RATHINAM COLLEGE OF ARTS AND SCIENCE [AUTONOMOUS]

DEPARTMENT OF INFORMATION TECHNOLOGY

UG - B.Sc Digital Cyber Forensic Science

Course Outcome(CO)

Core– I – Problem Solving Using C	CO1	Demonstrate the flowchart and design an algorithm for a given problem and to develop C programs using operators
	CO2	Develop conditional and iterative statements to write C programs
	CO3	Exercise user defined functions to solve real time problems
	CO4	Inscribe C programs that use Pointers to access arrays, strings and functions.
	CO5	Exercise user defined data types including structures and unions to solve problem
Core– I – C Programming Lab	CO1	Understand basic Structure of C & declaration of variables, data types & Operators.
	CO2	Exercise conditional and iterative statements to Write C program.
	CO3	To demonstrate the concept of Pointers, Recursion using C.
	CO4	To implement the concept of Structure & Union using C.
	CO5	Can able to work out the file management and Error Handling.
DSC - Data Structures & Algorithms	CO1	Students will develop knowledge of basic data structures for storage and retrieval of ordered or unordered data.
	CO2	Understand the concept of linked sets.
	CO3	Appraise the applications of data structures including the ability to implement algorithms for the creation, insertion, deletion, searching, and sorting of each data structure.
	CO4	Student will be able to develop Knowledge of Tree.
	CO5	Student will be able to comprehend the concept of Graph.
Mathematics for Computer Science	CO1	To demonstrate a working knowledge of set notation and elementary set theory with its corresponding set operations and also Venn diagram.
	CO2	To apply the fundamental concepts of Mathematical Logic and Tautologies.
	CO3	To apply and understand the fundamental concepts of Relations and Functions.
	CO4	To demonstrate different traversal methods for graphs.
	CO5	To demonstrate different methods for trees and its properties.

Core - I – C++ Programming	CO1	To understand Object Oriented Programming concepts.
	CO2	An ability to create an simple C++ Programming.
	CO3	Implement the concept of classes and objects.
	CO4	An ability to develop a program using any type of Inheritance.
	CO5	To understand and develop a program using file operations.
Core - I – Practical C++ Programming - Lab	CO1	Understand basic Structure of the C ++ PROGRAMMING, declaration and usage of variables
	CO2	Understand C++ programs using Class and operators
	CO3	Exercise conditional and iterative statements to Write C++ programs
	CO4	Understand for C++ programs using Pointers to access arrays, strings and functions
	CO5	Understand C++ programs using pointers and allocate memory using dynamic memory management functions.
COMPUTER NETWORKS	CO1	To understand the basics of computer networks , models and services.
	CO2	To explain the transmission media and to apply the error detection and correction of data transmission.
	CO3	To analyze the importance and design issues of layers.
	CO4	To differentiate the services and protocols of various layers.
	CO5	To illustrate the types of security and digital signature.
Allied - PC and Mobile Hardware Trouble Shooting	CO1	Understand the basics of Computer Maintenance and understands the Mobile servicing.
	CO2	Exercise Mobile Phone Repair and Maintenance , Diagnosing and repairing mobile phone faults
	CO3	To learn about basic knowledge about Laptop device and components.
	CO4	Understand basic troubleshooting in mobile and Ethics and Legal Aspects of Working
	CO5	Understand basic repair and maintenance
Java Programming	CO1	Define the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.
	CO2	Identify the situations of Program Control Statements, Introducing Classes, Objects and Methods of their usages.
	CO3	Identify String Handling , Arrays, classes, objects, members of a class and the relationships among them needed for a specific problem.
	CO4	OOP concepts like inheritance, Interface & package in real time

		situations.
	CO5	Develop Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access applet, multithreading)
Java Programming lab	CO1	Execute JAVA programs based on simple constructs like arrays, loops , decision statements, functions etc
	CO2	Incorporate object oriented concepts like classes, objects, inheritance, polymorphism resembling real time situation.
	CO3	Demonstrate the use of packages and interfaces
	CO4	Develop OOP programs containing User created Exception handling & Threading.
	CO5	Familiarize with Java development Environment such as Eclipse, NetBeans etc. Suggestive list of programs.
Computer Forensic Essentials	CO1	To help students understand how computer forensics is used as a powerful technique in digital investigation
	CO2	To make it possible for students to learn the process, various steps, tools and techniques involved in computer forensics
	CO3	comprehend steps involved in recovering data stored in various devices and various techniques used in windows, linux, network and web application forensics
	CO4	justify the need for meticulous documentation in computer forensics
	CO5	Articulate the rationale for having an adequate legal framework when dealing with computer forensics
Skill Enhancement Courses – II Information and Cyber Security	CO1	The objective of this course is to provide students with a basic understanding of Information and Cyber Security issues and make them aware of the Challenges.
	CO2	To provide components of the Information and Cyber Security Organization.
	CO3	To achieve a basic understanding of information and Cyber Security.
	CO4	To master information security governance, and related legal and regulatory Issues
	CO5	To be familiarity with information security awareness and a clear understanding of its importance
Python Programming	CO1	Examine Python syntax and semantics and be fluent in the use of Python flow control and functions

	CO2	Demonstrate proficiency in handling Strings and File Systems
	CO3	Understand Lists, Dictionaries and Regular expressions in Python
	CO4	Interpret the concepts of Object-Oriented Programming as used in Python
	CO5	Implement exemplary applications related to Network Programming, Web Services and Databases in Python
Python Programming Lab	CO1	Write, test, and debug simple Python programs.
	CO2	Implement Python programs with conditionals and loops for stack, sorting algorithms.
	CO3	Read and write data from/to files in Python.
	CO4	Use Python lists, dictionaries for representing compound data.
	CO5	Write Script to SQL and Demonstrate Exception in Python.
Operating System Forensic Analysis	CO1	After learning the fundamental concepts in Operating system including how OS has evolved over the years and different components of OS, students will continue to more significant.
	CO2	This will provide the necessary information for students to extract maximum benefits out of the OS while developing programs, working with applications and etc.
	CO3	These chapters cover methods for process scheduling, interprocess communication, process synchronization, and deadlock handling. Also included is a discussion of threads, as well as an examination of issues related to multicore systems and parallel programming.
	CO4	These chapter covers the how storage is maintain in the computer
	CO5	Have the knowledge of provided by a mechanism that controls the access of programs, processes, or users to the resources defined by a computer system.
Forensic Analysis Lab	CO1	Understand basic Structure of the Operating System
	CO2	Understand programs using implementation of system calls
	CO3	To exercise and see the file operation
	CO4	Understand the programs using problem concept
	CO5	Understand by using the methods In Operating System
Entrepreneurial Development Program	CO1	To know about the role of the entrepreneur in India and around and the globe, understand the benefits and drawbacks of entrepreneurship and students has to avoid them; entrepreneurial failure.
	CO2	The course aims to develop student's ability to create, lead and

		coordinate projects within the textile and fashion sector. It also intends to provide tools and methods in order to make use of entrepreneurial thinking to develop a business project.
	CO3	Students will be able to define, identify and/or apply the principles of new venture financing, growth financing, and growth financing for existing businesses.
	CO4	To understand process of women entrepreneur and how faced their problems
	CO5	To understand difference between Micro, small and medium Enterprises.
Information Security and Audit Monitoring	CO1	Understand the difference between Security Metrics and Audits.
	CO2	Knowledge on Vulnerability Management
	CO3	Know the Information Security Audit Tasks, Reports and Post Auditing Actions
	CO4	Understand Information Security Assessments
	CO5	able a clear understanding and knowledge of Security Analyst foundations, and introduce the tool, technologies and programming languages which is used in day to day security analyst job role.E
Ethical Hacking -I	CO1	Explain the importance of numerous methods of real-world informationintelligence.
	CO2	Differentiate the processes of vulnerability assessment and ethical hacking from penetration testing.
	CO3	Comprehend the importance of appropriate countermeasures for managing vulnerabilities.
	CO4	To familiarize with the methodologies that can be used to hack into atarget.
	CO5	To appreciate the wide variety of attacks that can be performed against a wireless network.
Ethical Hacking I Lab	CO1	Implement the importance of ethical hacking in achieving the goals of information security.
	CO2	Differentiate the processes of vulnerability assessment and ethical hacking from penetration testing.
	CO3	Comprehend the importance of appropriate countermeasures for managing vulnerabilities.
	CO4	Justify the need for meticulous documentation in writing reports for consumption of both technical and management audiences.
	CO5	Articulate the rationale for having an adequate legal

		framework for dealing with hacking and ethical hacking.
Network Forensic Analysis	CO1	Students with a specialist understanding of the nature of malware, its capabilities, and how it is combated through detection and classification
	CO2	Students will be able to apply the tools and methodologies used to perform static and dynamic analysis on unknown executables.
	CO3	Students will have an intimate understanding of executable formats, Windows internals and API, and analysis techniques.
	CO4	Students will able to apply techniques and concepts to unpack, extract, decrypt, or bypass new antianalysis techniques in future malware samples
	CO5	students would have a broad understanding of the social, economic, and historical context in which malware occurs
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	CO2	Students will be able to apply the tools and methodologies used to perform static and dynamic analysis on unknown executables.
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Cloud Infrastructure and Service	CO1	To explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing
	CO2	To discuss system virtualization and outline its role in enabling the cloud computing system model.
	CO3	To analyze various cloud programming models and apply them to solve problems on the cloud.
	CO4	To understand various management and other distinguish services of AWS**.**
	CO5	To deploy applications over commercial cloud computing infrastructures such as Amazon
Network Security and	CO1	Explain the concepts of Cyber security
	CO2	Illustrate key management issues and solutions

Cryptography	CO3	Familiarize with Cryptography and very essential algorithms & Design and develop simple cryptography algorithms
	CO4	Understand about IEE security related applications in networking.
	CO5	Introduce cyber Law and ethics to be followed. Understand cyber security and need cyber Law
Ethical Hacking -II	CO1	Explain the importance of ethical hacking in achieving the goals of information security.
	CO2	Differentiate the processes of vulnerability assessment and ethical hacking from penetration testing.
	CO3	Comprehend the importance of appropriate countermeasures for managing vulnerabilities
	CO4	Justify the need for meticulous documentation in writing reports for consumption of both technical and management audiences
	CO5	Articulate the rationale for having an adequate legal framework for dealing with hacking and ethical hacking
Virtualization and Cloud Security	CO1	To help students relate concepts of information security with Cloud computing
	CO2	To make it possible for students to learn how important principles of Security are implemented in virtualization and Cloud platforms in managing issues and challenges
	CO3	Explain how security is implemented in virtualization and cloud computing
	CO4	articulate the importance of security principles in achieving trust and privacy in Cloud
	CO5	rationalize the need for understanding legal aspects of security and privacy in Cloud computing
Cyber Crime and Digital Investigation	CO1	Analyze the fundamental concepts of cybercrime and Forensics.
	CO2	Distinguish the motive and causes for cybercrime, detection and handling
	CO3	Describe the areas affected by cybercrime and investigation
	CO4	Illustrate tools used in cyber Forensic.
	CO5	Demonstrate their knowledge of report writing and forensic ethics.