KRISHNASAMY
College of
ENGINEERING & TECHNOLOGY
Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
(04142) 285 601 - 604 www.kcet.in info@kcet.in

DEPARTMENT OF CSE

30.11.2022

CIRCULAR

Ref.: KCET/CSE/VAC/CIRCULAR/2022-23/01.

The following Value Added Course will be conducted during the academic year 2022-2023. The course will be conducted from 23.01.2023 to 28.01.2023. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year	No. of Period	Course Coordinator
1	CS-VAC2203	INTEGRATED PROGRAMMING	III & IV	30	Mr.N.Thanigaivel, AP - CSE
2	CS-VAC2204	DATA INFORMATION SECURITY	II	30	Dr.S.Ramesh, AP – CSE Mrs.R.Shenbagavalli,AP - CSE

30/11/22

HOD/CSE

KRISHNASAMY COLLEGE OF ENGG. & TECH ★ CUDDALORE 607 109.

Copy to:

Class Room

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SYLLABUS

Subject Code/ Subject Name: CS-VAC2204 - DATA AND INFORMATION SECURITY

Duration: 30 Hours

OBJECTIVES:

- To understand the basics of Number Theory and Security
- To understand and analyse the principles of different encryption techniques
- To understand the security threats and attacks
- To learn the different applications of information security

MODULE I FUNDAMENTALS OF SECURITY 8

Computer Security Concepts - Threats, Attacks and Assets – Security Functional Requirements – Fundamental Security Design Principles – Attack Surfaces and Attack Trees. Computer Security Strategy.

MODULE II NUMBER THEORY 8

Prime Numbers and Factorization, Modular Arithmetic, GCD and Euclidean Algorithm, Chinese Remainder Theorem, Multiplication Modulo m and the Totient Function, Problems, Fermat and Euler Theorem.

MODULE III SECURITY 7

System Security: Firewall, Viruses, Worms, Ransomeware, Keylogger, Greyware, IDS, DDoS Network Security: SSL – TLs – HTTPS –IP Security; OS Security: Introduction to Operating System Security - System Security Planning - Operating Systems Hardening – Application Security

MODULE IV SECURITY APPLICATIONS 7

IOT security: Introduction- Architectures- Security challenges- Security requirements- Trust, Data confidentiality, and privacy in IOT- Security in future IOT systems; Cloud Security: Security requirements - Security patterns and Architectural elements- Cloud Security Architecture Security Management in the Cloud.

TOTAL:30 PERIODS

COURSE OUTCOMES:

- ✓ Understand the fundamentals of security and its significance.
- ✓ Learn the public key cryptographic standards and authentication scheme
- ✓ Able to apply the security frameworks for real time applications
- ✓ Understand the security threats and attacks in IoT, Cloud.
- ✓ Able to develop appropriate security algorithms understanding the possible threats

TEXT BOOKS:

1. William Stallings, "Cryptography and Network Security Principles and Practice", Fifth Edition, 2011, Pearson Education International
2. William Stallings and Lawrie Brown, "Computer Security Principles and Practice", Third Edition,2015, Pearson Education International

REFERENCES:

1. Tim Mather, Subra Kumaraswamy and Shahed Latif, "Cloud Security and Privacy: An Enterprise Perspective on Risks and Compliance", 2009, Oreilly
2. Mikhail Gloukhovtsev, "IoT Security: Challenges, Solutions & Future Prospects", 2018, Knowledge Sharing Article, Dell Inc.
3. Pradip KumarDas, Hrudaya Kumar Tripathy, Shafiz Affendi Mohd yusuf, Privacy and Security Issues in Big Data, An Analytical View on Business Intelligence. Springer 2021.

C. Reetha
30/11/22
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