



IDHAYA COLLEGE FOR WOMEN

(Accredited with 'B' Grade by NAAC)

(Recognized Under Section 2(f) & 12(B) of the UGC ACT 1956)

(Affiliated to Alagappa University)

Arockia Nagar, Sarugani, Sivagangai Dt. - 630 411.

Department of Computer Science

Programme: Computer Science

PO No.	Programme Outcomes Upon completion of the B.Sc., Degree Programme, the graduate will be able to
PO-1	An ability to apply knowledge of computing and mathematics appropriate to the discipline
PO-2	An ability to identify, formulate, and develop solutions to computational challenges.
PO-3	An ability to design, implement, and evaluate a computational system to meet desired needs within realistic constraints.
PO-4	An ability to function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.
PO-5	An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.

*Use words that show the outcomes will be fulfilled following the completion of the Programme.

PSO No.	Programme Specific Outcomes Upon completion of these courses the student would
PSO - 1	To transform and empower women graduates to meet challenges through holistic education in terms of modern Teaching-Learning methodologies
PSO - 2	To groom the graduates to excel in their career through communication skills and leadership challenges
PSO - 3	To make the students socially responsible, compassionate graduates and solution providers with due empathy
PSO - 4	To train the students on the state-of-the-art tools and facilitate them to comprehend, analyze, and create feasible solutions/innovative products for

	real life problems
PSO – 5	Imbibe analytical / critical / logical / innovative thinking skills in the field of Science and Technology

Department of Computer Science

Course	COURSE OUTCOMES
Programming in C	<ul style="list-style-type: none"> • In-depth understanding of various concepts of C language. • Ability to read, understand and trace the execution of programs. • Skill to debug a program. • Skill to write program code in C to solve real world problems.
Fundamentals of Computer	<ul style="list-style-type: none"> • Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming. • Write, compile and debug programs in C language and use different data types for writing the programs.
Object Oriented Programming with C++	<ul style="list-style-type: none"> • Familiarization with a widely used programming concept – Object Oriented Programming. • Develop logical thinking.
Desktop Publishing	<ul style="list-style-type: none"> • Define desktop publishing software. • Open, edit, view, save, print, and close publications . • View the PageMaker Program Window. • Work with the toolbox. • Plan a publication. • Create a fact sheet. • Create a business report. • Create a newsletter. • Create an advertisement.

	<ul style="list-style-type: none"> • Create a menu. • Create a poster. • Create a brochure Create, manipulate, and control text
Data Structures & Algorithms using C and C++	<ul style="list-style-type: none"> • Ability to analyze algorithms and algorithm correctness. • Ability to summarize searching and sorting techniques.
Discrete Mathematics	<ul style="list-style-type: none"> • Develops formal reasoning. • Creates habit of raising questions. • Knowledge regarding the use of Discrete Mathematics in Computer Science.
Java Programming	<ul style="list-style-type: none"> • Knowledge of the structure and model of the Java programming language, (knowledge). • Use the Java programming language for various programming technologies (understanding).
Operation Research	<ul style="list-style-type: none"> • Formulate and solve mathematical model (linear programming problem) for a physical situations like production, distribution of goods and economics. • Apply the concept of simplex method and its extensions to dual simplex algorithm. • Solve the problem of transporting the products from origins to destinations with least transportation cost. • Convert and solve the practical situations into non-linear programming problem.
Operating System	<ul style="list-style-type: none"> • Appreciate the role of operating system as System software. • Compare the various algorithms and comment about performance of various algorithms used for management of memory, CPU scheduling, File handling and I/O operations.
Relational Database Management Systems	<ul style="list-style-type: none"> • To understand the features of database management systems and Relational database. • To use SQL- the standard language of relational

	databases.
Web Design	<ul style="list-style-type: none"> • Apply critical thinking and problem solving skills required to successfully design and implement a web site. • Demonstrate the ability to analyze, identify and define the technology required to build and implement a web site.
Digital Principles and Computer Organization	<ul style="list-style-type: none"> • Classify and compute the performance of machines. • Understand how to implement memory chips, boards, modules and caches.
Computer Networks	<ul style="list-style-type: none"> • Independently understand basic computer network technology. • Understand and explain Data Communications System and its components.
Computer Graphics	<ul style="list-style-type: none"> • Apply the Set theory and Relation concepts. • Apply the Functions and define the recursive functions. • Apply Laplace transform to different applications • Apply Inverse Laplace transform to different applications. • Identify the permutations and combinations. Define variable and also identify the mapping.
Software Engineering	<ul style="list-style-type: none"> • An ability to identify, formulates, and solves complex engineering problems by applying principles of engineering, science, and mathematics. • An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. • An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
VB.net & ASP.net	<ul style="list-style-type: none"> • Separate operations into appropriate VB.NET

procedures and functions

- Assemble multiple forms, modules, and menus into working VB.NET solutions
- Create VB.NET programs using multiple array techniques.
- Build integrated VB.NET solutions using files and structures with printing capabilities

PG-Department of Computer Science

TITLE OF THE COURSE	COURSE OUTCOMES
PRINCIPLES OF INFORMATION TECHNOLOGY	<ul style="list-style-type: none">• Perform end user support including identifying and implementing solutions to user requests.• Analyze technical requirements to determine resource requirements and the impact the solution will have on an organization.• Design, plan, budget and propose an IT project for an identified need within a specific scope.• Install technical hardware and software including network, database and security components.• Perform routine maintenance to maintain the currency of an operating system, network, database and security needs.• Identify and resolve technical problems using trouble-shooting and research techniques.• Analyze and select application and operating system settings to create an optimal user environment.
PROGRAMMING IN C	<ul style="list-style-type: none">• In-depth understanding of various concepts of C language.• Ability to read, understand and trace the execution of programs.• Skill to debug a program.• Skill to write program code in C to solve real world problems.
	<ul style="list-style-type: none">• Ability to analyze algorithms and algorithm correctness.

DATA STRUCTURE AND ALGORITHMS	<ul style="list-style-type: none"> • Ability to summarize searching and sorting techniques • Ability to describe stack, queue and linked list operation. • Ability to have knowledge of tree and graphs concepts.
COMPUTER FUNDAMENTALS AND ARCHITECTURE	<ul style="list-style-type: none"> • Apply the Set theory and Relation concepts. • Apply the Functions and define the recursive functions. • Apply Laplace transform to different applications. • Apply Inverse Laplace transform to different applications. • Identify the permutations and combinations. • Define variable and also identify the mapping.
OPERATING SYSTEM	<ul style="list-style-type: none"> • Demonstrate understanding of the concepts, structure and design of operating Systems. • Demonstrate understanding of operating system design and its impact on application. • System design and performance. • Demonstrate competence in recognizing and using operating system features.
DATABASE TECHNOLOGY	<ul style="list-style-type: none"> • Understand and evaluate the role of database management systems in information technology applications within organisations • Recognise and use contemporary logical design methods and tools for databases; • Derive a physical design for a database from its logical design;
JAVA PROGRAMMING	<ul style="list-style-type: none"> • Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs. • Read and make elementary modifications to Java programs that solve real-world problems. • Validate input in a Java program. • Identify and fix defects and common security issues in code. • Document a Java program using Javadoc. • Use a version control system to track source code in a project.
	<ul style="list-style-type: none"> • Have a good understanding of the OSI Reference Model and in particular have a good knowledge of Layers 1-3.

COMPUTER NETWORKS

- Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies;
- Have a basic knowledge of the use of cryptography and network security;
- Specify and identify deficiencies in existing protocols, and then go onto formulate new and better protocols; 5
- Have an understanding of the issues surrounding Mobile and Wireless Networks.
- Have a working knowledge of datagram and internet socket programming

COMPUTER ORIENTED NUMERICAL METHODS

- Demonstrate understanding of common numerical methods and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.
- Apply numerical methods to obtain approximate solutions to mathematical problems.
- Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.
- Analyze and evaluate the accuracy of common numerical methods.
- Implement numerical methods in Matlab.6Write efficient, well-documented Matlab code and present numerical results in an informative way.

COMPUTER GRAPHICS

- Understand the basics of computer graphics, different graphics systems and applications of computer graphics.
- Discuss various algorithms for scan conversion and filling of basic objects and their comparative analysis.
- Use of geometric transformations on graphics objects and their application in composite form.
- Extract scene with different clipping methods and its transformation to graphics display device.
- Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.

**PRINCIPLES OF
COMPILER DESIGN**

- Define the phases of a typical compiler, including the front- and backend.
- Identify tokens of a typical high-level programming language; define regular expressions for tokens and design; implement a lexical analyzer using a typical scanner generator.
- Explain the role of a parser in a compiler and relate the yield of a parse tree to a grammar derivation; design and implement a parser using a typical parser generator.
- Apply an algorithm for a top-down or a bottom-up parser construction; construct a parser for a small context-free grammar.

**SOFTWARE
ENGINEERING**

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- An ability to communicate effectively with a range of audiences
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

**VISUAL
PROGRAMMING**

- Explain basic concepts and definitions.
- Express constants and arithmetic operations.
- Distinguish variable and data types.
- Prepare project in visual programming.
- Manage and analyse prepared project with programs.
- Interpret and report obtaining results.

**MULTIMEDIA
AND ITS**

- Assessment is designed to indicate achievement of the course outcome and performance task

APPLICATIONS

CYBER SECURITY

- Identify some of the factors driving the need for network security
- Identify and classify particular examples of attacks
- Define the terms vulnerability, threat and attack
- Identify physical points of vulnerability in simple networks
- Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack, and explain the characteristics of hybrid systems.