Paper Cade: BCADSC 6.1	Paper title: Cyber Security	Teaching Hours – 5hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT I
Introduction to Cybercrime: Cybercrime definition and origins of the world, Cybercrime and information security, Classifications of cybercrime, Cybercrime and the Indian ITA 2000, A global Perspective on cybercrimes.   **12 Hrs**

UNIT II
Cyber offenses & Cybercrime: How criminal plan the attacks, Social Engg, Cyber stalking, Cybercafé and Cybercrimes, Botnets, Attack vector, Cloud computing, Proliferation of Mobile and Wireless Devices, 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.   **12 Hrs**

UNIT III
Tools and Methods Used in Cyberline: Proxy Servers and Anonymizers, Phishing, Password Cracking, Keyloggers and Spywares, Virus and Worms, Steganography, DoS DDoS Attacks, SQL Injection, Buffer Over Flow, Attacks on Wireless Networks, Phishing, Identity Theft (ID Theft) Cybercrimes and Cybersecurity: The Legal Perspectives Why do we need Cyberlaw: The Indian Context, The Indian IT Act, Amendments to the Indian IT Act, Cybercrime and Punishment.   **12 Hrs**

UNIT IV
Understanding Computer Forensics: Digital Forensics Science, The Need for Computer Forensics, Cyberforensics and Digital Evidence, Forensics Analysis of Email, Digital Forensics Lifecycle, Chain of Custody Concept, Network Forensics, Approaching a Computer Forensics Investigation, Setting of a Computer Forensics Laboratory: Understanding the Requirements, Computer Forensics and Steganography, The Security/Privacy Threats, Forensics Auditing, Anti Forensics.   **12 Hrs**

UNIT V
Cryptography: Mathematical Background for Cryptography - Modulo Arithmetic's, The Greatest Comma Divisor, Useful Algebraic Structures, Chinese Remainder Theorem, Basics of Cryptography - Preliminaries, Elementary Substitution Ciphers, Elementary Transport Ciphers, Other Cipher Properties, Secret Key Cryptography – Product Ciphers, DES Construction.   **12 Hrs**

References:

1. Nina Godbole, SunitBelapure, Cyber Security, Wiley India, New Delhi (UNIT I, II, III, IV)
2. Cryptography, Network Security and Cyber Laws – Bernard Menezes, Cengage Learning, 2010 edition (UNIT V)

Additional Reading:

1. Kennetch J. Knapp, Cyber Security & Global Information Assurance Information Science
2. Publishing. William Stallings, Cryptography and Network Security, Pearson Publication