Subject Code	Subject Name	Credits
26CS608	CYBER SECURITY	4

Course Objectives

1. To understand the basics of Cyber Security
2. To have a look into hackers and cyber crimes
3. To understand hacking and social engineering related concepts
4. To understand the workings of Cyber Forensics and Auditing
5. To know the various Cyber Ethics and Laws.

Learning Outcomes

After the completion of the course, the graduate will be able to

1. To learn Cyber Security and Hacking

Unit 1 - Introduction to Cyber Security (12 Hrs.)

Introduction to Cyber Security, Importance and challenges in Cyber Security, Cyberspace, and Cyber threats, Cyber warfare, CIA Triad, Cyber Terrorism, Cyber Security of Critical Infrastructure, Cyber security - Organizational Implications.

Unit 2 - Hackers and Cyber Crimes (12 Hrs.)

Types of Hackers, Hackers and Crackers, Cyber-Attacks and Vulnerabilities, Malware threats, Sniffing, Gaining Access, Escalating Privileges, Executing Applications, Hiding Files, Covering Tracks, Worms, Trojans, Viruses, Backdoors.

Unit 3 - Ethical Hacking and Social Engineering (12 Hrs.)

Ethical Hacking Concepts and Scopes, Threats and Attack Vectors, Information Assurance, Threat Modelling, Enterprise Information Security Architecture, Vulnerability Assessment and Penetration Testing, Types of Social Engineering, Insider Attack, Preventing Insider Threats, Social Engineering Targets and Defense Strategies

Unit 4 - Cyber Forensics and Auditing (12 Hrs.)

Introduction to Cyber Forensics, Computer Equipment and associated storage media, Role of forensics Investigator, Forensics Investigation Process, and Collecting Network based Evidence, Writing Computer Forensics Reports, and Auditing; Plan an audit against a set of audit criteria, Information Security Management System Management. Introduction to ISO 27001:2013

Unit 5 - Cyber Ethics and Laws (12 Hrs.)

Introduction to Cyber Laws, E-Commerce and E-Governance, Certifying Authority and Controller, Offences under IT Act, Computer Offences and its penalty under IT Act 2000, Intellectual Property Rights in Cyberspace.

References:

1. Donaldson, S., Siegel, S., Williams, C.K., Aslam, A., Enterprise Cybersecurity -How to Build a Successful Cyberdefense Program Against Advanced Threats, A-press
2. Nina Godbole, SumitBelapure, Cyber Security, Willey
3. Hacking the Hacker, Roger Grimes, Wiley
4. Cyber Law By Bare Act, Govt Of india, It Act 2000.