VIVEK COLLEGE OF COMMERCE

PROGRAMME NAME: M.Sc.I.T.

M.Sc.I.T PROGRAMME OUTCOME:

PO1: The M.Sc. Information Technology programme was started with an aim to make the students work towards advance computing techniques and its applications.

PO2: To contribute towards research in different domains.

M.Sc.IT PROGRAMME SPECIFIC OUTCOME

PSO1: Ability to apply the knowledge of Information Technology with recent trends aligned with research and industry.

PSO2: 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.

PSO3 : 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.

PSO4: 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.

PSO5: Ability to write effective project reports, research publications and content development and to work in multidisciplinary environment in the context of changing technologies.

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COURSE OUTCOME

SEMESTER I

RESEARCH IN COMPUTING

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

DATA SCIENCE

CO1: 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.
CO2: Recognize and analyse ethical issues in business related to intellectual property, data security, integrity, and privacy.
CO3: Apply ethical practices in everyday business activities and make well-reasoned ethical business and data management decisions.
CO4: Demonstrate knowledge of statistical data analysis techniques utilized in business decision making.
CO5 : Apply principles of Data Science to the analysis of business problems.
CO6: Use data mining software to solve real-world problems.
CO7: Employ cutting edge tools and technologies to analyse Big Data.
CO8: Apply algorithms to build machine intelligence.
CO9: Demonstrate use of team work, leadership skills, decision making and organization theory.

CLOUD COMPUTING

CO1: Analyse the Cloud computing setup with its vulnerabilities and applications using different architectures.
CO2: Design different workflows according to requirements and apply map reduce programming model.
CO3: Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms.
CO4: Create combinatorial auctions for cloud resources and design scheduling algorithms for computing clouds
CO5: Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application
CO6: Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing.

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SOFT COMPUTING TECHNIQUES
CO1: Identify and describe soft computing techniques and their roles in building intelligent machines CO2: Recognize the feasibility of applying a soft computing methodology for a particular problem CO3: Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems CO4: Apply genetic algorithms to combinatorial optimization problems CO5: Apply neural networks for classification and regression problems CO6: Effectively use existing software tools to solve real problems using a soft computing approach CO7: Evaluate and compare solutions by various soft computing approaches for a given problem.
SEMESTER 2
BIG DATA ANALYTICS
CO1: Understand the key issues in big data management and its associated applications in intelligent business and scientific computing. CO2: Acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics. CO3: Interpret business models and scientific computing paradigms and apply software tools for big data analytics. CO4: Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.
MODERN NETWORKING
CO1: Demonstrate in-depth knowledge in the area of Computer Networking. CO2: To demonstrate scholarship of knowledge through performing in a group to identify, formulate and solve a problem related to Computer Networks CO3: Prepare a technical document for the identified Networking System Conducting experiments to analyse the identified research work in building Computer Networks.
MICROSERVICE ARCHITECTURE
CO1: Develop web applications using Model View Control. CO2: Create MVC Models and write code that implements business logic within Model methods, properties, and events. CO3: Create Views in an MVC application that display and edit data and interact with Models and Controllers. CO4: Boost your hire ability through innovative and independent learning. CO5: Gaining a thorough understanding of the philosophy and architecture of .NET Core CO6: Understanding packages, metapackages and frameworks CO7: Acquiring a working knowledge of the .NET programming model CO8: Implementing multi-threading effectively in .NET applications

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IMAGE PROCESSING
CO1: Understand the relevant aspects of digital image representation and their practical implications. CO2: Have the ability to design pointwise intensity transformations to meet stated specifications. CO3: Understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts. CO4: Have a command of basic image restoration techniques. CO5: Understand the role of alternative color spaces, and the design requirements leading to choices of color space. CO6: Appreciate the utility of wavelet decompositions and their role in image processing systems. CO7: Have an understanding of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications.
SEMESTER 3
EMBEDDED SYSTEMS
CO1: To have knowledge about the basic working of a microcontroller system and its programming in assembly language. CO2: To learn writing programs in integrated hardware
INFORMATION SECURITY SYSTEM
CO1: To learn the need for security. CO2: To identify threats, vulnerability and network attacks.
ARTIFICIAL NEURAL NETWORK
CO1: To learn fundamental of neural network and fuzzy logic. CO2: To study supervised and unsupervised learning.
DIGITAL IMAGE PROCESSING
CO1: Understand the relevant aspects of digital image representation and their practical implications. CO2: Have the ability to design pointwise intensity transformations to meet stated specifications. CO3: Understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts. CO4: Have a command of basic image restoration techniques. CO5: Understand the role of alternative color spaces, and the design requirements leading to choices of color space. CO6: Appreciate the utility of wavelet decompositions and their role in image processing systems. CO7 : Have an understanding of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications.

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SEMESTER 4
ARTIFICIAL INTELLIGENCE
CO1: To make students learn AI methodology and fundamentals. CO2: To emphasize the students to understand and implement AI based algorithms and create intelligent systems.
IT INFRASTRUCTURE MANAGEMENT
CO1: To learn management of IT infrastructure. CO2: To provide knowledge of inspection, interpretation and durability of IT infrastructure.
INTELLIGENT SYSTEM
CO1: To demonstrate knowledge and understanding of AI shortcoming. CO2: To understand intelligent agents and solve complex problems intelligently. To solve constraint satisfaction problems more effectively.
ADVANCED IMAGE PROCESSING
CO1: To learn advance image processing related concept. CO2: To learn and implement remote sensing techniques, processing of satellite images and medical images and analyses its accuracy using classification algorithms and contribute to various research areas.