

MES COLLEGE MARAMPALLY
DEPARTMENT OF VOCATIONAL STUDIES
SOFTWARE DEVELOPMENT AND SYSTEM ADMINISTRATION

About

Department of Software Development and System Administration started its functioning from November 2018. Our motto is “Sharpening the Skills, Shaping the Future”. This course has a special feature of multiple entry and multiple exits. Based on the NSQF level examination, the students can acquire a Diploma, Advanced Diploma and Degree certificate in respective years.

Programmes Offered

The department offers one UG programme, B.Voc. Software Development and System Administration.

Programme Outcome

PO1: Graduates will be able to communicate effectively

PO2: Graduates will be able to develop various software applications on different platforms.

PO3: provide students with reinforcement of mathematical computations. Develop proficiency to solve math problems related to their field.

PO4: Graduates will be able to undertake responsibility either as an individual or as a team member.

PO5: Graduates will have knowledge and understanding of related norms and ethics in Cyber Security

Programme Specific Outcome

PSO1: Practical knowledge with hands-on experience in various programming languages and platforms such as C, C++, C#, .NET MVC Framework, Node.js, Android etc

PSO2: Practical knowledge with hands-on experience in web designing using HTML5, CSS3, PHP, Javascript, jQuery etc.

PSO3: understands the basic concepts of Operating systems, networking, Linux etc.

PSO4: Practical knowledge in MySQL, SQL Server 2016 Administration, SQLite etc.

PSO5: Practical knowledge in Cloud Computing.

PSO6: Understands the concept and applications of Artificial Intelligence, Data warehousing and Big Data Analysis.

MES COLLEGE MARAMPALLY
B.Voc. SOFTWARE DEVELOPMENT AND SYSTEM ADMINISTRATION
(2018 Admission onwards)

| FIRST SEMESTER | | |
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| COURSE CODE | COURSE TITLE | COURSE OUTCOME |
| BOCG101 | Listening and Speaking Skills in English | <ul style="list-style-type: none"> ● Introducing the science of English language to students in order to make them familiarize with the global intelligibility of English. ● Effective communication in English to make them confident for different situations. ● Refinement of reading efficiencies and strategies. |
| BOCG102 | IT for Business | <ul style="list-style-type: none"> ● To impart basic computer Knowledge skills that is necessary to work in the up to date industry. ● The program ensures the student's capability in working with the computer for running any business units. |
| SDSG103 | Discrete Mathematics (I) (T) | <ul style="list-style-type: none"> ● develop the logical skills. ● increase problem solving skills. ● identify the real life applications of mathematics. ● introduce the basic concepts of number theory. |
| SDSG104 | The methodology of programming and programming in C (AOC) | <ul style="list-style-type: none"> ● Students will get a thorough knowledge of programming concepts. ● Students will understand the fundamentals of C programming. ● They will be able to solve programming problems through C Language. |

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| SDSG105 | Web technology and internet programming (AOC) | <ul style="list-style-type: none"> • This course covers the topics HTML5, CSS3, Javascript and JQuery. • Using the knowledge of HTML 5.0 and CSS3 students will be able to create personal and/or business websites following current professional and/or industry standards. • Students will be able to create effective scripts using JavaScript and jQuery to enhance the end user experience. • Students will be able to Test, debug, and deploy web pages containing JavaScript and jQuery. • Students will be able to identify when it is appropriate to use client-side programming such as Javascript and to write simple Javascript code to make a web application interactive. |
| SDSG106 | Project I | Students will be able to develop a Website. |
| SECOND SEMESTER | | |
| BOCG201 | Writing and Presentation Skills in English | <ul style="list-style-type: none"> • This course aims to disappear their presentation phobia and improves their writing skill without grammatical errors |
| SDSG202 | Discrete Mathematics (II) (T) | <ul style="list-style-type: none"> • equip the students to logically analyse and critically evaluate problem situation through graphical methods. • introduce the basic concepts of Boolean algebra. |

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| | | <ul style="list-style-type: none"> • develop analytic and critical thinking skills. • develop the logical thinking. |
| SCP203 | Object Oriented Programming using C++ (AOC) | <ul style="list-style-type: none"> • Students get a thorough knowledge in Object Oriented Programming concept • Students will be able to demonstrate the use of various OOPs concepts by writing programs in C++. |
| SDSG204 | Programming in PHP (AOC) | <ul style="list-style-type: none"> • Students will be able to write PHP scripts to handle HTML forms. • Students will be able to build web applications using PHP. • Students will be able to identify when it is appropriate to use server-side the terminologyh PHP and to write PHP code to perform some functionality for a web application. |
| SDSG205 | DBMS & MySQL (AOC) | <ul style="list-style-type: none"> • Students will familiarise the terminology, features, classifications, and characteristics embodied in database systems. • Students get a thorough understanding of the relational data model. • Students get knowledge MySQL queries. • they will be able to use MySQL as a back-end of a web application. |
| SDSG206 | Internship I | <ul style="list-style-type: none"> • Web designing |
| THIRD SEMESTER | | |
| BOCG301 | Principles of Management | <ul style="list-style-type: none"> • This course will introduce fundamental concepts in |

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| | | <p>management including individual characteristics and mechanisms and group mechanisms with a special focus on two important outcomes, management practices and organizational commitment.</p> <ul style="list-style-type: none"> ● Equip knowledge about the organization structure, its types of organization structure, the delegation of authority ● Determine the global environment and the fundamentals of liberalization, globalization and international management. |
| SDSG302 | Computer Organization and Architecture | <ul style="list-style-type: none"> ● Students will be able to understand the organization of a basic computer, it's design and the design of the control unit. ● Students will understand the working of the central processing unit and RISC and CISC Architecture. ● Students will understand the operations and language of the register transfer, micro-operations and input-output organization. ● Students will understand the organization of memory and memory management hardware. ● Students will understand the advanced concepts of computer architecture, Parallel Processing, interprocessor communication and synchronization. |

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| SDSG303 | Data Structures using C++ (AOC) | <ul style="list-style-type: none"> ● Students get a thorough Understanding about the basic data structures like arrays, linked lists, stacks and queues. ● Students will be able to Implement basic data structures such as arrays and linked list. ● Students can design Programs to demonstrate fundamental algorithmic problems including Tree Traversals, Graph traversals, and shortest paths. ● Students will be able to implement various searching and sorting algorithms. ● Students will be able to write programs to demonstrate the implementation of various operations on the stack, queue etc. |
| SDSG304 | Desktop Applications Development in .NET Framework (AOC) | <ul style="list-style-type: none"> ● Students will get a thorough knowledge in the fundamentals of C# programming language. ● Students will be able to write programs in C#. ● Students will be able to develop Windows-based GUI Application development using Rapid Application Development (RAD) on the .NET framework |
| SDSG305 | SQL Server 2016 Administration(AOC) | <ul style="list-style-type: none"> ● Students will get deep knowledge in SQL Server 2016. ● Students will be able to perform Installing and Configuration, Designing Tables and Database and advanced scenarios such as Performing Data |

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| | | Management tasks. |
| SDSG306 | Project II | <ul style="list-style-type: none"> • Desktop application development using .NET (C#) and SQL Server. |
| FOURTH SEMESTER | | |
| BOCG401 | Soft Skill & Personality Development | <ul style="list-style-type: none"> • To develop business communication skills of students by improving their speaking, listening and writing skills. • To provide exposure to real-world communication by presenting various real-world business communication challenges in class-room structure |
| SDSG402 | System Analysis & Software Engineering(T) | <ul style="list-style-type: none"> • Students will gain classroomon how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment • Students will gain an ability to work in one or more significant application domains • Students will learn how to Work as an individual and as part of a multidisciplinary team to develop and deliver quality software • Students will learn how to apply current theories, models, and techniques that provide a basis for the software lifecycle • Students can use the techniques and tools necessary for engineering practice. |
| SDSG403 | Operating Systems (AOC) | <ul style="list-style-type: none"> • Students will get the concept of operating systems, its functions etc |

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| | | <ul style="list-style-type: none"> • Students will familiarise the Linux commands. • Students can do Linux shell programming. • Students will be able to select the best CPU scheduling algorithm for a given problem instance. • |
| SDSG404 | ASP.NET MVC applications (AOC) | <ul style="list-style-type: none"> • Students can create and modify multi-page Web Form applications in .NET MVC architecture that involve and demonstrate features such as flow control, the use of style sheets, state management, data access, data binding, security, and data verification and validation. • Students can Create and modify web services. |
| SDSG405 | Node.js (AOC) | <ul style="list-style-type: none"> • Students can design server side programs . • Students can Create basic web applications with Node.js |
| SDSG406 | Internship II | <ul style="list-style-type: none"> • Web-based application development. |
| FIFTH SEMESTER | | |
| BOCG501 | Environmental Studies | <ul style="list-style-type: none"> • Knowledge of the multidisciplinary nature of environmental studies • Awareness of biodiversity and its conservation • Relate Environment and business • Understand the concepts and ideas behind Green Entrepreneurship • Understand Human Rights |
| SDSG502 | Software Testing and Quality | <ul style="list-style-type: none"> • Students understand the need for maintaining |

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| | Controls(T) | <p>quality in software development.</p> <ul style="list-style-type: none"> • They will differentiate between quality control, quality management and quality assurance. • The students will be able to understand and discuss the benefits, needs and techniques of software reviews, software testing, configuration management and software metrics. |
| SDSG503 | Computer Networks(T) | <ul style="list-style-type: none"> • Students will master the terminology and concepts of the OSI reference model and the TCP-IP reference model. • Students will master the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks. • Students will be familiar with wireless networking concepts and contemporary issues in networking technologies |
| SDSG504 | Cloud computing (AOC) | <ul style="list-style-type: none"> • Students can analyze the Cloud computing setup with its vulnerabilities and applications using different architectures. • Students will be able to assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application. |
| SDSG505 | Core Java (AOC) | <ul style="list-style-type: none"> • Students will be able to write Java application programs using OOP principles and proper |

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| | | <p>program structuring.</p> <ul style="list-style-type: none"> • Students will be able to write Java programs that include GUIs and event-driven programming. • Students will be able to use and create package and interfaces in a Java program. • Students will be able to create applets. |
| SDSG506 | Project III | <ul style="list-style-type: none"> • Project in Cloud computing. |
| SIXTH SEMESTER | | |
| BOCG601 | Entrepreneurship Development (T) | <ul style="list-style-type: none"> • Have the ability to discern distinct entrepreneurial traits • Know the parameters to assess opportunities and constraints for new business ideas • Understand the systematic process to select and screen a business idea and design strategies for the successful implementation of ideas |
| SDSG602 | Informatics & Cyber Ethics(T) | <ul style="list-style-type: none"> • Students will be aware of ethical issues in the IT profession • Awareness about IPR. • get an idea of role of IT in society. • |
| SDSG603 | Data warehousing & Big Data Analytics (T) | <ul style="list-style-type: none"> • Students will familiarise the concepts of big data, data warehousing and how data analyse and extract useful information from complex data stores. |
| SDSG604 | Artificial Intelligence(T) | <ul style="list-style-type: none"> • Students will familiarise the concepts of AI and different areas and applications of AI. |

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| SDSG605 | Mobile Application Development(AOC) | <ul style="list-style-type: none"> • Students will be able to Install and configure Android application development tools. • Students will be able to Design and develop user Interfaces for the Android platform. • They also learn to use SQLite. |
| SDSG606 | Internship III | Mobile Application development. |