



## IDHAYA COLLEGE FOR WOMEN, KUMBAKONAM

**Programme: B.Sc. Computer Science**

PO No.	Programme Outcomes upon Completion of B.Sc. Degree Programme, the Graduates will be able
<b>PO1</b>	To comprehend the basic concepts learnt and apply in real life situations with analytical skills.
<b>PO2</b>	To acquire skills and enhanced knowledge will be employable/become entrepreneurs or will pursue higher Education.
<b>PO3</b>	To acquire knowledge of modern software tools will be able to contribute effectively as software engineers.
<b>PO4</b>	To comprehend the related concepts to Computer Science with Allied papers.
<b>PO5</b>	To imbibe with ethical values and social concerns to ensure peaceful society.

### Semester I

S. No	Course Code	Name of the Course	Course Outcomes
1.	22SCCCS1	Programming in C and Data Structures	<ul style="list-style-type: none"> <li>➤ To summarize the basic knowledge to develop C programs.</li> <li>➤ To manipulate Looping, arrays and functions.</li> <li>➤ To apply and write programs for solving real world problems.</li> </ul>
2.	22SCCCS1P	Programming in C Lab	<ul style="list-style-type: none"> <li>➤ To develop programs for various concepts in C language.</li> <li>➤ To understand and trace the execution of the list of programs.</li> <li>➤ To solve data problems related to data structures.</li> </ul>
3.	22SCACMM2A	Algebra Calculus	<ul style="list-style-type: none"> <li>➤ To explain the relationship between the derivative of a function as a function and the notion of the derivative as the slope of the tangent line to a function at a point.</li> <li>➤ To derive reduction formula and thereby evaluate some standard integrals.</li> <li>➤ To identify odd and even functions. Use that to determine Fourier series expansion of the given functions.</li> </ul>
4.	22UGVED	Value Education	<ul style="list-style-type: none"> <li>➤ To apply the values in Thirukkural to be peaceful, dutiful and responsible in family and society.</li> <li>➤ To develop character formation and sense of citizenship.</li> <li>➤ To be attitudinal to follow the constitutional rights.</li> </ul>

## Semester II

S. No	Course Code	Name of the Course	Course Outcomes
1.	22SCCCS2	Programming in Java	<ul style="list-style-type: none"> <li>➤ To understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.</li> <li>➤ To identify members of a class and to implement them.</li> <li>➤ To develop software using Java programming language, (using applet, AWT controls, and JDBC).</li> </ul>
2.	22SCCCS2P	Programming in Java Lab	<ul style="list-style-type: none"> <li>➤ To develop Java programs to understand the OOP concepts.</li> <li>➤ To develop simple programs with multiple threads.</li> <li>➤ To develop java programs to connect databases and files.</li> </ul>
3.	22SCACMM2B	Numerical Analysis and Probability	<ul style="list-style-type: none"> <li>➤ To solve algebraic and transcendental equations.</li> <li>➤ To appreciate the importance of probability of random variables and understand the correlation and regression coefficients.</li> <li>➤ To apply these methods to find numerical approximations and error estimates in a range of problems.</li> </ul>
4.	22SCACMM2C	Operations Research	<ul style="list-style-type: none"> <li>➤ To acquire the basic concepts of LPP.</li> <li>➤ To apply various methods for finding a solution of an LPP.</li> <li>➤ To use the basic concepts of TP, AP and Network Problems to develop the problem solving skills.</li> </ul>
5.	22PELPS1	Professional English for Physical Sciences I	<ul style="list-style-type: none"> <li>➤ To recognise student's own ability to improve their own competence in using the language.</li> <li>➤ To use language for speaking with confidence in an intelligible and acceptable manner.</li> <li>➤ To understand the importance of reading for life.</li> </ul>
6.	22UGCES	Environmental Studies	<ul style="list-style-type: none"> <li>➤ To understand the environmental importance including interactions across local to global scales.</li> <li>➤ To update and analyse environmental relationships and interactions of environmental components.</li> <li>➤ To gain knowledge on importance of natural resources in a systematic way.</li> </ul>

### Semester III

S.No	Course Code	Name of the Course	Course Outcomes
1.	22SCCCS3	Programming in Python	<ul style="list-style-type: none"> <li>➤ To recall and understand the features of Python programming language.</li> <li>➤ To illustrate various programming mechanism used in Python.</li> <li>➤ To apply various language construct to write simple programs in Python.</li> </ul>
2.	22SCCCS3P	Programming in Python Lab	<ul style="list-style-type: none"> <li>➤ To write simple programs using control structures, functions and strings.</li> <li>➤ To develop programs using tuples, lists, sets and dictionary.</li> <li>➤ To write simple programs using constructors, method overloading and inheritance.</li> </ul>
3.	22SCACAP1A	Applied Physics I	<ul style="list-style-type: none"> <li>➤ To recall the basic concepts of electricity and its various laws.</li> <li>➤ To solve basic electronics problems with AC circuits that involves capacitance, inductance, impedance, reactance and power calculations.</li> <li>➤ To differentiate all the four number systems studied.</li> </ul>
4.	22BNMEBB1	E-Commerce	<ul style="list-style-type: none"> <li>➤ To identify core concepts of marketing and the role of marketing in business and society.</li> <li>➤ To appreciate the global nature of marketing and appropriate measures to operate effectively in international settings.</li> <li>➤ To develop marketing strategies based on product, price, place and promotion objectives.</li> </ul>
5.	22PELPS2	Professional English for Physical Sciences – II	<ul style="list-style-type: none"> <li>➤ To attend interviews with boldness and confidence.</li> <li>➤ To adapt easily into the workplace context, having become communicatively competent.</li> <li>➤ To develop strategic competence that will help in effective communication.</li> </ul>

### Semester IV

S. No	Course Code	Name of the Course	Course Outcomes
1.	22SCCCS4	Database Management Systems	<ul style="list-style-type: none"> <li>➤ To understand the basic concepts of Database Systems.</li> <li>➤ To know about SQL queries to interact with Database.</li> <li>➤ To design a Database using ER Modelling.</li> </ul>
2.	22SCCCS4P	Database Management Systems Lab	<ul style="list-style-type: none"> <li>➤ To write queries to manipulate data.</li> <li>➤ To demonstrate the aggregate functions and set operations.</li> <li>➤ To create and perform basic operations with MYSQL</li> </ul>
3.	22SCACAP2A	Applied Physics II	<ul style="list-style-type: none"> <li>➤ To understand the rapid growth of electronic technology.</li> <li>➤ To know about semiconductors classification and their applications in various domains.</li> <li>➤ To analyse the characteristics of transistor, transistor biasing circuits and oscillator circuits.</li> </ul>
4.	22BNMEBB3	Business Ethics	<ul style="list-style-type: none"> <li>➤ To outline the significance of ethics in business.</li> <li>➤ To know the culture of organization.</li> <li>➤ To appreciate the best ethical practices in every actions of organization.</li> </ul>
5.	22SCACAP1AP	Applied Physics I Lab	<ul style="list-style-type: none"> <li>➤ To gain the practical knowledge about electricity, magnetism and measurements such as resistance, voltage, current.</li> <li>➤ To distinguish electronic components.</li> <li>➤ To construct the learnt electronic circuits on their own.</li> </ul>

## Semester V

S.No	Course Code	Name of the Course	Course Outcomes
1.	16SCCCS5	Data Structures and Algorithms	<ul style="list-style-type: none"><li>➤ To understand the concepts of Data Structures and Algorithms.</li><li>➤ To understand the concept of Dynamic memory management, data types, and algorithms.</li><li>➤ To write programs using structures, strings, arrays, pointers and strings for solving complex computational problem.</li></ul>
2.	16SCCCS6	Computer Networks	<ul style="list-style-type: none"><li>➤ To understand the Design and Organization of Computer Networks.</li><li>➤ To understand computer network basics, network architecture, TCP/IP and OSI reference models.</li><li>➤ To remember the organization of computer networks, factors influencing computer network development and the reasons for having variety of different types of networks.</li></ul>
3.	16SCCCS7	Digital Electronics and Microprocessor	<ul style="list-style-type: none"><li>➤ To provide an overview about Digital Electronics and Microprocessors.</li><li>➤ To understand various data transfer techniques in digital computer and control unit operations.</li><li>➤ To acquire knowledge about various logic gates and logic families and analyze basic circuits of these families.</li></ul>

4.	<b>16SMBECS1:1</b>	Software Engineering	<ul style="list-style-type: none"> <li>➤ To provide knowledge of the various phases of Software Engineering Process.</li> <li>➤ To understand the basic concepts of software engineering.</li> <li>➤ To plan a software engineering process life cycle including the specification, design, implementation and testing of software systems that meet specification performance, maintenance and quality requirements.</li> </ul>
5.	<b>16RSBE7:2</b>	Office Management Tools	<ul style="list-style-type: none"> <li>➤ To facilitates employees to manage work routines with real-time collaboration.</li> <li>➤ To provides higher consistency and utilization of working hours with the help of real-time actionable insights for making informed decisions.</li> <li>➤ To provide real-time reports and workflow data.</li> </ul>
6.	<b>16RSBE7:3</b>	Communication and Interpersonal Skills	<ul style="list-style-type: none"> <li>➤ To learn about communication skills.</li> <li>➤ To develop communicating and working in groups and individuals in the personal and professional life.</li> <li>➤ To facilitates the sharing of knowledge and the development of new skills and its capabilities.</li> </ul>
7.	<b>RUGSDC</b>	Soft Skills Development	<ul style="list-style-type: none"> <li>➤ To enable students to achieve excellence in both personal and professional life.</li> <li>➤ To develop communicative competence among the students.</li> <li>➤ To enhance the learner's Soft Skills by giving adequate exposure in LSRW and sub skills.</li> </ul>
8.	<b>16SCCCS5P</b>	Digital Electronics and Microprocessor Lab	<ul style="list-style-type: none"> <li>➤ To impart Practical Training related to Digital Electronics and Microprocessors.</li> <li>➤ To send the data in the form of packets of digital codes, encode and decode them in various formats and codes.</li> <li>➤ To give training on the experiments of Digital Electronics and Microprocessor.</li> </ul>

## Semester VI

S.No	Course Code	Name of the Course	Course Outcomes
1.	16SCCCS8	Operating Systems	<ul style="list-style-type: none"> <li>➤ To provide the Fundamental Concepts in an Operating System.</li> <li>➤ To learn the basic concepts of operating systems and process management.</li> <li>➤ To understand the concepts like interrupts, deadlock, memory management and file management.</li> </ul>
2.	16SCCCS9	Programming in PHP	<ul style="list-style-type: none"> <li>➤ To understand the Concepts of PHP and Ajax.</li> <li>➤ To understand Arrays and Strings in PHP.</li> <li>➤ To analyze a web page and identify its elements and attributes.</li> </ul>
3.	16SMBECS2:2	Cloud Computing	<ul style="list-style-type: none"> <li>➤ To understand the concepts in Cloud Computing and its Security.</li> <li>➤ To get back-up and restore the data using the cloud.</li> <li>➤ To ensure training in a standardized way.</li> </ul>
4.	UGGS	Gender Studies	<ul style="list-style-type: none"> <li>➤ To promote attitudinal changes towards a gender balanced ambience and Women Empowerment.</li> <li>➤ To understand the differences that gender makes in society among economic, social, and political lives.</li> <li>➤ To capitalize on the strength in the marketplace, graduate school and in life.</li> </ul>
5.	16SCCCS6P	Programming in PHP Lab	<ul style="list-style-type: none"> <li>➤ To impart Practical Training in PHP Programming Language.</li> <li>➤ To recollect the concepts of HTML Programming, creating a web page using HTML and validate it using PHP.</li> <li>➤ To compare and contrast PHP variable types and relate the advantages and disadvantages of PHP variables with local or global scope.</li> </ul>
6.	16SMBECSPW	Mini Project	<ul style="list-style-type: none"> <li>➤ To motivate the students to do the project.</li> <li>➤ To support students to show their talent and a direct effect on employment.</li> <li>➤ To become a researcher and programme developer.</li> </ul>

**Programme: M.Sc. Computer Science**

<b>PO No.</b>	<b>Programme Outcomes upon Completion of M.Sc., Degree Programme, the Graduates will be able</b>
<b>PO1</b>	To gain a respectable job in this area after completing the programme with good grades.
<b>PO2</b>	To demonstrate knowledge and skills of leadership, advocacy and agency as these apply to the degree field.
<b>PO3</b>	To develop knowledge, skills and dispositions of critical inquiry and reflective practice.
<b>PO4</b>	To acquire research-based knowledge, skills and dispositions associated with equity and diversity as these apply to effective practice in the content field.
<b>PO5</b>	To evaluate the various perspectives, policies and/or practices relevant to one's field of study.

**Semester I**

<b>S. No</b>	<b>Course Code</b>	<b>Name of the Course</b>	<b>Course Outcomes</b>
<b>1.</b>	<b>P22CSCC11</b>	Mathematical Foundation for Computer Science	<ul style="list-style-type: none"> <li>➤ To apply the basis of the Mathematical applications.</li> <li>➤ To understand propositions, tautologies and inference rules.</li> <li>➤ To formulate problems and apply testing of hypothesis.</li> </ul>
<b>2.</b>	<b>P22CSCC12</b>	Problem Solving using Python and R	<ul style="list-style-type: none"> <li>➤ To write Python programs using Python data structures.</li> <li>➤ To develop object oriented programs in Python.</li> <li>➤ To manipulate files using Python.</li> </ul>
<b>3.</b>	<b>P22CSCC1B</b>	Web Technologies	<ul style="list-style-type: none"> <li>➤ To design a web page with Web form fundamentals and web control classes.</li> <li>➤ To recognize the importance of validation control, cookies and session.</li> <li>➤ To recognize the difference between Data list and Data grid controls in accessing data.</li> </ul>
<b>4.</b>	<b>P22CSCC1P</b>	Problem Solving using Python and R Lab	<ul style="list-style-type: none"> <li>➤ To practices the basic concepts of Python.</li> <li>➤ To create and access the Dictionaries, Files and Exceptions.</li> <li>➤ To write simple programs using R programming concepts.</li> </ul>



## Semester II

S. No	Course Code	Name of the Course	Course Outcomes
1.	P22CSCC21	Advanced Database Management System	<ul style="list-style-type: none"> <li>➤ To revise the components, functions and various database.</li> <li>➤ To design techniques used for modeling the databases management system.</li> <li>➤ To examine the clauses and functions of SQL and write optimal queries in the above languages.</li> </ul>
2.	P22CSCC22	Compiler Design	<ul style="list-style-type: none"> <li>➤ To understand the fundamentals of a compiler.</li> <li>➤ To get knowledge about the context-free grammar and various parsing techniques.</li> <li>➤ To understand the lexical analyzer and syntax analyzer of Compiler.</li> </ul>
3.	P22CSCC2A	Distributed Technologies	<ul style="list-style-type: none"> <li>➤ To compare the architectures of distributed systems.</li> <li>➤ To differentiate the technologies associated with presentation and interaction services.</li> <li>➤ To understand the art of developing ASP.NET pages with web server and HTML controls.</li> </ul>
4.	P22CSCC2P	Advanced Database Management System Lab	<ul style="list-style-type: none"> <li>➤ To design and implement a database schema for given problem.</li> <li>➤ To apply the normalization techniques for development of application software to realistic problems.</li> <li>➤ To formulate queries using SQL DML/DDL/DCL commands.</li> </ul>
5.	P22CSCC2AP	Distributed Technologies Lab	<ul style="list-style-type: none"> <li>➤ To provide hardware and software issues in modern distributed systems.</li> <li>➤ To get knowledge in distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security, and distributed file systems.</li> <li>➤ To analyse the current popular distributed systems such as peer-to-peer (P2P) systems will also be analysed.</li> </ul>
6.	P22CSE2C	Green Computing	<ul style="list-style-type: none"> <li>➤ To understand Green IT fundamentals.</li> <li>➤ To get knowledge about green assets and models.</li> <li>➤ To understand Grid framework.</li> </ul>
7.	P22CHNME1	Chemistry of Pollution, Food and Cosmetics	<ul style="list-style-type: none"> <li>➤ To understand the principles of Green chemistry.</li> <li>➤ To learn the various pollutions affecting the environment.</li> <li>➤ To acquire basic knowledge about chemistry of food and cosmetics.</li> </ul>

### Semester III

S.No	Course Code	Name of the Course	Course Outcomes
1.	P22CSCC31	Big Data Analytics	<ul style="list-style-type: none"> <li>➤ To understand the unstructured databases.</li> <li>➤ To analyze the Big Data framework like Hadoop and NOSQL to efficiently store and process Big Data to generate analytics.</li> <li>➤ To reveal the Map Reduce technologies.</li> </ul>
2.	P22CSCC32	Artificial Intelligence and Machine Learning	<ul style="list-style-type: none"> <li>➤ To recognize the characteristics of Machine Learning techniques that enable to solve real world problems.</li> <li>➤ To recognize the characteristics of machine learning strategies.</li> <li>➤ To apply various supervised learning methods to appropriate problems.</li> </ul>
3.	P22CSCC3A	User Interface Design and Development	<ul style="list-style-type: none"> <li>➤ To work with XML technologies.</li> <li>➤ To implement new technologies such as Angular JS and JQuery.</li> <li>➤ To select and utilize design thinking processes and UX/UI tools.</li> </ul>
4.	P22CSE3B	Block Chain Technology	<ul style="list-style-type: none"> <li>➤ To discuss and describe the history, types and applications of Block chain.</li> <li>➤ To gain familiarity with Cryptography and Consensus algorithms.</li> <li>➤ To create and deploy projects using Web3j, ICO and IPFS.</li> </ul>
5.	P22CHNME2	Chemistry in Day-To-Day Life	<ul style="list-style-type: none"> <li>➤ To acquire the fundamental concepts related to the chemistry in daily life.</li> <li>➤ To understand the importance of different types of commercial products for the environment.</li> <li>➤ To find the efficiency and the utility of byproducts derived from basic and applied concepts of chemistry.</li> </ul>
6.	P22CSCC3P	Machine Learning Lab	<ul style="list-style-type: none"> <li>➤ To acquire practical knowledge about Data Pre-processing and Feature Extraction.</li> <li>➤ To practice to write program Linear Regression Models, K-Nearest Neighbours, K-Means Clustering.</li> <li>➤ To learn practical skills about Classification and Support Vector Machine.</li> </ul>
7.	P22CSCC3AP	User Interface Design and Development Lab	<ul style="list-style-type: none"> <li>➤ To learn about practical knowledge XML and CSS.</li> <li>➤ To gain hands on knowledge about jQuery and Angular JS.</li> <li>➤ To acquire knowledge about Ajax and PHP.</li> </ul>

## Semester IV

S.No	Course Code	Name of the Course	Course Outcomes
1.	P22CSCC41	Agile Technologies	<ul style="list-style-type: none"> <li>➤ To realize the importance of interacting with business stakeholders in determining the requirements for a software system.</li> <li>➤ To perform iterative software development processes: how to plan them, how to execute them.</li> <li>➤ To develop techniques and tools for improving team collaboration and software quality.</li> </ul>
2.	P22CSCC42	Cloud Computing	<ul style="list-style-type: none"> <li>➤ To understand the concept of virtualization and how this has enabled the development of Cloud Computing.</li> <li>➤ To know the fundamentals of Cloud, Cloud Architectures and types of services in Cloud.</li> <li>➤ To understand scaling, Cloud security and Disaster Management.</li> </ul>
3.	P22CSIBC	Technology Innovation and Sustainable Enterprise	<ul style="list-style-type: none"> <li>➤ To identify entrepreneurial traits.</li> <li>➤ To develop comprehensive business plans.</li> <li>➤ To prepare plans to manage the enterprise effectively.</li> </ul>
4.	P22CSVAC2	Foundations of IoT	<ul style="list-style-type: none"> <li>➤ To learn and understand the technology and current trends in Internet of things.</li> <li>➤ To understand the various elements of IoT system and hardware devices.</li> <li>➤ To learn the programming languages and platforms for building IoT applications.</li> </ul>
5.	P22CSPW	Project Work	<ul style="list-style-type: none"> <li>➤ To prepare the document, to implement tools for the specific problem and learn the industrial need programs for their placement.</li> <li>➤ To accomplish individually to obtain their attributes.</li> <li>➤ To choose methods, tools and make decisions throughout the entire dissertation.</li> </ul>

**Programme: M.Phil. Computer Science**

<b>PO No.</b>	<b>Programme Outcomes upon Completion of the M.Phil., Degree Programme, the Graduates</b>
<b>PO1</b>	To train-up the students in such a way that they can objectively carry out investigations, scientific and/or otherwise, without being biased or without having any preconceived notions.
<b>PO2</b>	To prepare and motivate the students to advance their research careers to a Doctoral degree, pursue careers in academics and industries.
<b>PO3</b>	To train the students in the field of research technology.
<b>PO4</b>	To make the students understand that acquiring knowledge and skills appropriate to their professional activities is a never ending process.
<b>PO5</b>	To inspire them in such a way that they can demonstrate and maintain the highest standard on ethical issues in their professional lives.

<b>S.No</b>	<b>Course Code</b>	<b>Course</b>	<b>Course Outcomes</b>
<b>1.</b>	<b>M18CS1</b>	Research Methodology	<ul style="list-style-type: none"> <li>➤ To understand the types of research and thesis writing.</li> <li>➤ To enable the research methodology for the given problems.</li> <li>➤ To collect and analyse the data.</li> </ul>
<b>2.</b>	<b>M18CS2</b>	Advanced Topics In Computer Science	<ul style="list-style-type: none"> <li>➤ To understand the basic ideas of Data Science and to analyze Big Data sets.</li> <li>➤ To know the basic and practical foundations of Computer Science.</li> <li>➤ To demonstrates critical thinking abilities and effective written and oral communication skills and identify, analyze the sources in both the technical and research literature.</li> </ul>
<b>3.</b>	<b>M18TLS3</b>	Teaching and Learning Skills	<ul style="list-style-type: none"> <li>➤ To acquaint different parts of computer system and their functions and common accessories.</li> <li>➤ To enable teaching-learning activities.</li> <li>➤ To focus on doing the action rather than learning theoretical concepts.</li> </ul>
<b>4.</b>	<b>M18CS4</b>	Guide Paper on Topic of Research	<ul style="list-style-type: none"> <li>➤ To learn the fundamental and disciplinary concepts and methods in ways appropriate to their main domains.</li> </ul>

			<ul style="list-style-type: none"><li>➤ To understand the contemporary information and technological tools and techniques specific to the professional field of study.</li><li>➤ To equip students with a basic understanding of the underlying principles of quantitative and qualitative research methods.</li></ul>
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