

Program Name	Program Outcome
<b>Master of Science In Information Technology</b> (M.Sc.IT)	<p>PO1: To equip students with an integrated set of skills that will allow them to develop their professional careers in Information Technology.</p> <p>PO2: To equip students with theoretical and practical knowledge which enables them to understand the design of complex computer applications.</p> <p>PO3: The programme also prepares students to embrace future developments in the field and has a demonstrated professional relevance.</p> <p>PO4: The programme helps students to acquire skills and build their future capabilities using world-class technology. A student will possess a strong foundation of computer systems and information technology.</p> <p>PO5: To build sophisticated software for a wide area of applications. To work with higher end applications in internet technologies; also, managerial ability to analyze, design, develop and to maintain software development</p>



<b>Program Name and Semester</b>	<b>Master of Science in Information Technology (M.Sc.IT) Semester -I</b>
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<b>Course Name</b>	<b>Course Outcome</b>
Soft Computing Techniques	<p>CO1: To understand Soft Computing.</p> <p>CO2: To understand Artificial Neural Network, Supervised Learning Network and Associative Memory Networks.</p> <p>CO3: To define Unsupervised Learning Networks, Special Networks and Third Generation Neural Networks.</p> <p>CO4: To summarize Fuzzy Logic, Classical Relations and Fuzzy Relations, Membership Function, Defuzzification, Lambda-cuts for fuzzy sets and Fuzzy Arithmetic and Fuzzy measures.</p> <p>CO5: To relate the concept of Virtual Machine and Cloud Computing, Designing Secure Web Applications.</p>
Research in Computing	<p>CO1: To develop understanding on various kinds of research, objectives of doing research, research process, research designs and sampling.</p> <p>CO2: To select and define appropriate research problem and parameters</p> <p>CO3: To gain the basic knowledge on qualitative research techniques.</p> <p>CO4: To define the meaning of a variable, and to be able to identify independent, dependent, and mediating variables.</p> <p>CO5: To create awareness of data analysis-and hypothesis testing procedures.</p>
Data Science	<p>CO1: To 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.</p> <p>CO2: To recognize and analyse ethical issues in business related to intellectual property, data security, integrity, and privacy.</p> <p>CO3: To apply ethical practices in everyday business activities and make well-reasoned ethical business and data management decisions.</p> <p>CO4: To demonstrate knowledge of statistical data analysis techniques utilized in business decision making.</p> <p>CO5: To apply principles of Data Science to the analysis of business problems. Use data mining software to solve real-world problems. Employ cutting edge tools and technologies to analyze Big Data. Apply algorithms to build machine intelligence. Demonstrate use of team work, leadership skills, decision making and organization theory.</p>
Cloud Computing	<p>CO1: To understand what is cloud the history behind cloud computing, technologies used before it, the different ways in which cloud environment can be built and its deployment models, using virtualization technology behind cloud computing.</p>



Course Name	Course Outcome
	<p>CO2: To gain a thorough knowledge on how various types of infrastructure can be built for different types of deployment models, getting a deep insight to threat, risk and threat sources on cloud security, To understand the services provided by major cloud providers like Amazon, Google App Engine, Microsoft.</p> <p>CO3: To interpret the basic cloud mechanisms deployed in cloud environment, and the advanced mechanisms which can make the cloud environment more efficient as well as secure.</p> <p>CO4: To analyze how the mechanisms studied in above unit can help in building a resilient, efficient cloud architecture having both basic and advanced approach towards cloud architecture.</p> <p>CO5: To get an insight on which metrics are used by the cloud provider to build price model, characteristics of a good service level agreement, and understanding cloud model delivery with both providers and consumer's perspective.</p>



<b>Program Name and Semester</b>	<b>Master of Science in Information Technology (M.Sc.IT) Semester -II</b>
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<b>Course Name</b>	<b>Course Outcome</b>
Big Data Analytics	<p>CO1: To understand the key issues in big data management and its associated applications in intelligent business and scientific computing.</p> <p>CO2: To acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics.</p> <p>CO3: To interpret business models and scientific computing paradigms.</p> <p>CO4: To apply software tools for big data analytics.</p> <p>CO5: To achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.</p>
Modern Networking	<p>CO1: To demonstrate in-depth knowledge in the area of Computer Networking.</p> <p>CO2: To demonstrate scholarship of knowledge through performing in a group to identify, formulate and solve a problem related to Computer Networks.</p> <p>CO3: To prepare a technical document for the identified Networking System Conducting experiments to analyze the identified research work in building Computer Networks.</p> <p>CO4: To define and Support User Needs, Quality of Service, Background, QoS Architectural Framework.</p> <p>CO5: To learn Modern Network Architecture.</p>
Micro services Architecture	<p>CO1: To develop web applications using Model View Control, Boost your hire ability through innovative and independent learning.</p> <p>CO2: To create MVC Models and write code that implements business logic within Model methods, properties, and events.</p> <p>CO3: To create Views in an MVC application that display and edit data and interact with Models and Controllers.</p> <p>CO4: To gain a thorough understanding of the philosophy and architecture of .NET Core, Understanding packages, metapackages and frameworks</p> <p>CO5: To acquire a working knowledge of the .NET programming model, implementing multi- threading effectively in .NET applications.</p>
Image Processing	<p>CO1: To understand the relevant aspects of digital image representation and their practical implications, Have the ability to design pointwise intensity transformations to meet stated specifications.</p> <p>CO2: To understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts.</p>



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	<p>CO3: To have a command of basic image restoration techniques, Understand the role of alternative color spaces, and the design requirements leading to choices of color space.</p> <p>CO4: To appreciate the utility of wavelet decompositions and their role in image processing systems.</p> <p>CO5: To understand of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications.</p>



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<b>Course Name</b>	<b>Course Outcome</b>
Ethical Hacking	<p>CO1: To understand the basic concepts of ethical hacking.</p> <p>CO2: To demonstrate the concept of system hacking and differentiate between various malwares.</p> <p>CO3: To understand social engineering, denial of service and session hijacking.</p> <p>CO4: To implement hacking of webserver and web applications.</p> <p>CO5: To understand firewalls and honeypots, buffer overflows and cryptography.</p>
Information Security Management	<p>CO1: To understand Risk assessment and management.</p> <p>CO2: To devise Security management of IT systems.</p> <p>CO3: To use Public key infrastructures.</p> <p>CO4: To understand Auditing and business continuity.</p> <p>CO5: To interpret Computer forensics.</p>
Virtualization	<p>CO1: To understand the basics of virtualization technology like what is virtualization its pros and cons, its types and taxonomy.</p> <p>CO2: To understand how server visualization can be implemented, technologies behind it and the business cases in which it has a very important role to play.</p> <p>CO3: To relate enterprise campus network design, WAN designs and implementing virtualization at device, data path and control plane level.</p> <p>CO4: To have an insight on SAN architecture, SNIA models used to make SAN designs more understandable and understanding the suitability of different RAID levels.</p> <p>CO5: To relate the history, architecture and usage of blade systems and their contribution in virtualization technology.</p>
Embedded Systems	<p>CO1: To understand the basic concepts of embedded systems.</p> <p>CO2: To understand Embedded hardware/firmware design and real time operating systems.</p> <p>CO3: To summarize the working of different types of memories.</p> <p>CO4: To program microcontrollers in C using IDE and debugging techniques.</p> <p>CO5: To design, Development and planning of embedded systems based projects.</p>



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<b>Course Name</b>	<b>Course Outcome</b>
Technical Writing and Entrepreneurship Development	<p>CO1: To develop technical documents that meet the requirements with standard guidelines. Understanding the essentials and hands-on learning about effective Website Development.</p> <p>CO2: To write Better Quality Content Which Ranks faster at Search Engines. Build effective Social Media Pages.</p> <p>CO3: To evaluate the essentials parameters of effective Social Media Pages.</p> <p>CO4: To understand importance of innovation and entrepreneurship.</p> <p>CO5: To analyze research and development projects.</p>
Applied Artificial Intelligence	<p>CO1: To understand the fundamentals concepts of expert system and its applications.</p> <p>CO2: To use probability and concept of fuzzy sets for solving AI based problems.</p> <p>CO3: To be able to understand the applications of Machine Learning. The learner can also apply fuzzy system for solving problems.</p> <p>CO4: To apply to understand the applications of genetic algorithms in different problems related to artificial intelligence.</p> <p>CO5: To use knowledge representation techniques in natural language processing.</p>
Machine Learning	<p>CO1: To understand the key issues in Machine Learning and its associated applications in intelligent business and scientific computing.</p> <p>CO2: To acquire the knowledge about classification and regression techniques where a learner will be able to explore his skill to generate data base knowledge using the prescribed techniques.</p> <p>CO3: To understand and implement the techniques for extracting the knowledge using machine learning methods.</p> <p>CO4: To achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.</p> <p>CO5: To understand the statistical approach related to machine learning. He will also Apply the algorithms to a real-world problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models.</p>
Robotic Process Automation	<p>CO1: to understand the mechanism of business process and can provide the solution in an optimize way.</p> <p>CO2: To learn the features use for interacting with database plugins.</p> <p>CO3: To use the plug-ins and other controls used for process automation.</p> <p>CO4: To handle the different events, debugging and managing the errors.</p> <p>CO5: to test and deploy the automated process.</p>



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<b>Course Name</b>	<b>Course Outcome</b>
IT Infrastructure Management	<p>CO1: To learn the basics of ITSM, Life Cycle of ITSM and principles of Service Strategy.</p> <p>CO2: To understand objectives of service design, principles, processes and considerations during service design.</p> <p>CO3: To identify objectives of service transition, principles, processes and considerations during service transition.</p> <p>CO4: To analyze objectives of service operations, principles, functions and processes of service operation.</p> <p>CO5: To evaluate objectives, major concepts and processes of Continual Service Improvement.</p>
Artificial Intelligence	<p>CO1: To understand AI and its foundations.</p> <p>CO2: To learn AI algorithms and concepts which can assist in real-time implementations.</p> <p>CO3: To relate various search methodologies and their practical implementations with examples.</p> <p>CO4: To learn the Structure of Intelligent systems so that AI Based applications can be built over it.</p> <p>CO5: To implement the project of AI with proper planning.</p>
Computer Forensic	<p>CO1: To understand Investigation Process, Data Acquisitions.</p> <p>CO2: To work with Windows, DOS systems and current forensics tools.</p> <p>CO3: To understand Macintosh and Linux boot processes, Recovering graphic files.</p> <p>CO4: To relate Network Forensics and E-mail Investigations.</p> <p>CO5: To learn and apply Report Writing, Testimony and Ethics in Investigations.</p>
Design of Embedded Control Systems	<p>CO1: To understand the working of microcontrollers.</p> <p>CO2: To describe the working of PIC microcontrollers.</p> <p>CO3: To interpret fundamentals of ARM Processor.</p> <p>CO4: To devise the different instruction sets in ARM.</p> <p>CO5: To write an ARM assembly code.</p>





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<b>Course Name</b>	<b>Course Outcome</b>
Blockchain	<p>CO1: The students would understand the structure of a blockchain and why/when it is better than a simple distributed database.</p> <p>CO2: Analyze the incentive structure in a blockchain based system and critically assess its functions, benefits and vulnerabilities</p> <p>CO3: Evaluate the setting where a blockchain based structure may be applied, its potential and its limitations</p> <p>CO4: Understand what constitutes a “smart” contract, what are its legal implications and what it can and cannot do, now and in the near future</p> <p>CO5: Develop blockchain DApps.</p>
Natural Language Processing	<p>CO1: To introduce the students to the field of Language Computing and its applications ranging from classical era to modern context.</p> <p>CO2: To provide understanding of various NLP tasks and NLP abstractions such as Morphological analysis, POS tagging, concept of syntactic parsing, semantic analysis etc.</p> <p>CO3: To enhance knowledge of different approaches/algorithms for carrying out NLP tasks.</p> <p>CO4: To highlight the concepts of Language grammar and grammar representation in Computational Linguistics.</p> <p>CO5: To understand applications in different sectors</p>
Deep Learning	<p>CO1: To present the mathematical, statistical and computational challenges of building neural networks</p> <p>CO2: To study the concepts of deep learning</p> <p>CO3: To enable the students to know deep learning techniques to support real-time applications</p> <p>CO4: To design and implement various deep learning models and architectures</p> <p>CO5: To apply various deep learning techniques to design efficient algorithms for real-world applications.</p>
Human Computer Interaction	<p>CO1: To understand the important aspects of implementation of human-computer interfaces.</p> <p>CO2: To identify the various tools and techniques for interface analysis, design, and evaluation.</p> <p>CO3: To highlight the impact of usable interfaces in the acceptance and performance utilization of information systems</p> <p>CO4: To understand how to manage the system resources and do the task analysis.</p> <p>CO5: To design and implement a complete system.</p>

