



## RCETECCC04 - Cyber Security

### Course outcomes:

- Analyze cyber-attacks, types of cybercrimes, cyber laws and also how to protect themselves and ultimately the entire Internet community from such attacks.
- Interpret and forensically investigate security incidents
- Apply policies and procedures to manage Privacy issues
- Design and develop secure software modules

### Syllabus:

#### UNIT-I

##### Introduction to Cyber Security

Basic Cyber Security Concepts, layers of security, Vulnerability, threat, Harmful acts, Internet Governance – Challenges and Constraints, Computer Criminals, CIA Triad, Assets and Threat, motive of attackers, active attacks, passive attacks, Software attacks, hardware attacks, Cyber Threats-Cyber Warfare, Cyber Crime, Cyber terrorism, Cyber Espionage, etc., Comprehensive Cyber Security Policy.

#### UNIT-II

##### Cyberspace and the Law & Cyber Forensics

Introduction, Cyber Security Regulations, Roles of International Law. The Indian Cyber space, National Cyber Security Policy. Introduction, Historical background of Cyber forensics, Digital Forensics Science, The Need for Computer Forensics, Cyber Forensics and Digital evidence, Forensics Analysis of Email, Digital Forensics Lifecycle, Forensics Investigation, Challenges in Computer Forensics

#### UNIT-III

##### Cybercrime: Mobile and Wireless Devices

Introduction, Proliferation of Mobile and Wireless Devices, Trends in Mobility, Credit card Frauds



in Mobile and Wireless Computing Era, Security Challenges Posed by Mobile Devices, Registry Settings for Mobile Devices, Authentication service Security, Attacks on Mobile/Cell Phones, Organizational security Policies and Measures in Mobile Computing Era, Laptops.

## UNIT- IV

### Cyber Security

Organizational Implications: Introduction, cost of cybercrimes and IPR issues, web threats for organizations, security and privacy implications, social media marketing: security risks and perils for organizations, social computing and the associated challenges for organizations.

## UNIT - V

### Privacy Issues

Basic Data Privacy Concepts: Fundamental Concepts, Data Privacy Attacks, Data linking and profiling, privacy policies and their specifications, privacy policy languages, privacy in different domains- medical, financial, etc Cybercrime: Examples and Mini-Cases Examples: Official Website of Maharashtra Government Hacked, Indian Banks Lose Millions of Rupees, Parliament Attack, Pune City Police Bust Nigerian Racket, e-mail spoofing instances. Mini-Cases: The Indian Case of online Gambling, An Indian Case of Intellectual Property Crime, Financial Frauds in Cyber Domain.

### Reference Text Books:

1. Nina Godbole and SunitBelpure, Cyber Security Understanding Cyber Crimes,Computer Forensics and Legal Perspectives,Wiley
2. B.B.Gupta,D.P.Agrawal,HaoxiangWang,ComputerandCyberSecurity:Principle s, Algorithm, Applications, and Perspectives, CRC Press, ISBN 9780815371335,2018.
3. Cyber Security Essentials, James Graham, Richard Howard and Ryan Otson, CRCPress.
4. Introduction to Cyber Security, Chwan-Hwa(john) Wu,J. David Irwin, CRC Press T&FGroup.