



**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING**  
(A Scientific Society of Ministry of Electronics and Information Technology, Govt. of India)  
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## **DIPLOMA IN NETWORKING & SYSTEM SECURITY**

**Duration: 23 weeks**

**Course Fee: Rs.40000/-, payable in two equal instalments**

### **Course Contents Outline:**

- **Computer Fundamentals and Computer Networks**
  - Overview of PC architecture
  - Different bus standards (ISA, PCI, PCMCIA)
  - Different Add-on Cards like memory, Graphics etc.
  - Overview of RAID
  - Operating system architecture
  - Process Management
  - Memory Management
  - File system Management
  - Introduction to Networking OS
  - Basics of Communication Systems, Issues in Computer Networking
  - Transmission Media
  - OSI ,TCP/IP Models
  - Local Area Networks
  - Wide Area Networks
  - Networking Protocols
  - IP addressing & Routing
  - Understanding & recognizing TCP, IP, UDP, ICMP, Ethernet Packets
  - Internetworking Devices (Hub, Switch, Router etc.)
  - Wireless Networks
- **System Administration**
  - Windows Operating System
    - Introduction to Windows Operating System
    - Introduction to the Administrative Tasks and Tools
    - Installation and Configuration of the Windows Operating System
    - Implementing and Managing the Windows Network Infrastructure
    - Disk and File System Management
    - Planning, Implementing, and Maintaining a Active Directory Infrastructure
    - Configuring the IIS Web Server, Mail Server
    - Performance Tuning
    - Troubleshooting and Maintenance
  - Linux Operating System
    - Systems concepts
    - Boot Processes on Linux and Solaris
    - Installation techniques for different distributions of GNU/Linux
    - Initialization and Shutdown concepts
    - Linux user administration
    - Configurations of APACHE, SAMBA, NFS, DNS
    - FTP services and NIS Configuration
    - File Systems, Disk Management, print services
    - X server configuration
    - Performance Tuning
    - Troubleshooting and Maintenance

- **Information Security Concepts**
  - Background, Importance Statistics
  - National & International Scenario
  - Security Threats, Vulnerabilities and Countermeasures
  - Goals of Security - Prevention, Detection and Recovery
  - Cryptography: Types of Encryptions, PKI, and Certificate Authority, etc
  - Identification and Authentication
  - Network Security Protocols: SSL, IPSEC, Kerberos, etc
  - Security Tools
  - Wireless Security
  - Disaster Management
  - Information Security Laws

#### Securing the Systems

- Design of Secure Operating System, Trusted Operating Systems
- Operating System Hardening
- Operating system controls
- Internet Protocols and Security
- Application Security WWW security - SHTTP, SMIME, PGP, SET, eMail and IM security
- Access Control - Physical and Logical Biometrics introduction
- Internet security protocols
- Managing Personal Firewall and Antivirus
- Remote Access Security
- Secure Configuration of Applications
- **Network Perimeter Security**
  - Understanding Network Security Perimeter
  - Secured Router Configuration
  - Designing, Implementing and Managing the Firewall
  - Virtual Private Network
  - Intrusion Detection System
  - Vulnerability Assessment
  - Penetration Testing
  - Intrusion Prevention System
  - Network Address Translation
- **Security Standards, Auditing and Best Practice**
  - Security Policies and Procedures
  - DRP/BCP - Business impact analysis, Risk assessment Methodologies, Risk Classification
  - Asset classification, Information Classification Organization level strategy, Process level Strategy
  - Resource recovery strategy, Crisis management plan-Incident mgmt, communications, PR and media Policy, framework, audits, benchmarks, compliance
  - Best Practices Guidance on Data Protection for System Designers
  - Security Testing and Evaluation Criteria
  - International Standards
  - Logging and Analysis
  - Data Backs and recovery
  - Operating System and Application Specifics Auditing
  - Performing a Risk Analysis & Recovery
  - Developing a Security Policy
- **Industry Relevant Project**

**HOW TO APPLY:** For Admission, submit your College reference/training letter, admission form (download from [www.cdac.in](http://www.cdac.in)) along with fee of Rs.20000/- (1<sup>st</sup> Installment) at CDAC, A-34, Phase 8, Industrial Area, Mohali – 160059. Fee can be paid in cash/debit card or through Demand Draft in favor of “Director CDAC”, payable at Mohali.

#### **NOTE:**

- Seats are limited and admission is on first come first serve basis
- 75% attendance is must for award of certificate