

25EINTVAC05	INTRODUCTION TO CYBER SECURITY	L	T	P	C
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COURSE OBJECTIVES

- To understand the basics of network and security
- To explore and analyze Attacker Techniques and Fraud Techniques
- To analyze exploitation techniques

UNIT-I

Network and Security Concepts: Information Assurance Fundamentals- Authentication, Authorization, Nonrepudiation, Confidentiality, Integrity, Availability.

UNIT-II

Attacker Techniques and motivations: How Hackers Cover Their Tracks (Antiforensics), Tunneling Techniques- HTTP, DNS, ICMP, Intermediaries, Steganography and Other Concepts, Detection and Prevention

UNIT-III

Basic Cryptography, Symmetric Encryption, Public KeyEncryption, Firewalls. Microsoft Windows Security Principles: Windows Tokens, Window Messaging, Windows Program Execution.

UNIT-IV

Fraud Techniques and Threat Infrastructure: Phishing, Smishing, Vishing, and Mobile, Malicious Code, Rogue Antivirus, Click Fraud, Botnets, Fast-Flux, Advanced Fast-Flux.

UNIT-V

Exploitation Techniques to Gain a Foothold: Shellcode, Integer Overflow Vulnerabilities, Stack-Based Buffer Overflows, Format StringVulnerabilities, SQL Injection, Malicious PDF Files, Race Conditions.

TEXT BOOK

1. James Graham, Richard Howard, Ryan Olson “CYBER SECURITY ESSENTIALS”, CRCPress, Taylor & Francis Group, 2011.

REFERENCES

1. MarttiLehto, PekkaNeittaanmäki, “Cyber Security: Analytics, Technology and Automation”,
2. Springer-Intelligent Systems, Control and Automation: Science and Engineering-Volume 78, 2015.

WEB REFERENCES

1. <https://www.coursera.org/learn/intro-cyber-security-business>

COURSE OUTCOMES

At the end of this course, the students will be able to:

1. Gain Basic Programming Knowledge for Cyber Security
2. Understand the various attacks in web interface.
3. Understand the level of security in operating systems.
4. Know the concepts of Network Security.
5. Understand and apply the security concepts in data base management systems.

Mapping of Course Outcomes (COs) with Programme Outcomes (POs) and Program Specific Outcomes (PSOs)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	-	-	-	-	-	1	-	-	1
CO2	3	-	-	-	3	-	-	-	-	-	1	-	-	1
CO3	3	-	-	-	-	1	2	-	-	-	1	-	-	1
CO4	3	2	2	3	-	1	2	-	-	-	1	-	-	1
CO5	3	-	-	-	-	1	2	-	-	-	1	-	-	1