

# CTS NPN Cybersecurity Drive - Revision Cheatsheet

## Cybersecurity Basics

CIA Triad:

- Confidentiality: Prevent unauthorized access.
- Integrity: Ensure data is not tampered.
- Availability: Ensure system access when needed.

Key Concepts:

- Authentication: Proving identity (e.g., login).
- Authorization: Access control.
- Hashing: One-way encryption (e.g., SHA-256).
- Encryption: Symmetric (same key) & Asymmetric (public/private keys).
- VPN: Hides IP and encrypts traffic.
- Firewall: Filters traffic using rules.
- IDS/IPS: Detects/prevents suspicious activity.

## Cyber Attack Types

- Phishing: Fake emails/sites for stealing data.
- SQL Injection: Injecting SQL into input fields.
- XSS: Injecting malicious scripts in websites.
- DoS/DDoS: Flooding systems to deny access.
- MITM: Intercepts data between two parties.
- Ransomware: Locks data and demands payment.
- Zero-Day: Exploits unknown vulnerabilities.

## Networking & Ports

Common Ports:

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- HTTP: 80, HTTPS: 443, FTP: 21, SSH: 22, DNS: 53, SMTP: 25, POP3: 110, IMAP: 143

## Key Concepts:

- IP Address: Network identifier.
- MAC Address: Hardware identifier.
- TCP vs UDP: TCP is reliable, UDP is faster.
- NAT: Converts private IPs to public.
- Subnetting: Divides networks into parts.

## Essential Tools

- Wireshark: Packet analyzer.
- Nmap: Port scanner.
- Burp Suite: Web vulnerability testing.
- Metasploit: Exploitation tool.
- John the Ripper: Password cracker.

## Linux Commands

- ls, cd: Navigate files and directories.
- chmod, chown: Change permissions/ownership.
- ps, kill: Manage processes.
- netstat -tuln: Show open ports.
- tcpdump: Packet capture tool.
- iptables: Configure firewall rules.

## Aptitude Topics

- Number Series, Directions, Blood Relations

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- Time & Work, Profit & Loss, Probability
- Logical Puzzles, Simple Equations

## Sample Interview Questions

1. Explain CIA Triad with examples.
2. Difference between hashing and encryption?
3. How to secure a login system?
4. Tools used in penetration testing?
5. How does VPN provide anonymity?
6. IDS vs IPS - Explain.