types of Registers and their applications.
CO5	• Demonstrating the Classification of Counters. • Differentiating the types of ROM ,RAM

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FIRST SEMESTER

Course Title: NON MAJOR ELECTIVE 1- FUNDAMENTALS OF INFORMATION TECHNOLOGY

Course Outcomes: At the end of the Course, the Student will be able to:

CO1	• Introduction to Information Technology • Understanding the Digital Domain. Representing Numbers and text in Binary codes.
CO2	• Fundamentals of Computers: Computer Hardware-Software-System • Development of Software applications. Introduction of Software translators MLL-HLL-ALL
CO3	• Demonstration of Transmission of Information. • Creating the Fundamentals of Communications. Explanation of Fiber optics-Wireless communications.
CO4	• Goals of computer networking. • Developing Goals Topologies-LAN, WAN, MAN.
CO5	• Implementation of Internet Architecture • Types of Network Security Incorporating Internet applications-Internet address-Domain name-E-mail..

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SECOND SEMESTER

Course Title: CORE THEORY T3- OBJECT ORIENTED PROGRAMMING USING C++

Course Outcomes: At the end of the Course, the Student will be able to:

CO1	• Revise the basics of Building any programming language. • Introduction of OOPs and its Concept.
CO2	• Define functions and its important in building the code, Advantage of using Inline function. • Explanation about Arrays with illustration.
CO3	• Definition of Classes and important of Object. • Benefits of using Friend Function. • Define the concept of constructor, destructor and its usage and its implementations.
CO4	• Develop programs for overloading Unary and Binary Operators. • Enhance reusability features using the concept inheritance. • Avoid the duplicate of multiple inheritance using virtual base class.
CO5	• Access the memory Address of any variable using pointers. • Create file and Apply File Modes based on its usage.
CO6	• Revise the basics of Building any programming language. • Introduction of OOPs and its Concept.

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SECOND SEMESTER

Course Title: CORE THEORY T4-DATA STRUCTURES

Course Outcomes: At the end of the Course, the Student will be able to:

CO1	• To Demonstrate the Definition and Classification of Arrays. • To study about the concepts of Searching Techniques. To impart the concepts of Sorting Techniques.
CO2	• To elaborate the operations and applications of Stack. To impart the applications of Queues and operations on the Queues.
CO3	• To elaborate the Addition of Polynomials. To study the Operations on Linked Lists.
CO4	• Representation of Trees. To impart the knowledge of Tree Traversals, Threaded Binary Trees.
CO5	• Representation of Exception and Pre-Defined Exception. • To Point out the Importance of Graphs, Traversals and Algorithms.

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SECOND SEMESTER

Course Title: NON MAJOR ELECTIVE 2 - HTML AND WEB DESIGN

CO1	• Introduction to WWW. • Common terms of Web writing styles, Web design and management. • Concepts of HTML Programming. • Introduction to Telnet and FTP
CO2	• Basics of HTML. • Development of Hyperlinks and style sheets. • Introduction of Lists and Backgrounds.
CO3	• Demonstration of Graphics format for Web use. • Creating and arranging the elements in Web page. • Explanation for Image size and padding.
CO4	• Create Hyper linking from Graphics. • Developing Thumbnail using Graphics. • Creating Tables – Formatting Tables.
CO5	• Implementation of Layouts: Creating Division-Based Layouts • Usage of Frames layout. • Incorporating Audio and Video using Frames.

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THIRD SEMESTER

Course Title: CORE THEORY T5- JAVAPROGRAMMING

Course Outcomes: At the end of the Course, the Student will be able to:

CO1	• Knows the reason about the evolution of Java its development. • Study the basic of Java and to develop code. • Importance of Java comparing the other language.
CO2	• Develop program using constructors and its types. • Definition of inheritance and Writing programmed related to it • Differentiate string class and string buffer.
CO3	• Concept of packages, interface, threads. • Implementing the concept Exception handling various application. • Significance of exception handling. • Life cycle of thread.
CO4	• Explain I/O streams. • Create file using Byte Stream and character Stream classes.
CO5	• Usage of Java in internet • Definition of Applet and Developing code to connect to internet. • Life Build Applet code using AWT controls and Layout managers

THIRD SEMESTER

Course Title: CORE THEORY T6-WEB DESIGN

CO1	• To Demonstrate Internet Basic concepts and Internet Domains • To Study about Internet Server Identities • To impart the concepts of Establishing Connectivity on the Internet
CO2	• To classify the HTMLTags. • To impart Lists, Frames and TableTo the Forms and Forms Elements.
CO3	• To elaborate DHTML Style Sheets and Element of the Style.To impart Linking a style sheet to a html documents and Web page designing.
CO4	• Representation of JavaScript Data types, Control and Looping and Functions.To point out the knowledge about the Dialog Boxes.
CO5	• Representation of JavaScript Document Object Model and Event Handling.To point out Form object, User Defined Object and Cookies.

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FOURTH SEMESTER

Course Title: CORE THEORY T1-PYTHON PROGRAMMING

CO1	• Learn the basics of PYTHON • Do simple programs on python • Utilize the control statement and recursion
CO2	• Work with Looping statements • Do programs on Loops and String methods • Do programs on Various string operations
CO3	• Learn string, list slices and dictionaries • Do work with reverse lookup • Learn in depth about Global variable utilization
CO4	• Work with files and Learn file management concept • Learn Immutable • Learn Dictionary and tuple management
CO5	• Learn Classes and Objects. • Do programs on OOPs concept in Python

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FOURTH SEMESTER

Course Title: CORE THEORY T15-SOFTWARE ENGINEERING

CO1	• Fundamental knowledge of software engineering. • Apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment Know software process models such as the waterfall, incremental ,evolutionary models and concurrent models .
CO2	• Acquire requirements and Analyze it to design software designing through UML language.
CO3	• Design process ,design concept and design models • Basic design principles and its components
CO4	• Good quality of software achieved through SQA. • Strategies of various software testing . • Methods of software testing .
CO5	• Role of software configuration management. Software Risk and its solution through RMMM. • Restructure of software by software reengineering and software reverse engineering

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FOURTH SEMESTER

Course Title: CORE THEORY- ELECTIVE 1-CLIENT-SERVER TECHNOLOGY

CO1	• Comprehend the basic concepts of the client-server model. • Improve the performance and reliability of Client Server based systems.
CO2	• Components of Client-Server Applications and Role. • Understand how Client-Server systems work.
CO3	• Understand the Connectivity. • Comprehend the concept of different technologies.
CO4	• Understand the software and hardware requirements of Client-Server based systems. • Improve the common interface across platform.
CO5	• Understand the service and support of the system. • Identify security and ethical issues in Client Server Computing.

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FOURTH SEMESTER

Course Title: CORE THEORY- ELECTIVE 1-ARTIFICIAL INTELLIGENCE ANDEXPERTSYSTEMS

Sl No.	Contents of Module	Hrs	COs
1	Introduction of Artificial Intelligence: Overview of Artificial Intelligence – Knowledge: General Concepts – Lisp and other AI Programming Languages.	10	CO1
2	Knowledge Representation – Formalized Symbolic logics – Dealing with Inconsistencies and Uncertainties – Probabilistic Reasoning - Structured Knowledge : Graphs, Frames and Related Structures – Object – Oriented Representations	10	CO2
3	Knowledge Organization and Manipulation: Search and Control Strategies – Matching Techniques – Knowledge Organization and Management	15	CO3
4	Perception and Communication: Natural Language Processing – Pattern Recognition – Visual Image Understanding.	15	CO4
5	Expert System Architectures: Rule-Based System Architectures – Nonproduction System Architectures – Dealing with Uncertainty – Knowledge Acquisition and Validation – Knowledge system Building Tools.	10	CO5

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FIFTH SEMESTER

Course Title: CORE THEORY T9-OPERATING SYSTEM

CO1	• Define OS with its view and goals and services rented by it Design of OS with its structure. Message through interposes communication
CO2	• Allocation of process through scheduling algorithms. Define critical section problems and its usage . • Prevention of multiple process executing through the concept ofsemaphores
CO3	• Know the Mutual exclusion, Deadlock detection and agreement protocols for deadlock prevention and its avoidance
CO4	• Strategies of memory management schemes and the usage of virtual memory. • Apply prepare Replacement to algorithmsto avoid thrashing
CO5	• Brief of storage management. • Methods to allocate files for proper protection.

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FIFTH SEMESTER

Course Title: CORE THEORY T10-DATABASE MANAGEMENT SYSTEMS

CO1	• To demonstrate the characteristics of Database Management Systems. • To study about the concepts and models of database. • To impart the concepts of System Development Life Cycle and E-R Model.
CO2	• To classify the keys and the concepts of Relational Algebra. • To impart the applications of various Normal Forms • Classification of Dependency.
CO3	• To elaborate the different types of Functions and Joins and their applications. • Introduction of Views, Sequence, Index and Procedure.
CO4	• Representation of PL-SQLStructure. • To impart the knowledge of Sub Programs, Functions and Procedures.
CO5	• Representation of Exception and Pre-Defined Exception. • To Point out the Importance of Triggers, Implicit and Explicit Cursors.

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FIFTH SEMESTER

Course Title: CORE THEORY T 11-COMPUTER GRAPHICS

CO1	• Illustrate the concepts of various display devices and explain the types of inputand output devices used in graphics systems. • Classify the various Line Drawing Algorithms with their characteristics. • Explain about graphic primitives and work with coordinate spaces, coordinate conversion.
CO2	• Point out and classify the types of transformation and their representations in Matrix form. • Design and implement the model of mapping from a World coordinates todevice coordinates. • Design to clip an image by using clipping techniques.
CO3	• Demonstrate the concepts of representation of objects in3D. • Design the structure needed to represent graphical objects using Bezier andSpline curves and surfaces**.**
CO4	• Classify the various 3D geometric transformation and their composition. • Explore projections and visible surface detection methods techniques fordisplay 0f 3D scene on 2Dscene. • Extract the scene with different clipping methods and its transformationto graphics display device.
CO5	• Subdivide the various color models that can be used in graphics system. • Apply the concepts of color models, lighting and shading models, textures, raytracing, hidden surface elimination, anti-aliasing, and rendering.

FIFTH SEMESTER

Course Title: CORE THEORY ELECTIVE 2-ASP DOT NET PROGRAMMING

CO1	• To understand the basic concept of HTML language with different types tags like formatting the text, inserting the tables.
CO2	• To gain the basic knowledge in VB NET with the Frame work.
CO3	• Enable to apply technical knowledge and perform specific technical skills
CO4	• Understand to design web applications using ASP.NET 2. Successful students will be able to useASP.NET controls in web applications
CO5	• Apply the concept to create database driven ASP.NET web • applications and web services

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FIFTH SEMESTER

Course Title: CORE THEORY ELECTIVE 2- ADVANCED JAVA PROGRAMMING

CO1	• Create dynamic web pages, using Servlets. • Learn to access database through Java programs, using Java Data Base Connectivity(JDBC) • To clarify the concepts of Servlet listener elements, filter elements
CO2	• Create dynamic web pages using JSP • Design and develop Web applications • To understand Java Messaging Services, Transactions.
CO3	• Invoke the remote methods in an application using Remote Method Invocation (RMI) • Implementing remote interfaces. • To demonstrate the importance of RMI over Inter-ORB Protocol.
CO4	• To make a reusable software component, using Java Beans. • To develop Notable Beans
CO5	• To review the Roles, Relationships and Responsibilities of the deployment descriptor, ○ bean provider, server/container provider • To understand the difference between Entity Beans and Session Beans

FIFTH SEMESTER

Course Title:Elective II: Multimedia

CO1	• Defining the basic concepts of Multimedia and to learn about text in Multimedia.
CO2	• Introduce the concept of Image and Colors and thereby explain the concept ofImage File Formats, Sound and Various Audio File Formats.
CO3	• Acquire the knowledge of animation and illustrate the principles of animation andways to handle the video with the help of Multimedia tools.
CO4	• Explain and discuss the stage of Multimedia ,hardware and software needs of Multimedia
CO5	• Describe the Multimedia production Team.
CO6	• Sketch out the concept of Planning and costing, Scheduling, designing and producing andcontent and talent.

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SIXTH SEMESTER

Course Title:ORE THEORY T XIII -PROGRAMMING IN PHP

CO1	• Learn the Basics of PHP Do simple programs • Know How to utilize the predefined string and numeric functions
CO2	• Work with arrays and functions • Do programs on arrays and functions Work with Time and date functionalities
CO3	• Learn advanced OOPs concept Do programs on UDF
CO4	• Work with files and Learn file management concept Learn cookies management • Learn session management
CO5	• Work with MySql • Synchronize various queries and process them on php. Work with character, numeric, date and time.

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SIXTH SEMESTER

Course Title: Python Programming

CO1	• Learn the basics of PYTHON • Do simple programs on python • Utilize the control statement and recursion
CO2	• Work with Looping statements • Do programs on Loops and String methods • Do programs on Various string operations
CO3	• Learn string, list slices and dictionaries • Do work with reverse lookup • Learn in depth about Global variable utilization
CO4	• Work with files and Learn file management concept • Learn Immutable • Learn Dictionary and tuple management
CO5	• Learn Classes and Objects. • Do programs on OOPs concept in Python

SIXTH SEMESTER

Course Title: CORE THEORY T XV- SOFTWARE ENGINEERING

CO1	• Fundamental knowledge of software engineering. • Apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment Know software process models such as the waterfall, incremental, evolutionary models and concurrent models.
CO2	• Acquire requirements and Analyze it to design software designing through UML language.
CO3	• Design process, design concept and design models • Basic design principles and its components
CO4	• Good quality of software achieved through SQA. • Strategies of various software testing. • Methods of software testing.
CO5	• Role of software configuration management. Software Risk and its solution through RMMM. • Restructure of software-by-software reengineering and software reverse engineering

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SIXTH SEMESTER

Course Title: CORE THEORY T XV-DATA MINING

CO1	• Understand the basics of DM • Learn about databases in DM • Learn about knowledge discovery in DM
CO2	• Work with DM techniques • Learn about Statistical Prospective on DM • Understand Decision Trees/Neural Networks/Genetic Algorithm
CO3	• Learn about different types of algorithm in DM • Work with Statistical Based alg/Distance based algorithm • Work with Decision trees/Neural Network/Rule based
CO4	• Apply Hierarchical and Partitional algorithm • Learn about Similarity and Distance Measures • Understand various algorithm technique
CO5	• Learn about large item sets in DM • Apply incremental rules and Measuring quality rules • Understand about applying various rules applying methods

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SIXTH SEMESTER

Course Title: CORE THEORY Elective III-DIGITAL IMAGE PROCESSING

CO1	• Review the fundamental concepts of a digital image processing system. • Understand the need for color models for images.
CO2	• Learn different techniques employed for the enhancement of images. • Understand the need for image compression and to learn the spatial domain.
CO3	• Evaluate the techniques for image enhancement. • Analyze images in the frequency domain using various transforms.
CO4	• Evaluate the techniques for image enhancement and image restoration. • Learn different causes for image degradation and overview of image restoration techniques.
CO5	• Interpret image compression standards. • Learn basics of predictive and transform coding.

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SIXTH SEMESTER

Course Title: CORE ELECTIVE III –UNIFIED MODELING LANGUAGE

CO1	• Recognize the concepts and principles of object-oriented programming concept • Modeling design Technique, Three models, Class Model, State model and Interaction model.
CO2	• The Structural things define the static part of the model. • They represent physical and conceptual elements. • The class and object diagrams give the structural view of system.
CO3	• Understand the purposes, major components and key mechanisms of Class and Object Diagram. • A behavioral thing consists of the dynamic parts of UML models
CO4	• Knowledge on State-chart Diagram. • Develop, explore the conceptual model into various scenarios and applications. • Present the transition from business events to use cases
CO5	• Apply the concepts of architectural design for deploying the code for software.

SIXTH SEMESTER

Course Title: CORE PROJECT P VIII -MINI PROJECT WORK

CO1	● Demonstrate a sound technical knowledge, skills and attitude of their selected project topic.
CO2	● Understand problem identification, formulation and solution.
CO3	● Design solutions to complex problems utilizing a systems approach.
CO4	● Communicate with engineers and the community at large in written and oral forms.