**SRI KALISWARI COLLEGE (AUTONOMOUS)**
Affiliated to Madurai Kamaraj University, Madurai
Re-accredited with 'A' grade (3rd cycle) by NAAC with CGPA 3.11
A.Meenakshipuram, Anaikuttam Post, SIVAKASI - 626 130. Tamilnadu

## Department of Information Technology

## B.Sc. Information Technology

| S.No. | Course Code | Course Name | Course Outcomes |
|---|---|---|---|
| SEMESTER- I | | | |
| 1. | 23UITC11 | Core Course - I: Programming in C | **CO1[K1]:** outline the fundamental concepts of C programming languages, and its features <br> **CO2[K2]:** examine the programming methodology <br> **CO3[K3]:** identify suitable programming constructs for problem solving <br> **CO4[K4]:** select the appropriate data representation, control structures, functions and concepts based on the problem requirement <br> **CO5[K5]:** evaluate the program performance by fixing the errors |
| 2. | 23UITC1P | Core Course - II: Practical: C Programming | **CO1[K2]:** Demonstrate the understanding of syntax and semantics of C programs <br> **CO2[K3]:** Identify the problem and solve using C programming techniques <br> **CO3[K4]:** Identify suitable programming constructs for problem solving <br> **CO4[K5]:** Analyze various concepts of C language to solve the problem in |

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| 3. | 23UITS11 | Skill Enhancement Course – I: Foundation: Fundamentals Of Computers | **CO1[K1]:** Outline the Computer fundamentals and various problem solving concepts in Computers<br>**CO2[K2]:** Describe the basic computer organization, software, computer languages, software development life cycle and the need of structured programming<br>**CO3[K3]:** Identify the types of computer languages, software, computer problems and examine how to set up expressions and equations to solve the problem.<br>**CO4[K4]:** Inspect most appropriate programming languages, constructs and features to solve the problems in diversified domains. |
| 4. | 23UITN11 | Skill Enhancement Course – II: Non Major Elective Course: Office Automation | **CO1[K1]:** possess the knowledge on the basics of computers and its components.<br>**CO2[K2]:** gain knowledge on Creating Documents, spreadsheet and presentation.<br>**CO3[K3]:** learn the concepts of Database and implement the Query in Database.<br>**CO4[K4]:** demonstrate the understanding of different automation tools.<br>**CO5[K5]:** utilize the automation tools for documentation, calculation and |

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| | | **SEMESTER- II** | |
| 5. | 23UITC21 | CORE COURSE –III: JAVA PROGRAMMING | **CO1[K1]:** Understand the concepts of Data Structures and simple linear data, outline the basic terminologies of OOP, programming language techniques, JDBC and Internet programming concepts<br>**CO2[K2]:**solve problems using basic constructs, mechanisms, techniques and technologies of Java<br>**CO3[K3]:**analyze and explain the behavior of simple programs involving different techniques such as Inheritance, Packages, Interfaces, Exception Handling and Thread and technologies such as JDBC and Servlets<br>**CO4[K4]:**assess various problem-solving strategies involved in Java to develop a high- level application. |
| 6. | 23UITC2P | CORE COURSE –IV: PRACTICAL: JAVA PROGRAMMING AND DATA STRUCTURES | **CO1[K2]:** identify and explain the way of solving the simple problems<br>**CO2[K3]:** use appropriate software development environment to write, compile and execute object-oriented Java programs<br>**CO3[K4]:** analyze and identify necessary mechanisms of Java needed to solve real- world problem<br>**CO4[K5]:** test for defects and validate a Java program with different inputs<br>**CO5[K6]:** design, develop and compile Core Java , GUI , JDBC and |

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|-------|-------------|-------------|-----------------|
| 7. | 23UITS2P | SKILL ENHANCEMENT COURSE – III: ADVANCED EXCEL | **CO1[K2]:** work with large amounts of data<br>**CO2[K3]:** analyze numeric data and summarize into categories and subcategories<br>**CO3[K4]:** learn and apply different Filtering, sorting, and grouping data or subsets of data<br>**CO4[K5]:** create pivot tables to consolidate data from multiple files<br>**CO5[K6]:** presenting data in the form of charts and graphs |
| 8. | 23UITN21 | SKILL ENHANCEMENT COURSE – IV: NON MAJOR ELECTIVE COURSE: BASICS OF INTERNET | **CO1[K1]:** knows the basic concept in Internet and its uses<br>**CO2[K2]:** knows Design concept, Concept of Meta Data and Understand the concept Of save the files<br>**CO3[K3]:** understand the understand the basic architecture and infrastructure of the Internet<br>**CO4[K4]:** creating different content and style using internet<br>**CO5[K5]:** utilize the cyber crime concepts. |
| | | **SEMESTER- III** | |

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|---|---|---|---|
| 9. | 23UITC31 | CORE COURSE – V: RELATIONAL DATABASE MANAGEMENT SYSTEM | **CO1[K1]:** outline the fundamental RDBMS concepts and PL/SQL<br><br>**CO2[K2]**: discuss database operations, mapping, normalization, SQL and PL/SQL<br><br>**CO3[K3]**: classify the database based on various models and normalization<br><br>**CO4[K4]**: analyze the requirements to implement database concepts<br><br>**CO5[K5]**: estimate and construct normalized tables and manipulate it |
| 10. | 23UITC3P | CORE COURSE – VI : PRACTICAL: RELATIONAL DATABASE MANAGEMENT SYSTEM | **CO1[K2]:** express appropriate SQL queries and PL/SQL blocks for the database<br>**CO2[K3]**: implement SQL and PL/SQL blocks for the given problem effectively<br>**CO3[K4]**: analyse the problem and Exceptions using queries and PL/SQL blocks<br>**CO4[K5]:** evaluate the database for normalization using SQL and PL/SQL blocks<br>**CO5[K6]**: design Database tables, create Procedures, user-defined functions and triggers |

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| 11. | 23UITA31 | ELECTIVE COURSE GENERIC/ DISCIPLINE SPECIFIC – III : DATA STRUCTURES | **CO1[K1]:** outline the different fundamental concepts of data structures<br>**CO2[K2]:** classify the different memory representation for data storage and apply various operations<br>**CO3[K3]:** illustrate an algorithm for different data structure operations.<br>**CO4[K4]:** analyse the data structures applications |
| 12. | 23UITS3P | SKILL ENHANCEMENT COURSE– V: INTRODUCTION TO HTML | **CO1[K1]:** state the basic web programming concepts<br>**CO2[K2]:** illustrate the various types of lists<br>**CO3[K3]:** apply the mapping concepts with the help of image map<br>**CO4[K4]:** classify the form tags involved in designing a web page<br>**C05[K6]:** create and develop own web site using frames and images |
| 13. | 23UITS3Q | SKILL ENHANCEMENT COURSE– VI: PRACTICAL: WEB DESIGNING | **CO1[K2]:** illustrate the basic web programming concepts<br>**CO2[K3]:** apply the various types of lists<br>**CO3[K4]:** illustrate the mapping concepts with the help of image map, JavaScript and AJAX<br>**CO4[K5]:** explain the form tags involved in designing a web page<br>**C05[K6]:** create and develop own web site using frames and images |
| | | **SEMESTER- IV** | |

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|-------|-------------|-------------|-----------------|
| 14. | 23UITC41 | CORE COURSE –VII : . NET PROGRAMMING | **CO1[K1]:**identify the basic features of C# programming language and ASP.NET applications<br>**CO2[K2]:**demonstrate the salient properties of C# and ASP.NET applications<br>**CO3[K3]:**identify the various keywords, controls and classes to developing a web forms<br>**CO4[K4]:**analyze the appropriate controls to create a web form |
| 15. | 23UITC4P | CORE COURSE – VIII : PRACTICAL: . NET PROGRAMMING | **CO1[K2]:** estimate MS Visual Studio.NET IDE to Create applications<br>**CO2[K3]:** apply C# and ASP.NET concepts to design applications<br>**CO3[K4]:** simplify the functionality of the web application in accordance to the user requirement<br>**CO4[K5]:** evaluate the web application to fix the errors<br>**CO5[K6]:** build a web application using C# and ASP.NET concepts to solve the problem |

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|-------|-------------|-------------|-----------------|
| 16. | 23UITA41 | ELECTIVE COURSE GENERIC/ DISCIPLINE SPECIFIC - IV: SOFTWARE ENGINEERING | **CO1[K1]:**define the basic terminologies involved in software engineering<br>**CO2[K2]:**understand the suitable models, techniques and tools for the development of a software product<br>**CO3[K3]:**apply software engineering perspective through requirements analysis, software design and models, verification, and validation to develop solutions to modern problems<br>**CO4[K4]:**analyze the software process, Design and testing techniques<br>**CO5[K5]:**estimate the project cost using suitable cost estimation |
| 17. | 23UITS4P | SKILL ENHANCEMENT COURSE-VII: PRACTICAL: PHP SCRIPTING | **CO1[K2]:** demonstrate simple programs using PHP and jQuery<br>**CO2[K3]:** identify the interface setup, styles & themes for the given application<br>**CO3[K4]:** predict the problem and add necessary user interface components, mulltimedia components and web data source into the application<br>**CO4[K5]:** Evaluate the results by implementing the correct techniques on the web form<br>**CO5[K6]:** design web applications with the facilitated components in PHP and jQuery |

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| 18. | 23UITS4Q | SKILL ENHANCEMENT COURSE– VIII: PRACTICAL: MULTIMEDIA | **CO1[K2]:** understanding and use of multimedia fundamentals<br>**CO2[K3]:**implement appropriate techniques required for editing images and<br>        designing animated system<br>**CO3[K4]:**solve various design and implementation issues materialize on the<br>        Development of multimedia systems<br>**CO4[K5]:**assess different Photo Editing, Video Editing and animation |
| | | **SEMESTER- V** | |
| 19. | 23UITC51 | CORE COURSE – IX: PYTHON PROGRAMMING | **CO1[K1]:** Outline the basic concepts in python language.<br>**CO2[K2]:** Interpret different looping and conditional statements in python language<br>**CO3[K3]:** Apply the various data types and identify the usage of control statements, loops, functions and Modules in python for processing the data,<br>**CO4[K4]:** Analyze and solve problems using basic constructs and techniques of python.<br>**CO5[K5]:** Assess the approaches used in the development of interactive |

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| 20. | 23UITC52 | CORE COURSE – X: PRACTICAL: PYTHON PROGRAMMING | **CO1[K2]:** Understand the significance of control statements, loops and functions in creating Simple programs. <br> **CO2[K3]:** Interpret the core data structures available in python to store, process and sort the data <br> **CO3[K4]:** Develop the real time applications using python programming language. <br> **CO4[K5]:** Analyze the real time problem using suitable python concepts <br> **CO5[K6]:** Assess the complex problems using appropriate concepts in python |
| 21. | 23UITC53 | CORE COURSE – XI: OPERATING SYSTEM | **CO1[K1]:** Outline the fundamental concepts of an OS and their respective functionality. <br> **CO2[K2]:** Illustrate the importance of open source operating system commands <br> **CO3[K3]:** Identify and stimulate management activities of operating system. <br> **CO4[K4]:** Analyze the various services provided by the operating |

**Course Outcomes (COs)**

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|---|---|---|---|
| 22. | 23UITJ51 | CORE COURSE – XII: PROJECT & VIVA VOCE | **CO1[K1]:**Identify the problems with the help of programming concepts in current Scenario.<br>**CO2[K2]:**Explain the working environment such as software applications embedded systems and web services.<br>**CO3[K3]:**Apply the entire project design based on the requirements of the domain.<br>**CO4[K4]:**Justify and evaluating the various testing techniques to implement the project.<br>**CO5[K6]:**Develop skills in report writing through data collection, data analysis, data extraction and presentation. |
| 23. | 23UITO51 | ELECTIVE COURSES GENERIC / DISCIPLINE SPECIFIC - V: BIG DATA ANALYTICS | **CO1[K1]:** Work with big data tools and its analysis techniques.<br>**CO2[K2]:** Analyze data by utilizing clustering and classification algorithms.<br>**CO3[K3]:** Learn and apply different mining algorithms and recommendation systems for large volumes of data. |

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|---|---|---|---|
| 24. | 23UITO52 | ELECTIVE COURSES / DISCIPLINE SPECIFIC - V: COMPUTATIONAL INTELLIGENCE | **CO1[K1]:** Describe the fundamentals of artificial intelligence concepts and searching techniques. <br> **CO2[K2]:** Develop the fuzzy logic sets and membership function and defuzzification techniques. <br> **CO3[K3]:** Understand the concepts of Neural Network and analyze and apply the learning techniques. <br> **CO4[K4]:** Understand the artificial neural networks and its |
| 25. | 23UITO53 | ELECTIVE COURSES / DISCIPLINE SPECIFIC - VI: MOBILE APPLICATION DEVELOPMENT | **CO1[K1]:** Chart the requirements needed for developing android application. <br> **CO2[K2]:** Identify the results by executing the application in emulator or in android device. <br> **CO3[K3]:** Apply proper interface setup, styles & themes, storing and management. <br> **CO4[K4]:** Analyze the problem and add necessary user interface components, graphics and multimedia components into the application. <br> **CO5[K5]:** Evaluate the results by implementing the concept behind the |

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|---|---|---|---|
| 26. | 23UITO54 | ELECTIVE COURSES / DISCIPLINE SPECIFIC - VI: CRYPTOGRAPHY | **CO1[K1]:** describe different methodologies used in data Mining and datawarehousing<br>**CO2[K2]:** explain the basic principles and algorithms used in data miningand data warehousing<br>**CO3[K3]:** apply data mining techniques to solve simple mining problems<br>**CO4[K4]:** differentiate frequent pattern mining, association, correlation,prediction, outlier, clustering and classification rules<br>**CO5[K4]:** examine the application of data mining, models of OLAP and preprocessing |
| 27. | 23UITJ52 | SUMMER INTERNSHIP/INDUSTRIAL TRAINING | **CO1[K2]:** demonstrate the project development tools used in IT industry<br>**CO2[K3]:** apply the acquired technical skill to create professional applications<br>**CO3[K4]:** utilize both software and hardware required for each applications<br>**CO4[K5]:** classify the development cycles involved in developing a software<br>**CO5[K6]:** design and create the real time software related to IT industry |
| **SEMESTER- VI** | | | |

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|-------|-------------|-------------|-----------------|
| 28. | 23UITC61 | CORE COURSE – XIII: DATA MINING | **CO1[K1]:** Outline the fundamentals and the principles of Data Mining<br>**CO2[K2]:** Apply suitable different preprocessing for data mining<br>**CO3[K3]:** Classify data-mining techniques based on the different applications<br>**CO4[K4]:** Analyze the various data mining algorithms with respect to functionality<br>**CO5[K5]:** Recommend appropriate data models for data mining techniques to solve real world problems |
| 29. | 23UITC62 | CORE COURSE – XIV: PRACTICAL: DATA MINING | **CO1[K1]:** Understand the real time datasets for analysis<br>**CO2[K2]:** Apply suitable preprocessing for data mining task<br>**CO3[K3]:** Demonstrate data-mining techniques based on the different applications<br>**CO4[K4]:** Analyze the performance evaluation of various data mining algorithms<br>**CO5[K5]:** Prescribe appropriate data models for data mining techniques to solve real world problem |

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| 30. | 23UITC63 | CORE COURSE – XV: DATA COMMUNICATION AND NETWORKING | **CO1[K1]:** Understand the fundamental concepts of computer networks and its application areas. <br> **CO2[K2]:** Identify and use various networking techniques and components to establish networking connection and transmission. <br> **CO3[K3]:** Analyze the services performed by different network layers and recent advancements in networking. <br> **CO4[K4]:** Compare various networking models, layers, protocols and technologies. <br> **CO5[K5]:** Select the appropriate networking mechanisms to build a reliable network |
| 31. | 23UITO61 | ELECTIVE COURSES GENERIC / DISCIPLINE SPECIFIC - V: IOT AND ITS APPLICATIONS | **CO1[K1]:** Work with big data tools and its analysis techniques. <br> **CO2[K2]:** Analyze data by utilizing clustering and classification algorithms. <br> **CO3[K3]:** Learn and apply different mining algorithms and recommendation systems for large volumes of data. <br> **CO4[K4]:** Perform analytics on data streams. <br> **CO5[K5]:** Learn NoSQL databases and management |

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| 32. | 23UITO62 | ELECTIVE COURSES GENERIC/ DISCIPLINE SPECIFIC - V: ROBOTICS AND ITS APPLICATIONS | **CO1[K1]:** Describe the different physical forms of robot architectures.<br>**CO2[K2]:** Kinematically model simple manipulator and mobile robots.<br>**CO3[K3]:** Mathematically describe a kinematic robot system.<br>**CO4[K4]:** Analyze manipulation and navigation problems using knowledge of coordinate frames, kinematics, optimization, control, and uncertainty.<br>**CO5[K5]:** Program robotics algorithms related to kinematics, control, optimization, and uncertainty. |
| 33. | 23UITO63 | ELECTIVE COURSES GENERIC/ DISCIPLINE SPECIFIC - VI: TRENDS IN COMPUTING | **CO1[K1]:** Outline the concepts, applications, benefits and limitations of various computing paradigms.<br>**CO2[K2]:** Classify the computing technologies based on its architecture and infrastructure and identify its strategies.<br>**CO3[K3]:** Examine various cloud services, Security threat exposure within a cloud computing infrastructure.<br>**CO4[K4]:** Asses the problems and solutions involved in various stages of different computing environments.<br>**CO5[K5]:** Discuss the importance of cloud, edge and Fog technology and implement innovative ideas and practices for regulating green IT. |

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| 34. | 23UITO64 | ELECTIVE COURSES GENERIC/ DISCIPLINE SPECIFIC - VI: ARTIFICIAL NEURAL NETWORKS | **CO1[K1]:** Students will learn the basics of artificial neural networks with layer and multi-layer perception networks.<br>**CO2[K2]:** Learn about the Error Correction and various learning algorithms and tasks.<br>**CO3[K3]:** Learn the various Perception Learning Algorithm.<br>**CO4[K4]:** Learn about the various Multi-Layer Perception Network.<br>**CO5[K5]:** Understand the Deep Learning of various Neural network and its applications. |
| 35. | 23UITS6P | SKILL ENHANCEMENT COURSED- IX: PROFESSIONAL COMPETENCY SKILL: PRACTICAL: MOBILE APPLICATION DEVELOPMENT | **CO1[K2]:** illustrate the basic components of android<br>**CO2[K3]:** apply the interactive tools to perform form actions<br>**CO3[K4]**: analyse the different methodologies to integrate the map<br>**CO4[K5]:** examine the various protocols to send group mails<br>**CO5[K6]:** design and create new professional mobile applications |