Cyber Security Professional Basic course

Course Objective

The learner will gain knowledge about security both clean and corrupted systems, protect personal data, and secure computer networks and develop an understanding of security policies (such as confidentiality, integrity and availability).

Course Outline

Unit 1 - Introduction to Cyber Security

- Cyberspace
- Cyber Security
- Password
- Common Passwords
- Endpoint Security
- Creating a Password
- Table 1: Tips for Password Management

Unit 2 - Calculations - Computation – Communication

- Calculations
- Computing
- Communications
  - Internet
  - Ethernet
  - Email
  - Modem/ Router
  - World Wide Web
  - Internet and www

Unit 3 - Essentials of Cyber Security; Security Concept

- Cyber Security and Information Security
- Fundamentals of Information Assurance
  - Authentication.
  - Authorization.
  - Non repudiation.
- Concept of CIA Triad
  - Confidentiality

- Integrity
- Availability

Unit 4 -   Functioning of Internet and Network Layers
- Internet Protocol Address
- Domain Name System
  - Structure of DNS
- Layered Architecture of Networks
- Actions on the Internet after Clicking a Link

Unit 5 - Basic Threats and Vulnerabilities Part -I
- Threats through Emails
  - Spam
  - Social Engineering
  - Phishing email
  - Spear phishing
  - Whaling
  - Baiting
  - Pretexting
  - Email Spoofing
- Malicious Codes or Malware Threats
- Threat Classification

Unit 6 - Basic Threats and Vulnerabilities Part -II
- Virus
- Virus Grouping
  - Resident and Nonresident Virus
  - File Infector Virus
  - Overwriting Virus
  - Boot Sector Virus.
  - Master Boot Record Virus
  - Multipartite Virus
  - Cluster Virus.
  - Polymorphic virus.
  - Rootkit virus.
  - Macro Virus.
  - Web Scripting Virus

      ○ Notable Examples of Virus

Unit 7 - Basic Threats and Vulnerabilities Part - III
- Worms
- Classification of Worms
    - Email worms.
    - Internet worms.
    - File-sharing Networks Worms.
    - Instant Message and Chat Room Worms
- Trojan
- Table 2: How do you find out when your system is infected? Symptoms
- Table 3: Defence Against Computer Infection

Unit 8 – Additional Threats and Vulnerabilities
- Spyware
- Types of Spyware
    - Domestic Spyware
    - Commercial Spyware
- Botnets

Unit 9 - Exploitation: Threats and Vulnerabilities
- SQL Injections
- Buffer Overflow
- Cross Site Scripting

Unit 10 - New Trends in Cyber Threats and Attacks
- Actors on the Scene.
- Possible Targets.
- Advanced Persistent Threat.
    - Phases of Advanced Persistent Threat Attack.
    - Mitigation of APT attacks
- Blended Threats.
- DoS (Denial of Service) Attack.
- Ransomware.
- Insider Threats and Attacks