S. S. T. COLLEGE OF ARTS AND COMMERCE

Bachelor of Science in (Information Technology)

Programme outcome

PO1	To think analytically, creatively and critically in developing robust, extensible and highly maintainable technological solutions to simple and complex problems
PO2	To apply their knowledge and skills to be employed and excel in IT professional careers and/or to continue their education in IT and/or related postgraduate programmes
PO3	To be capable of managing complex IT projects with consideration of the human, financial and environmental factors
PO4	To work effectively as a part of a team to achieve a common stated goal
PO5	To adhere to the highest standards of ethics, including relevant industry and organizational codes of conduct
PO6	To communicate effectively with a range of audiences both technical and non-technical
PO7	To develop an aptitude to engage in continuing professional development

Course Outcome

Sem -I

Course: Discrete Mathematics

CO1	Be able to construct simple mathematical proofs and possess the ability to verify them
CO2	Have substantial experience to comprehend formal logical arguments
CO3	Be skilful in expressing mathematical properties formally via the formal language of propositional logic and predicate logic
CO4	Be able to specify and manipulate basic mathematical objects such as sets, functions, and relations and will also be able to verify simple mathematical properties that these objects possess
CO5	Acquire ability to describe computer programs (e.g. recursive functions) in a formal mathematical manner
CO6	Be able to apply basic counting techniques to solve combinatorial problems
CO7	Gain experience in using various techniques of mathematical induction (weak, strong and structural induction) to prove simple mathematical properties of a variety of discrete structures

Course: Operating Systems

CO1	To understand operating system and its component
CO2	To learn the various operation on process
CO3	To understand multi-threading, critical section and semaphore concept
CO4	To learn deadlock and its avoidance, prevention and detection algorithm
CO5	To learn various techniques of main memory management
CO6	To learn linux and windows operating system

Course: Imperative Programming

CO1	Students should be able to write, compile and debug programs in C language
CO2	Students should be able to use different data types in a computer program
CO3	Students should be able to design programs involving decision structures, loops and Functions
CO4	Students should be able to explain the difference between call by value and call by Reference
CO5	Students should be able to understand the dynamics of memory by the use of pointers
CO6	Students should be able to use different data structures and create/update basic data files

Course: Digital Electronics

CO1	To learn about how computer systems work and underlying principles
CO2	To understand the basics of digital electronics needed for computers
CO3	To understand the basics of instruction set architecture for reduced and complex instruction sets
CO4	To understand the basics of processor structure and operation
CO5	To understand how data is transferred between the processor and I/O devices

Course: Communication Skills

CO1	To know about various aspects of soft skills and learn ways to develop personality
CO2	Understand the importance and type of communication in personal and professional environment
CO3	To provide insight into much needed technical and non-technical qualities in career planning
CO4	Learn about Leadership, team building, decision making and stress management

Sem- 2

Course: Web Programming

CO1	To design valid, well formed, scalable, and meaningful pages using emerging technologies
CO2	Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites
CO3	To develop and implement client-side and server-side scripting language programs
CO4	To develop and implement Database Driven Websites
CO5	Design and apply XML to create a markup language for data and document centric applications

Course: Object Oriented Programming

CO1	Students should be able to design programs involving decision structures, loops and functions
CO2	Students should be able to explain the difference between call by valu and call by reference
CO3	Students should be able to use different data structures and create/update basic data files
CO4	Students should be able to understand the dynamics of memory by the use of pointers

Course: Numerical And Statistical Methods

CO1	Enable learners to know descriptive statistical concepts
CO2	Enable study of probability concept required for Computer learners

Course: Microprocessor Architecture

CO1	To understand the basics of digital electronics needed for computers
CO2	To understand the basics of instruction set architecture for reduced and complex instruction sets.
CO3	To understand the basics of processor structure and operation
CO4	To understand how data is transferred between the processor and I/O devices

Course: Green Computing Skills

CO1	Learn about green IT can be achieved in and by hardware, software, network communication and data center operations
CO2	Understand the strategies, frameworks, processes and management of green IT

Course: Applied Mathematics I

CO1	Use Matrix Algebra to solve different types of problems. Compute the complex variable problems and to apply the concept of complex hyperbolic function in application problems
CO2	Enhance to apply the concept of differential equation problems in project-based learning
CO3	Apply the concept of Laplace transform and Inverse Laplace transform in analytic and technical problems
CO4	Understand the concept of application of multiple integrals in real life problems
CO5	Inculcate the use of Beta and Gamma function and its application in different science and engineering problems

Course: Python Programming

CO1	Students should be able to understand the concepts of programming before actually Starting to write programs
CO2	Students should be able to develop logic for Problem Solving
CO3	Students should be made familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc
CO4	Students should be able to apply the solving skills using syntactically simple language i.e Python (version: 3.X or higher)
CO5	Students should be able to understand how to read/write to files using python
CO6	Students should be able to catch their own errors that happen during execution of programs
CO7	Students should get an introduction to the concept of pattern matching
CO8	Students should be made familiar with the concepts of GUI controls and designing GUI applications
CO9	Students should be able to connect to the database to move the data to/from the Application
CO10	Students should know how to connect to computers, read from URL and send email

Course: Database Management System

CO1	Master concepts of stored procedure and triggers and its use
CO2	Learn about using PL/SQL for data management
CO3	Understand concepts and implementations of transaction management and crash Recovery

Course: Data Structure

CO1	Learn about Data structures, its types and significance in computing
CO2	Explore about Abstract Data types and its implementation
CO3	Ability to program various applications using different data structures
CO4	Develops skills in implementations and applications of data structures

Course: Computer Network

CO1	Learners will be able to understand the concepts of networking which are important for them to be known as networking professionals
CO2	Useful to proceed with industrial requirements and International vendor certifications

Sem- 4

Course: Software Engineering

CO1	To provide knowledge of software engineering discipline
CO2	To analyze risk in software design and quality
CO3	To introduce the concept to advance software methodology

Course: Introduction To Embedded Systems

CO1	Understand what is a microcontroller, microcomputer, embedded system
CO2	Understand different components of micro-controller and their interactions
CO3	Become familiar with programming environment used to develop embedded systems
CO4	Understand key concepts of embedded systems like IO, timers, interrupts, interaction with peripheral devices
CO5	Learn debugging techniques for an embedded system

Course: Core Java

CO1	Object oriented programming concepts using Java
CO2	Knowledge of input, its processing and getting suitable output
CO3	Understand, design, implement and evaluate classes and applets
CO4	Knowledge and implementation of AWT package

Course: Computer Oriented Statistical Techniques

CO1	Enable learners to know descriptive statistical concepts
CO2	Enable study of probability concept required for Computer learners

Course: Computer Graphics And Animation

CO1	Understand the basic concepts of Computer Graphics
CO2	Demonstrate various algorithms for scan conversion and filling of basic objects and their comparative analysis
CO3	Apply geometric transformations, viewing and clipping on graphical objects
CO4	Explore solid model representation techniques and projections
CO5	Understand visible surface detection techniques and illumination models

Sem-5

Course: Linux System Administration

CO1	Learner will be able to develop Linux based systems and maintain
CO2	Learner will be able to install appropriate service on Linux server as per requirement
CO3	Learner will have proficiency in Linux server administration

Course: Enterprise Java

CO1	Understand the Java Enterprise Edition architectural components along with various session management techniques and Servlet creation
CO2	Design web-based applications using Java Server Page (JSP)
CO3	Explain Enterprise JavaBean (EJB) architectural components and different types of EJBs
CO4	Design reusable software components using EJB to implement business logic for an Enterprise application

Course: Software Project Management

CO1	Apply selection criteria and select an appropriate project from different options
CO2	Write work breakdown structure for a project and develop a schedule based on it
CO3	Identify opportunities and threats to the project and decide an approach to deal with them strategically
CO4	Use Earned value technique and determine & predict the status of the project
CO5	Capture lessons learned during project phases and document them for future reference

Course: Advanced Web Programming

CO1	Understand the .NET framework
CO2	Develop a proficiency in the C# programming language
CO3	Proficiently develop ASP.NET web applications using C#
CO4	Use ADO.NET for data persistence in a web application

Course: Iot

CO1	Understand the .NET framework
CO2	Develop a proficiency in the C# programming language
CO3	Proficiently develop ASP.NET web applications using C#
CO4	Use ADO.NET for data persistence in a web application

Sem-6

Course: Software Quality Assurance

CO1	Create and apply a software quality assurance plan for all software projects
CO2	Create and manage a software quality assurance team
CO3	Conduct and facilitate inspections, product reviews, walk-throughs, and audits
CO4	Create and maintain appropriate metrics to measure and maintain quality

Course: Principle Of Geographic Information System

CO1	Know the basic concepts in GIS
CO2	Work with basic tools in GIS software
CO3	Understand and manage spatial information
CO4	Apply GIS tools and techniques in related applications

Course: Business Intelligence

CO1	The student will define the importance of business intelligence
CO2	The student will identify how various business intelligence systems can contribute to organizational success
CO3	The student will apply common methods used in business intelligence

Course: Security In Computing

CO1	To think analytically, creatively and critically in developing robust, extensible and highly maintainable technological solutions to simple and complex problems
CO2	To apply their knowledge and skills to be employed and excel in IT professional careers and/or to continue their education in IT and/or related post graduate programs
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Course: Information Technology Service Management

CO1	Ability to identify IT services as a means to provide functionality and value to customers in the context of specific case studies
CO2	Ability to understand the needs and targets of the different stakeholders (service providers, customers, suppliers/partners) in the services value chain
CO3	Ability to understand the value of a service management framework as a means to help consultants and firms to establish a common understanding to ground a service management approach
CO4	Ability to understand the service management processes -Ability to specify the service management system for given customers
CO5	Ability to select the appropriate tools to support a given designed service management solution