



**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS),
SIVAKASI – 626 123.**

(Affiliated to Madurai Kamaraj University, Re-accredited with A Grade by NAAC,
College with Potential for Excellence by UGC and Mentor Institution under UGC PARAMARSH)

**DEPARTMENT OF COMPUTER SCIENCE
UG PROGRAMME IN COMPUTER SCIENCE**

PROGRAMME EDUCATIONAL OBJECTIVES

The Graduates will

PEO1.	be competent software professionals, take up progressive careers in industry and pursue higher studies
PEO2.	be proficient in developing innovative solutions to complex real life problems using existing and novel technologies
PEO3.	adapt to new technologies and constantly upgrade their skills to be a successful entrepreneur
PEO4.	become ethical and responsible towards themselves, coworkers, society and nation

PROGRAMME SPECIFIC OUTCOMES

By the Completion of B.Sc Computer Science programme, the learners will be able to

PSO1.	exhibit the programming skills, prove expertise in core areas of Computer Science and work with knowledge drawn from multiple disciplines.
PSO2.	comprehend, design, develop and innovate solutions to problems related to Computer Industry.
PSO3.	apply standard practices and strategies in software design and development using open-ended and other programming environments.
PSO4.	communicate effectively the evolutionary changes in computing technologies.
PSO5.	collaborate and be a part of an effective team and lead the team to accomplish their goals.
PSO6.	understand, communicate and effectively interact with people across cultures and perform according to ethical principles.
PSO7.	engage in sustained learning through higher studies, self-directed learning and adapt to changes in computing technologies.

COURSE OUTCOME

Major Course	
Course Code: GLCS11	Course Title: Programming in C
On successful completion of the course, the learners should be able to	
CO1.	explain the basic building blocks and structured programming concepts in C
CO2.	illustrate with examples the use of program elements and statements in C
CO3.	implement arrays and string manipulation
CO4.	modularize the programs using functions and structures
CO5.	discuss the use of pointers and files in programs

Allied Course	
Course Code: GLCS1A	Course Title: DIGITAL PRINCIPLES AND APPLICATIONS
On successful completion of the course, the learners should be able to	
CO1.	classify various gates, binary codes and illustrate laws and theorems of Boolean Algebra
CO2.	classify various gates, binary codes and illustrate laws and theorems of Boolean Algebra
CO3.	build logic circuits after minimizing elements in circuitry and design counters
CO4.	explain the working of data processing circuits and implement arithmetic circuits
CO5.	analyze the functioning of flip-flops, registers and A/D D/A conversion techniques

Major Course	
Course Code: GLCS1L	Course Title: C AND PC SOFTWARE LAB
On successful completion of the course, the learners should be able to	
CO1.	use simple commands for writing programs
CO2.	implement programs using branching, looping statements
CO3.	develop programs with arrays, strings
CO4.	construct programs using functions and structures
CO5.	create applications using PC software

Major Course	
Course Code: GLCS21	Course Title: OBJECT ORIENTED PROGRAMMING IN C++
On successful completion of the course, the learners should be able to	
CO1.	explain the features of object oriented paradigm and constructs
CO2.	write appropriate classes for a given problem
CO3.	implement function overloading and operator overloading
CO4.	demonstrate the various types of inheritance in OOPs
CO5.	illustrate the concepts of pointers and files in OOPs

Allied Course	
Course Code: GLCS2A	Course Title: COMPUTER ORGANIZATION
On successful completion of the course, the learners should be able to	
CO1.	interpret the basic structure & behavior of digital computers, register transfer micro operations, instruction formats
CO2.	identify various addressing modes, data transfer & manipulation instructions, apply infix to postfix conversion and implement stack operations
CO3.	utilize hardware algorithms and construct arithmetic circuits
CO4.	analyze various pipeline processing techniques and pipeline conflicts
CO5.	compare memory types, various peripheral devices, explain I/O interface and interconnection structures between multiprocessors

Major Course	
Course Code: GLCS2L	Course Title: PROGRAMMING IN C++ LAB
On successful completion of the course, the learners should be able to	
CO1.	write simple programs using object oriented concepts
CO2.	apply the concepts of inheritance and overloading
CO3.	implement programs using polymorphism and virtual functions
CO4.	construct programs using pointers
CO5.	develop programs for reading and displaying text files

Major Course	
Course Code: GLCS31	Course Title: DATA STRUCTURES
On successful completion of the course, the learners should be able to	
CO1.	explain abstract data types for linear and non-linear data structures
CO2.	implement various operations on linear and non-linear data structures
CO3.	choose appropriate data structure for solving problems
CO4.	illustrate the searching and sorting algorithms
CO5.	devise algorithms for tree traversals, graph operations and spanning trees

Major Course	
Course Code: GLCS32	Course Title: DATABASE MANAGEMENT SYSTEMS
On successful completion of the course, the learners should be able to	
CO1.	explain the DBMS concepts, data models, database architecture and SQL relational database terminology
CO2.	distinguish and compare different data models used to represent a database
CO3.	construct E-R models using the Entity-Relationship concepts and apply normalization processes to construct a database
CO4.	use the different query constructs and the features of SQL
CO5.	create PL/SQL blocks, exceptions and triggers

Allied Course	
Course Code: GLCS3A	Course Title: OPERATIONS RESEARCH
On successful completion of the course, the learners should be able to	
CO1.	convert the decision making problem into mathematical models, linear programming problem into various forms and unbalanced problem into balanced one
CO2.	summarize various algorithms and rules used in solving OR problems
CO3.	solve the problems using Graphical method, Simplex methods, Transportation and Assignment methods
CO4.	analyze various problems for infeasibility, degeneracy, unboundedness and alternate solutions
CO5.	construct networks and schedule the projects for optimality

Major Course	
Course Code: GLCS3L	Course Title: DATA STRUCTURES LAB
On successful completion of the course, the learners should be able to	
CO1.	develop programs to perform resolve searching problems
CO2.	write programs for stack implementation
CO3.	develop programs for queue implementation
CO4.	use divide and conquer strategy to solve sorting problems
CO5.	implement linked list operations

Allied Course	
Course Code: GLCS3AL	Course Title: DBMS LAB
On successful completion of the course, the learners should be able to	
CO1.	demonstrate the DDL and DML commands
CO2.	construct queries in SQL and utilize the features of Oracle
CO3.	retrieve and manipulate data from one or more tables
CO4.	use the PL/SQL code constructs in database applications and raise appropriate exceptions
CO5.	develop PL/SQL blocks, triggers, procedures, and user defined functions

Major Course	
Course Code: GLCS41	Course Title: .NET PROGRAMMING
On successful completion of the course, the learners should be able to	
CO1.	describe the architecture of .Net Framework and demonstrate its IDE
CO2.	illustrate the use of various controls of .NET IDE
CO3.	make use of lists and iterative loops with VB.NET controls
CO4.	develop applications with Containers, Menus and dialogs
CO5.	integrate the applications with ADO.NET

Allied Course	
Course Code: GLCS4A	Course Title: COMPUTER ORIENTED NUMERICAL METHODS
On successful completion of the course, the learners should be able to	
CO1.	explain the concepts of numerical methods
CO2.	fit the curve of best fit to a given set of data and interpolate the unknown value of the function
CO3.	solve the algebraic, transcendental equations and system of linear equations by iterative methods
CO4.	find the approximate numerical value of differentials and integrals
CO5.	determine approximate solutions to ordinary differential equations

Major Course	
Course Code: GLCS4L	Course Title: .NET PROGRAMMING LAB
On successful completion of the course, the learners should be able to	
CO1.	develop VB.NET applications using common controls
CO2.	design windows forms using containers and menus
CO3.	create MDI applications
CO4.	construct applications using dialog controls
CO5.	create data base applications using ADO.NET

Allied Course	
Course Code: GLCS4AL	Course Title: HTML LAB
On successful completion of the course, the learners should be able to	
CO1.	design web pages using basic HTML tags
CO2.	use anchor tag for linking web pages
CO3.	create web pages with frames and tables
CO4.	build forms with appropriate Form Elements for user interface
CO5.	incorporate CSS in the web pages

Major Course	
Course Code: GLCS51	Course Title: WEB TECHNOLOGY
On successful completion of the course, the learners should be able to	
CO1.	describe the essence of ASP .NET life cycle, structure and coding techniques
CO2.	discuss the various controls in ASP .NET
CO3.	utilize the validation controls for performing form validation
CO4.	choose the access mechanism for databases with different database controls
CO5.	create web applications with Master Pages and deploy web applications using ASP .NET

Major Course	
Course Code: GLCS5L1	Course Title: PROGRAMMING IN JAVA LAB
On successful completion of the course, the learners should be able to	
CO1.	write programs for scientific and general applications
CO2.	integrate object-oriented programming features in their programs
CO3.	use the concept of inheritance and interfaces while writing programs
CO4.	develop programs using multithreading
CO5.	create Applets for animations and displays

Major Course	
Course Code: GLCS5L2	Course Title: WEB TECHNOLOGY LAB
On successful completion of the course, the learners should be able to	
CO1.	create web applications using various coding models
CO2.	construct web applications using Standard, Navigation and Validation Controls
CO3.	use ADO.NET in a web application to manipulate data in a database
CO4.	build and deploy the web applications
CO5.	develop web sites using Master Pages

Major Course	
Course Code: GLCS61	Course Title: COMPUTER GRAPHICS
On successful completion of the course, the learners should be able to	
CO1.	describe the applications of Computer Graphics, Graphics hardware, software and display technologies
CO2.	devise algorithms for two-dimensional basic output primitives
CO3.	explain the effect of different attributes and techniques to enhance the quality of pictures
CO4.	apply the various geometric transformations to two-dimensional objects
CO5.	demonstrate the various clipping algorithms in graphics

Major Course	
Course Code: GLCS62	Course Title: SOFTWARE ENGINEERING
On successful completion of the course, the learners should be able to	
CO1.	explain the basic concepts of software engineering
CO2.	analyze various cost estimation techniques
CO3.	distinguish and compare different project sizes, organization structures, coupling, cohesion, design notations, walkthroughs and inspections
CO4.	use software requirement specification techniques, design techniques and notations
CO5.	describe various verification, validation techniques and software maintenance

Major Course	
Course Code: GLCS6L	Course Title: COMPUTER GRAPHICS LAB
On successful completion of the course, the learners should be able to	
CO1.	use the graphics commands in C/C++
CO2.	develop simple programs using C functions with Graphical output
CO3.	implement algorithms for drawing lines, circles and ellipses
CO4.	implement the boundary fill and flood fill algorithms
CO5.	create animations and dynamic simulations

Major Course	
Course Code: GLCS6P	Course Title: PROJECT WORK
On successful completion of the course, the learners should be able to	
CO1.	identify a problem in their area of interest and demonstrate the applicability of computerizing it
CO2.	participate in a group project to illustrate the dynamics of a diverse work environment
CO3.	demonstrate basic level of competency in programming and logic skills
CO4.	apply the skills acquired through the programme to business scenarios
CO5.	present conclusions effectively, orally and in writing

Non Major Elective Course	
Course Code: GLCS3N	Course Title: COMPUTERS TODAY
On successful completion of the course, the learners should be able to	
CO1.	describe the basic concepts of Computers, Internet and WINDOWS 10
CO2.	explain the working of various input, output and storage devices
CO3.	make use of the E-Mail facility and identify its services
CO4.	surf through internet and explore the web
CO5.	use the features of WINDOWS 10

Non Major Elective Course	
Course Code: GLCS4N	Course Title: FLASH
On successful completion of the course, the learners should be able to	
CO1.	demonstrate the IDE of Flash
CO2.	explain the basic concepts of FLASH
CO3.	create animations using tweening
CO4.	design graphical text and symbols
CO5.	develop animations with masking effects

Discipline Specific Course	
Course Code: GLCS4DSL	Course Title: PYTHON PROGRAMMING LAB
On successful completion of the course, the learners should be able to	
CO1.	demonstrate how to install and run the Python interpreter
CO2.	implement Python programs using control structures and built in data types
CO3.	create functions and files in Python
CO4.	identify and correct coding errors in a program
CO5.	analyze a given program in Python

Elective Course	
Course Code: GLCS5E1	Course Title: PROGRAMMING IN JAVA
On successful completion of the course, the learners should be able to	
CO1.	describe the various features, programming constructs and basic concepts of Java
CO2.	apply basic object-oriented programming concepts to solve simple problems
CO3.	analyze the object-oriented principles namely inheritance, method overloading, overriding and interfaces through examples
CO4.	demonstrate the exception handling mechanism and influence of multithreading in Java programs
CO5.	create small applets to embed in a webpage

Elective Course	
Course Code: GLCS5E2	Course Title: OPERATING SYSTEMS
On successful completion of the course, the learners should be able to	
CO1.	illustrate the structure of operating systems and explain the concepts of process and memory management
CO2.	analyze the various CPU scheduling algorithms
CO3.	identify and handle the deadlocks in process synchronization
CO4.	demonstrate the different memory management strategies
CO5.	interpret the allocation methods of File systems and compare the disk scheduling algorithms

Elective Course	
Course Code: GLCS5E3	Course Title: WIRELESS TECHNOLOGY
On successful completion of the course, the learners should be able to	
CO1.	explain the working of Bluetooth
CO2.	justify the need and present products of Bluetooth
CO3.	analyze Bluetooth technology
CO4.	develop Bluetooth specification
CO5.	adapt to challenges of wireless technology

Elective Course	
Course Code: GLCS5E4	Course Title: DATA MINING
On successful completion of the course, the learners should be able to	
CO1.	explain the functionality of the various 0 components
CO2.	describe the architecture and the components of a data warehouse
CO3.	identify and apply the appropriate data mining methods such as classification, clustering or Association rule mining
CO4.	apply data mining techniques to solve real time problems
CO5.	explore recent trends in data mining such as web mining and text mining

Elective Course	
Course Code: GLCS6E1	Course Title: COMPUTER NETWORKS
On successful completion of the course, the learners should be able to	
CO1.	describe the functions of each layer in TCP/IP model
CO2.	explain the types of transmission media, connecting devices and routing methods
CO3.	utilize checksum and cyclic redundancy check for error detection and MAC protocols for flow control
CO4.	classify the various media access protocols and transport layer protocols
CO5.	illustrate the architecture of standard client/server protocols

Elective Course	
Course Code: GLCS6E2	Course Title: SYSTEM SOFTWARE
On successful completion of the course, the learners should be able to	
CO1.	explain the concepts of system software and software testing
CO2.	demonstrate the working of assembler, compiler, loader and linker
CO3.	identify the functions of macro processors
CO4.	describe the features of compilers
CO5.	categorize the various system software

Self-Employment Course	
Course Code: GLSE69	Course Title: MOBILE PHONE SERVICING
On successful completion of the course, the learners should be able to	
CO1.	describe the basic concepts of mobile phone functioning
CO2.	categorize electronic components of mobile phone
CO3.	analyze mobile phone faults and rectification
CO4.	illustrate electrical mechanisms existing in mobile phones
CO5.	adopt latest mobile phone software

Self-Employment Course	
Course Code: GLSE69L	Course Title: MOBILE PHONE SERVICING LAB
On successful completion of the course, the learners should be able to	
CO1.	mantle and dismantle Mobile phones
CO2.	examine the track and continuity in Motherboard
CO3.	inspect the working of LED
CO4.	apply rectification mechanism for charging fault, mic fault, ringer fault, speaker fault, display fault and network fault
CO5.	renovate torch fault, camera fault and water lock problems of mobile phones

Job Oriented Course	
Course Code: GLJO63	Course Title: TALLY
On successful completion of the course, the learners should be able to	
CO1.	explain the concepts, rules and conventions of Accounting
CO2.	create journal, Trial Balance and Final Accounts
CO3.	implement computerized accounting
CO4.	analyze array of accounting procedures and automatic calculations
CO5.	illustrate the basic concepts of VAT

Job Oriented Course	
Course Code: GLJO63L	Course Title: TALLY LAB
On successful completion of the course, the learners should be able to	
CO1.	create Trial balance and Balance sheet
CO2.	estimate profit or loss for an account
CO3.	formulate stock summary
CO4.	design Daybook for the given date
CO5.	compute the VAT Payable for the transactions





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**DEPARTMENT OF COMPUTER SCIENCE
PG DEGREE PROGRAMME IN COMPUTER SCIENCE**

PROGRAMME EDUCATIONAL OBJECTIVES

The Graduates will

PEO1.	be prepared to achieve successful career in academia / industry as reflected by advancement to positions that include greater responsibility and grow as computing professionals.
PEO2.	have an ability to contribute significantly to contemporary research domains in computer science by pursuing research oriented higher education and/or leading, designing, developing or maintaining projects in various technical areas of computer science.
PEO3.	be able to promote companies or lead teams/organizations to solve socially relevant problems.
PEO4.	recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.

PROGRAMME SPECIFIC OUTCOMES

By the Completion of M.Sc Computer Science programme, the learners will be able to

PSO1.	demonstrate their mastery of emerging technologies in field of computer science and realize the necessity for continuing professional development.
PSO2.	identify, formulate and analyze complex problems, reach conclusions using principles of mathematics and computer science.
PSO3.	use research based knowledge and research methods including design, analysis and interpretation of data and synthesis of information to provide valid conclusions.
PSO4.	communicate effectively on complex activities with the project team and with society at large such as being able to comprehend and write effective reports, design documentation and make effective presentations.
PSO5.	function effectively as an individual and as a member/leader in diverse teams and in multidisciplinary settings.
PSO6.	appraise environmental and social issues with ethics and interact with persons from a pluralistic democratic society.
PSO7.	recognize the need for passion towards learning and engage in independent and life-long learning in the broadest context of technological change in the field of computer science.

COURSE OUTCOME

Core Course	
Course Code: HLCS11	Course Title: COMPUTER ORGANIZATION
On successful completion of the course, the learners should be able to	
CO1.	explain the computer operations, number systems, Boolean algebra, computer design and architecture
CO2.	perform number conversions, operations and evaluate the logical expressions
CO3.	demonstrate the functions of the components of computer system
CO4.	categorize various addressing modes, registers, instruction formats
CO5.	analyze the architecture of RISC, CISC and pipelining

Core Course	
Course Code: HLCS12	Course Title: DISCRETE STRUCTURES
On successful completion of the course, the learners should be able to	
CO1.	explain the basic principles of discrete mathematical structures
CO2.	illustrate the various structures in a formal mathematical manner
CO3.	apply mathematical logic to solve problems
CO4.	evaluate the system of linear equations by the use of matrices
CO5.	design and formulate the different concepts in Theory of Automata

Core Course	
Course Code: HLCS13	Course Title: DATA STRUCTURES AND ALGORITHMS
On successful completion of the course, the learners should be able to	
CO1.	explain various operations on linear and non-linear data structures
CO2.	apply appropriate data structure for given problems
CO3.	examine searching and sorting algorithms
CO4.	interpret algorithms and algorithmic time complexity
CO5.	analyze various algorithmic techniques for solving problems

Core Course	
Course Code: HLCS14	Course Title: OBJECT ORIENTED PROGRAMMING WITH C++
On successful completion of the course, the learners should be able to	
CO1.	explain the basics of Object Oriented Programming, C++, arrays, pointers, reference and dynamic allocation
CO2.	write application programs using function overloading, operator overloading and constructors
CO3.	classify various types of inheritance, virtual functions and polymorphism
CO4.	justify the need and use of templates, exception handling and streams
CO5.	design and develop programs based on arrays, pointers and file I/O

Core Course	
Course Code: HLCS1L1	Course Title: DATA STRUCTURES AND ALGORITHMS LAB
On successful completion of the course, the learners should be able to	
CO1.	implement various operations on linear and non-linear data structures
CO2.	apply appropriate data structure for given problems
CO3.	write searching and sorting algorithms
CO4.	evaluate the expressions using Data Structures
CO5.	implement tree traversals

Core Course	
Course Code: HLCS1L2	Course Title: C++ PROGRAMMING LAB
On successful completion of the course, the learners should be able to	
CO1.	apply programming skills for creating programs with object oriented programming
CO2.	create programs based on polymorphism and inheritance
CO3.	develop number manipulation programs
CO4.	implement file handling and exception handling mechanism
CO5.	design generic sort program

Core Course	
Course Code: HLCS21	Course Title: OPERATING SYSTEMS
On successful completion of the course, the learners should be able to	
CO1.	illustrate the structure of operating systems
CO2.	describe the process concepts and synchronization
CO3.	identify and handle the deadlocks
CO4.	assess the different memory management strategies
CO5.	interpret the allocation methods of File systems and compare the disk scheduling algorithms

Core Course	
Course Code: HLCS22	Course Title: JAVA PROGRAMMING
On successful completion of the course, the learners should be able to	
CO1.	explain the features of Java
CO2.	apply inheritance, packages, interfaces, exception handling and write Java programs
CO3.	examine working of applets, threads, files, strings, windows, graphics and text
CO4.	interpret event handling mechanism, AWT controls and Swing
CO5.	create Java programs to implement networking, RMI and Servlets

Core Course	
Course Code: HLCS23	Course Title: DATABASE MANAGEMENT SYSTEM
On successful completion of the course, the learners should be able to	
CO1.	explain the concepts of DBMS, SQL, E-R Model, Transaction Management and Recovery System
CO2.	construct complex SQL queries for data manipulation
CO3.	analyze the database using normalization techniques
CO4.	demonstrate the transactions and control concurrency
CO5.	design database using E-R model for real time applications

Core Course	
Course Code: HLCS24	Course Title: COMPUTER NETWORKS
On successful completion of the course, the learners should be able to	
CO1.	illustrate the services provided by the layers of the network reference models
CO2.	analyze various data transmission media and switching networks
CO3.	compare and contrast the protocols of transport layer
CO4.	discuss wireless WAN, network layer protocols and DNS
CO5.	interpret different techniques for error detection and correction

Core Course	
Course Code: HLCS2L1	Course Title: JAVA PROGRAMMING LAB
On successful completion of the course, the learners should be able to	
CO1.	apply programming skills for creating programs with object oriented programming in Java
CO2.	develop programs for implementing package and multithreading
CO3.	create programs based on polymorphism, inheritance, AWT and swings
CO4.	implement file handling, exception handling and string manipulation
CO5.	design chat programs, servlets and establish RMI

Core Course	
Course Code: HLCS2L2	Course Title: DBMS LAB
On successful completion of the course, the learners should be able to	
CO1.	design a database schema for a given problem domain
CO2.	populate and query a database using SQL DDL/DML commands
CO3.	create and execute a block of SQL statements using PL/SQL
CO4.	make use of packages, views & triggers in real time applications
CO5.	design and develop GUI forms for database applications

Elective Course	
Course Code: HLCS2E	Course Title: ELECTRONIC COMMERCE
On successful completion of the course, the learners should be able to	
CO1.	explain mobile commerce features
CO2.	illustrate mobile commerce services and its applications
CO3.	categorize various mobile devices
CO4.	adopt various payment methods in E-Commerce
CO5.	analyze security and privacy issues of mobile commerce

Core Course	
Course Code: HLCS31	Course Title: DOTNET PROGRAMMING
On successful completion of the course, the learners should be able to	
CO1.	illustrate the architecture of dotnet framework and explain the concepts of C#, WPF, WWF and ASP .NET
CO2.	build C# programs and windows applications using Windows Presentation Foundation
CO3.	demonstrate mobile applications and ADO .NET for data access and manipulation
CO4.	design and develop web pages using ASP .NET controls
CO5.	interpret the concepts of AJAX and choose the validation and database controls of ASP .NET

Core Course	
Course Code: HLCS32	Course Title: ANDROID APPLICATION DEVELOPMENT
On successful completion of the course, the learners should be able to	
CO1.	describe android environments, basic controls, widgets and services of mobile applications
CO2.	create Android applications using various controls
CO3.	develop database driven mobile application with SQLite database
CO4.	make use of Google maps and display web pages in Android applications
CO5.	build and publish Android applications to send SMS and emails

Core Course	
Course Code: HLCS33	Course Title: PRINCIPLES OF COMPILER DESIGN
On successful completion of the course, the learners should be able to	
CO1.	explain the structure of compiler and different phases of compiler
CO2.	construct the automata from regular expressions
CO3.	categorize various parsing techniques and grammar transformation techniques
CO4.	interpret intermediate code generation and optimization
CO5.	generate lexeme, syntax trees, parse trees, intermediate code for a programming language

Core Course	
Course Code: HLCS3L1	Course Title: DOTNET PROGRAMMING LAB
On successful completion of the course, the learners should be able to	
CO1.	understand dotnet framework and examine the windows and web applications
CO2.	create applications using VB .NET standard controls
CO3.	develop simple windows applications using C# .NET
CO4.	build database applications using ADO .NET
CO5.	design web based applications using ASP .NET

Core Course	
Course Code: HLCS3L2	Course Title: ANDROID APPLICATION DEVELOPMENT LAB
On successful completion of the course, the learners should be able to	
CO1.	create Android applications using various controls in Android environment
CO2.	construct a mobile application to view the web page
CO3.	develop an interactive menu in Android environment
CO4.	design android applications with media functions
CO5.	build database driven mobile application with SQLite database

Core Course	
Course Code: HLCS4P	Course Title: MAJOR PROJECT WORK AND VIVA VOCE
On successful completion of the course, the learners should be able to	
CO1.	identify a problem in their area of interest
CO2.	demonstrate the applicability of automating it and design solutions using systematic approach
CO3.	formulate and develop solution to the selected problem
CO4.	exhibit in-depth knowledge in their problem domain
CO5.	communicate with the community and present the results in the form of project report

Elective Course	
Course Code: HLCS1E1	Course Title: GRAPHICS & MULTIMEDIA
On successful completion of the course, the learners should be able to	
CO1.	describe the applications of Computer Graphics, Graphics hardware, software and display technologies
CO2.	devise algorithms for two-dimensional basic output primitives
CO3.	demonstrate the various clipping algorithms in graphics
CO4.	interpret Multimedia concepts
CO5.	develop multimedia applications using text, image, audio, video and animation components

Elective Course	
Course Code: HLCS1E2	Course Title: DATAMINING AND WAREHOUSING
On successful completion of the course, the learners should be able to	
CO1.	illustrate the functionalities of various Data mining components
CO2.	organize and prepare the data for datamining using preprocessing techniques
CO3.	apply data mining techniques to solve real time problems
CO4.	identify and apply the appropriate data mining methods such as classification, clustering or association rule mining
CO5.	explore recent trends in data mining such as web mining and text mining

Elective Course	
Course Code: HLCS3E1	Course Title: UGC NET PREPARATORY COURSE – COMPUTER SCIENCE
On successful completion of the course, the learners should be able to	
CO1.	recall the basic concepts in core areas of Computer Science and applications
CO2.	identify the errors and programming logic used in the given code
CO3.	examine the underlying processes in different domains of Computer Science and applications
CO4.	analyze the various concepts and techniques to find solutions to problems
CO5.	justify and evaluate the applicability of computational techniques in mathematical foundations and theory of computation

Elective Course	
Course Code: HLCS3E2	Course Title: DIGITAL IMAGE PROCESSING
On successful completion of the course, the learners should be able to	
CO1.	demonstrate the fundamental concepts of image processing
CO2.	examine various types of images, intensity transformations, spatial filtering and histogram processing
CO3.	interpret image restoration and reconstruction
CO4.	evaluate the techniques for image enhancement and image segmentation
CO5.	categorize various compression techniques

Elective Course	
Course Code: HLCS3E3	Course Title: SOFTWARE ENGINEERING
On successful completion of the course, the learners should be able to	
CO1.	explain the basic concepts, process models, risk management, maintenance and reengineering of software engineering
CO2.	describe the software requirements, the concepts of design, quality, review techniques and quality assurance
CO3.	examine project scheduling and the various software testing strategies involved in conventional, object oriented and web applications
CO4.	discuss the concepts of project management and metrics
CO5.	analyze the various software project estimation and process models

Elective Course	
Course Code: HLCS3E4	Course Title: SOFT COMPUTING
On successful completion of the course, the learners should be able to	
CO1.	explain the concepts of soft computing tools
CO2.	demonstrate the various neural network models
CO3.	illustrate the operations of Fuzzy sets and relations
CO4.	analyze the fuzzification and defuzzification methods
CO5.	apply the operations of Genetic Algorithm for a given problem





**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS),
SIVAKASI – 626 123.**

(Affiliated to Madurai Kamaraj University, Re-accredited with A Grade by NAAC,
College with Potential for Excellence by UGC and Mentor Institution under UGC PARAMARSH)

**DEPARTMENT OF COMPUTER SCIENCE
PG DEGREE PROGRAMME IN COMPUTER SCIENCE**

PROGRAMME EDUCATIONAL OBJECTIVES

The Certificate Holders will

PEO1.	become creative graphical designers and multimedia content developers.
PEO2.	constantly upgrade their skills in multimedia to become a successful entrepreneur.

PROGRAMME SPECIFIC OUTCOMES

By the Completion of Career Oriented programme, the learners will be able to

PSO1.	design and develop innovative graphical models related to multimedia applications.
PSO2.	apply standard practices and strategies in graphical design and development using open ended environment.
PSO3.	explore knowledge in diverse areas of multimedia technologies and experience an environment conducive in cultivating skills for successful career and entrepreneurship.

Course Code: ACAT11		Course Title: GRAPHIC DESIGN
On successful completion of the course, the learners should be able to		
CO1.	explain the basic concepts of designing graphics	
CO2.	describe the workspace and demonstrate the image editing techniques in Photoshop	
CO3.	apply various tools and organize the objects layers	
CO4.	illustrate the basic tools and techniques in CorelDraw	
CO5.	apply effects on text and bitmap images in CorelDraw	

Course Code: ACAT1L		Course Title: GRAPHIC DESIGN LAB
On successful completion of the course, the learners should be able to		
CO1.	design various objects in CorelDraw X4	
CO2.	use various tools in modeling objects in CorelDraw X4	
CO3.	modify existing images in Photoshop CS4	
CO4.	create background on webpage templates CS4	
CO5.	apply filter effects	

Course Code: ACAT21		Course Title: 2D ANIMATION
On successful completion of the course, the learners should be able to		
CO1.	explain the workspace and drawing tools in Flash	
CO2.	create symbols and explore library panel	
CO3.	work with text and graphics	
CO4.	apply animation techniques and filters	
CO5.	explain the basic concepts of sound and action panel in Flash	

Course Code: ACAT2L		Course Title: FLASH LAB
On successful completion of the course, the learners should be able to		
CO1.	create images using basic tools in flash	
CO2.	model objects using flash tools.	
CO3.	apply animation techniques.	
CO4.	construct symbols to library in Flash and add them.	
CO5.	write scripts to perform specific actions.	

Course Code: ADAT31		Course Title: 3D ANIMATION
On successful completion of the course, the learners should be able to		
CO1.	explain the basic principles and primitives in 3dstudio max	
CO2.	use shapes, objects and modifiers	
CO3.	create basic key frame animation and path animation	
CO4.	implement light effects and particle effect	
CO5.	identify the characteristics of rendering 3d objects for optimal system processing and analysis	

Course Code: ADAT3L		Course Title: 3D STUDIO MAX LAB
On successful completion of the course, the learners should be able to		
CO1.	design objects using basic primitives and splines	
CO2.	create key frame animation	
CO3.	apply light effects and particle effect	
CO4.	use target and free cameras	
CO5.	develop effective 3D Animation	

Course Code: ADAT41		Course Title: FUNDAMENTALS IN MAYA
On successful completion of the course, the learners should be able to		
CO1.	navigate and work with digital 3d modeling workspace to create 3d objects	
CO2.	design 3d models using polygons and nurbs	
CO3.	create light effect, animation, shading and textures	
CO4.	Identify characteristics of rendering 3d objects	
CO5.	apply dynamic effects	

Course Code: ADAT4L		Course Title: MAYA LAB
On successful completion of the course, the learners should be able to		
CO1.	design basic 3d models	
CO2.	develop key frame animations	
CO3.	apply camera effects and rendering	
CO4.	construct light effects and texture in 3d objects	
CO5.	create path animation	

Part IV – Skill Based Course Computer Literacy (For B.Sc (Computer Science), B.Sc (IT), and BCA)	
Course Code: GLCL21	Course Title: COMPUTER INSTALLATION & SERVICING
On successful completion of the course, the learners should be able to	
CO1.	explain the components of computer and laptop
CO2.	identify the parts of Motherboard
CO3.	classify the various storage media
CO4.	demonstrate the working of different I/O devices
CO5.	illustrate the working of UPS

Part IV – Skill Based Course Computer Literacy (FOR B.B.A & B.Com (C.A))	
Course Code: GLCL22	Course Title: FUNDAMENTALS OF COMPUTERS & WINDOWS
On successful completion of the course, the learners should be able to	
CO1.	explain the components of computer and different types of software
CO2.	surf the internet and make use of E-Mail facility
CO3.	adapt windows operating system and demonstrate its functions
CO4.	develop simple visual presentations
CO5.	create impressive presentations with animation effects

Part IV – Skill Based Course

Computer Literacy

(For Tamil, English, History, B. Com (General), Mathematics, Mathematics (CA), Physics, Chemistry, Botany, Microbiology, Nutrition and Dietetics and Costume Design and Fashion)

Course Code: GLCL23

Course Title: INTRODUCTION TO COMPUTERS & MS OFFICE

On successful completion of the course, the learners should be able to

CO1.	explain the components of computers
CO2.	adapt windows operating system and demonstrate its functions
CO3.	build applications using various PC software.
CO4.	develop simple visual presentations
CO5.	create impressive presentations with animation effects

