Cyber Security
Cyber Security
[CORE COURSE]

Semester: V	Credits: 3	Subject Code: BC52201	Lectures: 48

Course Outcomes:

At the end of this course ,the learner will be able to,

- State the fundamentals of cyber security
- Identify and describe the various categories of Cybercrime, Cyber-attacks on mobile, tools and techniques used in Cybercrime and case studies
- Discuss the concepts of Cyber laws and Cyber forensics
- Relate Cyber Security and the Tools
- Identify the different types of Cyber Crimes

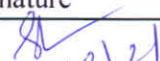| Unit 1: Introduction to Cyber Crime and Cyber Security	7

- Introduction
- Cybercrime: Definition and Origin of the Word
- Cybercrime and Information Security
- Who are Cybercriminals?
- Classifications of Cybercrimes:
  - E-Mail Spoofing, Spamming
  - Cyber defamation, Internet Time Theft
  - Salami Attack/Salami Technique
  - Data Diddling,Forgery
  - Web Jacking
  - Newsgroup
  - Spam/Crimes Emanating from Usenet Newsgroup
  - Industrial Spying/Industrial Espionage
  - Hacking,OnlineFrauds,Computer Sabotage,
  - Email Bombing/Mail Bombs
  - Computer Network Intrusions
  - Password Sniffing
  - Credit Card Frauds
  - Identity Theft
- Definition of Cyber Security
- Vulnerability, Threats and Harmful acts
- CIA Triad
- Cyber Security Policy and Domains of Cyber Security Policy

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Unit 2: Cyber offenses, Cyberstalking and Tools and Methods Used in Cybercrime	15

- Criminals Plan
  - Categories of Cybercrime Cyber Attacks:
  - Reconnaissance
  - Passive Attack
  - Active Attacks
  - Scanning/Scrutinizing gathered Information
  - Attack (Gaining and Maintaining the System Access)
  - Social Engineering
  - Classification of Social Engineering.
- Cyberstalking
  - Types of Stalkers
  - Cases Reported on Cyberstalking
  - Working of Stalking
- Real-Life Incident of Cyber stalking
- Cybercafe and Cybercrimes
- Botnets
  - The Fuel for Cybercrime
  - Botnet
  - Attack Vector
- Cybercrime
  - Mobile and Wireless Devices
  - Proliferation
  - Trends in Mobility
- Credit Card Frauds in Mobile and Wireless Computing Era
- Security Challenges Posed by Mobile Devices
- Authentication Service Security
- Attacks on Mobile/Cell Phones
- Introduction
- Proxy Servers and Anonymizers
- Phishing
- Password Cracking
- Keyloggers and Spywares
- Virus and Worms
- Trojan Horses and Backdoors
- Steganography
- DoS and DDoS Attacks
- SQL Injection

Unit 3: Cybercrimes and Cyber security: The Legal Perspectives and Cyber Forensics	13

- Introduction
- Cybercrime and the Legal Landscape around the World

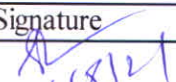| Board Of Studies	Name	Signature
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- Why Do We Need Cyberlaws: The Indian Context
- The Indian IT Act
- Challenges to Indian Law and Cybercrime Scenario in India
- Consequences of not Addressing the Weakness in Information Technology Act
- Digital Signatures and the Indian IT Act
- Amendments to the Indian IT Act
- Cybercrime and Punishment
- Cyberlaw, Technology and Students: Indian Scenario
- 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
- Challenges in Computer Forensics
- Case study

Unit 4: Cybersecurity and Cybercrime	13

- Organizational Implications: Cost of cybercrimes and IPR issues
- Web threats for organizations
- Security and Privacy Implications from Cloud Computing
- Social media marketing
- Social computing and the associated challenges for organizations, Protecting people's privacy in the organization
- Organizational guidelines for Internet usage and safe computing guidelines and computer usage policy
- Incident handling
- Intellectual property in the cyberspace of cyber security.
- Real-Life Examples
- Mini-Cases
- Illustrations of Financial Frauds in Cyber Domain
- Digital Signature-Related Crime Scenarios
- Digital Forensics Case Illustrations
- Online Scams
- Case study on cyber crime

#12 hours for Library work, assignments, practical or field work

Recommended Text Books:

- James Graham Richard Howard Ryan Olson , *Cyber Security Essentials*

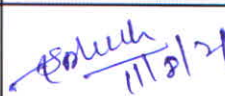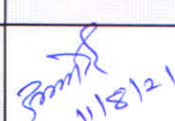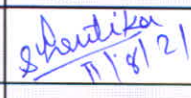| Board Of Studies	Name	Signature
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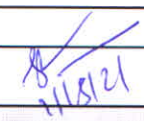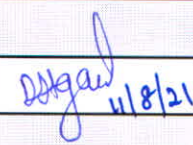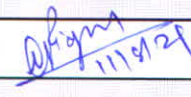
- William Stallings and Lawrie Brown, *Computer Security: Principles and Practice* -, 3rd edition, Pearson, 2015.
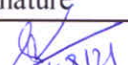
Reference Books:

- Michael E Whitman, Herbert J Mattord, *Principles of Information Security*
- Nina Godbole, Sunit Belapure, *Cyber Security Understanding Cyber Crimes*
- Wiley ,*Computer Forensics and Legal Perspectives* , India Publications Released.

Websites:

- www.w3cschool.com

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VC Nominee	Prof Anjum Patel	11/8/21	
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One Alumni***	Ms. VidhiThakkar		

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