

# **S. S. T. COLLEGE OF ARTS AND COMMERCE**

## **Master Of Science (Information Technology)**

### **Programme Outcome**

<b>PO1</b>	Ability to apply the knowledge of Information Technology with recent trends aligned with research and industry
<b>PO2</b>	Ability to apply IT in the field of Computational Research, Soft Computing, Big Data Analytics, Data Science, Image Processing, Artificial Intelligence, Networking and Cloud Computing
<b>PO3</b>	Ability to provide socially acceptable technical solutions in the domains of Information Security, Machine Learning, Internet of Things and Embedded System, Infrastructure Services as specializations
<b>PO4</b>	Ability to apply the knowledge of Intellectual Property Rights, Cyber Laws and Cyber Forensics and various standards in interest of National Security and Integrity along with IT Industry
<b>PO5</b>	Ability to write effective project reports, research publications and content development and to work in a multidisciplinary environment in the context of changing technologies

## Course Outcome

Sem -I

### Course: Research In Computing

<b>CO1</b>	Solve real world problems with scientific approach
<b>CO2</b>	Develop analytical skills by applying scientific methods
<b>CO3</b>	Recognize, understand and apply the language, theory and models of the field of business analytics
<b>CO4</b>	Foster an ability to critically analyze, synthesize and solve complex unstructured business problems
<b>CO5</b>	Understand and critically apply the concepts and methods of business analytics
<b>CO6</b>	Identify, model and solve decision problems in different settings
<b>CO7</b>	Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity
<b>CO8</b>	Create viable solutions to decision making problems

### Course: Data Science

<b>CO1</b>	Apply quantitative modeling and data analysis techniques to the solution of real world business problems, communicate findings, and effectively present results using data visualization techniques
<b>CO2</b>	Recognize and analyze ethical issues in business related to intellectual property, data security, integrity, and privacy
<b>CO3</b>	Apply ethical practices in everyday business activities and make well-reasoned ethical business and data management decisions
<b>CO4</b>	Demonstrate knowledge of statistical data analysis techniques utilized in business decision making
<b>CO5</b>	Apply principles of Data Science to the analysis of business problems
<b>CO6</b>	Use data mining software to solve real-world problems
<b>CO7</b>	Employ cutting edge tools and technologies to analyze Big Data
<b>CO8</b>	Apply algorithms to build machine intelligence
<b>CO9</b>	Demonstrate use of teamwork, leadership skills, decision making and organization theory

## Course: Cloud Computing

<b>C01</b>	Analyze the Cloud computing setup with its vulnerabilities and applications using different architectures
<b>C02</b>	Design different workflows according to requirements and apply map reduce programming model
<b>C03</b>	Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms
<b>C04</b>	Create combinatorial auctions for cloud resources and design scheduling algorithms for computing clouds
<b>C05</b>	Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application
<b>C06</b>	Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing

## Course: Soft Computing Techniques

<b>C01</b>	Identify and describe soft computing techniques and their roles in building intelligent machines
<b>C02</b>	Recognize the feasibility of applying a soft computing methodology for a particular problem
<b>C03</b>	Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems
<b>C04</b>	Apply genetic algorithms to combinatorial optimization problems
<b>C05</b>	Apply neural networks for classification and regression problems
<b>C06</b>	Effectively use existing software tools to solve real problems using a soft computing approach
<b>C07</b>	Evaluate and compare solutions by various soft computing approaches for a given problem

## Sem- II

### Course: Bigdata Analytics

<b>CO1</b>	Understand the key issues in big data management and its associated applications in intelligent business and scientific computing
<b>CO2</b>	Acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics
<b>CO3</b>	Interpret business models and scientific computing paradigms, and apply software tools for big data analytics
<b>CO4</b>	Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc

### Course: Modern Networking

<b>CO1</b>	Demonstrate in-depth knowledge in the area of Computer Networking
<b>CO2</b>	To demonstrate scholarship of knowledge through performing in a group to identify, formulate and solve a problem related to Computer Networks
<b>CO3</b>	Prepare a technical document for the identified Networking System Conducting experiments to analyze the identified research work in building Computer Networks

### Course: Microservice Architecture

<b>CO1</b>	Develop web applications using Model View Control
<b>CO2</b>	Create MVC Models and write code that implements business logic within Model methods, properties, and events
<b>CO3</b>	Create Views in an MVC application that display and edit data and interact with Models and Controllers
<b>CO4</b>	Boost your hire ability through innovative and independent learning
<b>CO5</b>	Gaining a thorough understanding of the philosophy and architecture of .NET Core
<b>CO6</b>	Understanding packages, metapackages and frameworks
<b>CO7</b>	Acquiring a working knowledge of the .NET programming model
<b>CO8</b>	Implementing multi-threading effectively in .NET applications

## Course: Image Processing

<b>C01</b>	Understand the relevant aspects of digital image representation and their practical implications
<b>C02</b>	Have the ability to design pointwise intensity transformations to meet stated specifications
<b>C03</b>	Understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts
<b>C04</b>	Have a command of basic image restoration techniques
<b>C05</b>	Understand the role of alternative color spaces, and the design requirements leading to choices of color space
<b>C06</b>	Appreciate the utility of wavelet decompositions and their role in image processing systems
<b>C07</b>	Have an understanding of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications

## Sem - III

### Course: Technical Writing And Entrepreneurship Development

<b>CO1</b>	Develop technical documents that meet the requirements with standard guidelines. Understanding the essentials and hands-on learning about effective Website Development
<b>CO2</b>	Write Better Quality Content Which Ranks faster at Search Engines. Build effective Social Media Pages
<b>CO3</b>	Evaluate the essentials parameters of effective Social Media Pages
<b>CO4</b>	Understand importance of innovation and entrepreneurship
<b>CO5</b>	Analyze research and development projects

### Course: Artificial Intelligence

<b>CO1</b>	be able to understand the fundamentals concepts of expert system and its applications
<b>CO2</b>	be able to use probability and concept of fuzzy sets for solving AI based problems
<b>CO3</b>	be able to understand the applications of Machine Learning. The learner can also apply fuzzy system for solving problems
<b>CO4</b>	learner will be able to apply to understand the applications of genetic algorithms in different problems related to artificial intelligence
<b>CO5</b>	A learner can use knowledge representation techniques in natural language processing

### Course: Cloud Management

<b>CO1</b>	Understand the concepts of VMM, SDN, NAS , HyperV etc
<b>CO2</b>	Understand and demonstrate the use of Service manager with various deployments that can be performed using it
<b>CO3</b>	Understand SCCM and Demonstrate the use of Configuration Manager
<b>CO4</b>	Understand automation with runbooks and demonstrate the use of Windows Orchestrator
<b>CO5</b>	Understand and demonstrate the use of Data Protection Manager

## Course: Robotic Process Automation

<b>C01</b>	Understand the mechanism of business process and can provide the solution in an optimize way
<b>C02</b>	Understand the features use for interacting with database plugins
<b>C03</b>	Use the plug-ins and other controls used for process automation
<b>C04</b>	Use and handle the different events, debugging and managing the errors
<b>C05</b>	Test and deploy the automated process

## Sem- IV

### Course: Blockchain

<b>CO1</b>	The students would understand the structure of a blockchain and why/when it is better than a simple distributed database
<b>CO2</b>	Analyze the incentive structure in a blockchain based system and critically assess its functions, benefits and vulnerabilities
<b>CO3</b>	Evaluate the setting where a blockchain based structure may be applied, its potential and its limitations
<b>CO4</b>	Understand what constitutes a –smartl contract, what are its legal implications and what it can and cannot do, now and in the near future
<b>CO5</b>	Develop blockchain DApps

### Course: Natural Language Processing

<b>CO1</b>	Students will get idea about know-hows, issues and challenge in Natural Language Processing and NLP applications and their relevance in the classical and modern context
<b>CO2</b>	Student will get understanding of Computational techniques and approaches for solving NLP problems and develop modules for NLP tasks and tools such as Morph Analyzer, POS tagger, Chunker, Parser, WSD tool etc
<b>CO3</b>	Students will also be introduced to various grammar formalisms, which they can apply in different fields of study
<b>CO4</b>	Students can take up project work or work in R&D firms working in NLP and its allied areas
<b>CO5</b>	Student will be able to understand applications in different sectors

### Course: Server Virtualization On Vmware Platform

<b>CO1</b>	Understand VMWare VSphere 67, Install ESXi and Configure VSphere Centre
<b>CO2</b>	Demonstrate the use of VSphere Update Manager and Create a VSphere Network
<b>CO3</b>	Understand VSphere Security, Create and configure storage devices and Perform configurations to ensure business continuity
<b>CO4</b>	Demonstrate Resource allocation, Creating and managing virtual machine and the use of templates
<b>CO5</b>	Understand automation of vSphere and manage resource allocation



## Course: Human Computer Interaction

<b>C01</b>	Have a clear understanding of HCI principles that influence a system's interface design, before writing any code
<b>C02</b>	Understand the evaluation techniques used for any of the proposed system
<b>C03</b>	Understand the cognitive models and its design
<b>C04</b>	Able to understand how to manage the system resources and do the task analysis
<b>C05</b>	Able to design and implement a complete system