



(A Venture of Chandigarh ETC Services Pvt. Ltd.)

An ISO 9001:2015 Certified Organisation with Completely Online Management System

Website : www.citcchandigarh.com

Course Syllabus: Advance Cyber Security Course

Batch Name: ACSC

Eligibility: 10th

Course Start: 1st of Every Month

Course Duration: 180 Hours

Courses / Modules Paper

Module

Paper 1	Paper 2
Networking concepts, Information Security Concepts	System Security, Security Threats, Cryptography

Paper 1:

Networking, Information Security Concepts

1: Introduction to Cyber Security

- 1.1 Introduction
- 1.2 History of Internet
- 1.3 DNS
- 1.4 Internet Infrastructure and www
- 1.5 Introduction to Cyber Crime
 - Classification of Cyber Crime
 - Reasons for Commission of Cyber Crime
- 1.6 Malware and its Types
- 1.7 Kinds of Cyber Crime

2: Cyber Security Techniques

- 2.1 authentication
- 2.2 Encryption
- 2.3 Digital Signatures
- 2.4 Antii Viruses
- 2.5 Firewall
- 2.6 Steganography

3: Investigating Cyber Crimes

- 3.1 Computer Forensics
- 3.2 InHouse Process
 - Preparation
 - Identification
 - Containment
 - Eradication
 - Recovery
- 3.3 Why Report Cyber Crime

4: Cyber Security Attacks

- 4.1 Introduction
- 4.2 Cyber Security Attacks

5: Cyber Security Initiative in India

- 5.1 Introduction
- 5.2 Counter CS Initiative in India
 - NCTC
 - NISAP
 - CERT-In
 - IUSCSF
 - NCIPC
 - CCTNS
 - NCCC
 - Botnet Cleaning Center
 - E-mail Policy of GOI
 - MHA
 - NCRB
 - DSCI

6: Guidelines For Secure Password Two Step Verification & Free Anti-Viruses

- 6.1 Generating Secured Password
- 6.2 Using Password Manager
- 6.3 Enabling Two Step Verification
- 6.4 Securing Computers Using Free Anti-Virus
 - Avast Anti-Virus
 - AVG Anti-Virus
 - Avira AntiVir
 - Personal
 - Bit Defender
 - Blink Personal
 - CalmWil Anti-Virus
 - Comodo Anti-Virus
 - Non-Secure Anti-Virus
 - Threat Fire Lite

7: Configure Firewall in Computer

- 7.1 Configuring Firewall on MAC Computer
 - Turn on and Configure MAC OS X Firewall
- 7.2 Working With Windows Firewall in Window7
 - Firewall in Window7
 - Configuring Windows Firewall
 - Exceptions
 - Network Locations
 - Firewall Customization
 - Firewall Service
- 7.3 Start and Use Windows Firewall with Advance Security

8: Choosing Best Browser to Suit Your Requirements

- 8.1 Finding the Best Browser according Requirements

9: Guideline for Safe Internet Browsing

- 9.1 Safe Browsing
- 9.2 Tips for Buying Online
- 9.3 Clearing Cache For Browsers
 - Chrome Browser Above Version 10
 - Chrome Version One to Nine
 - Clearing Cache for Safari, IOS, Iphone
 - Clearing Cache for Safari for Mac OS
 - Clearing Cache for Safari for Windows
 - Clearing Cache for IE 9,10 & 11
 - Clearing Cache for Firefox
 - Clearing Cache for Opera
 - Clearing Cache for Cleaner

10: Wireless Security

- 10.1 wireless LAN
- 10.2 Major Issues with WLAN
 - Secure WLAN
 - Wi-Fi at Home

11: Email and Social Media Security

- 11.1 Safe Browsing Guidelines for Social Networking Sites
 - General Tips on Platform Safely
 - Posting Personal Details
 - Friends, Followers and Contacts
 - Status Update
 - Sharing Online Content
 - Revealing Your Location
 - Sharing Videos and Photos
 - Instant Chats
 - Joining and Creating Groups, Events & Communities
 - Email Security Tips

Paper 2:

System Security, Security Threats, Cryptography

System Security, System Threats

1: Security Security

- 1.1 Introduction
- 1.2 Main two violations
- 1.3 Security System Goals
- 1.4 Types of Program Threats
- 1.5 Types of System Threats
- 1.6 Security Measure Taken

2: OS Security

- 2.1 Introduction
- 2.2 Authentication
- 2.3 One Time Passwords
- 2.4 Program Threats
- 2.5 System Threats
- 2.5 Computer Security Classifications
- 2.6 Integrity Checks
- 2.7 Antivirus software
- 2.8 Design of secure OS

Cryptography

1: Introduction to Cryptography

- 1.1 Introduction
- 1.2 Origin of Cryptography
- 1.3 Modern Cryptography
- 1.4 Attacks on Cryptography

2: Symmetric Key Cryptography

- 2.1 Introduction
- 2.2 How does it works?
- 2.3 Symmetric vs. Asymmetric Encryption
- 2.4 How to use in modern computer system
- 2.5 Advantages and Disadvantages

3: Asymmetric Cryptography

- 3.1 Introduction
- 3.2 How it Works?
- 3.3 Examples of asymmetric cryptography
- 3.4 Use of asymmetric cryptography
- 3.5 Advantages and Disadvantages

4: Message Authentication & Hash Functions

- 4.1 Introduction
- 4.2 Message Authentication Code (MAC)
- 4.3 Limitations of MAC

5: Digital Signature

- 5.1 Introduction
- 5.2 Model of Digital Signature
- 5.3 Importance of Digital Signature
- 5.4 Encryption with Digital Signature

6: Public Key Infrastructure

- 6.1 Introduction
- 5.2 Key Management
- 5.3 Public Key Infrastructure
- 5.4 Digital Certificate
- 5.5 Certifying Authority
 - Key Function of CA
 - Classes of Certificates
 - Registration Authority
 - Certificate Management System
 - Private Key Tokens
- 5.6 Hierarchy of CA



7: Diffe-Hellman key exchange

- 7.1 Introduction
- 7.2 How to use.