Information Rate (CIR) Minimum guaranteed bandwidth provided by service provider.

Physical Layer
- Frameset
- Timing and control
- Check integrity of packets
- May not use local IP addresses (e.g., T1, T3)

Network Layer
- Routing (Layer 3)
- Link layer
- Subnet Mask
- Addressing
- IP addresses
- Subnetting
- Default gateway

Transport Layer
- Segment - Connection
- TCP
- UDP

Session Layer
- Connection-oriented/Connectionless services

Presentation Layer
- Digital to analog
- Encryption
- Compression

Application Layer
- Simple to setup
- Simple to use
- Popular
- Difficult to troubleshoot

TNB and ENAC
- Detection
- Layer 2 Tunneling Protocol (L2TP)
- Same as PPTP except more secure

VPN Encryption options
- Point-to-Point Tunneling Protocol (PPTP)
- PPTP for authentication
- SLP for client authentication
- IKE (Internet Key Exchange)

WAN Transmission Types
- Circuit-switched communication
- Packet-switched communication

Wireless Networking
- Wi-Fi networking
- Wireless protocol
- Wireless standard
- Wireless protocol

Wireless Security Protocols
- Wired Equivalent Privacy
- Wi-Fi Protected Access
- Wi-Fi Protected Access 2 (WPA2)

Wireless Security Policies
- WPA (Wi-Fi Protected Access)
- WPA2 (Wi-Fi Protected Access 2)
- WPA3 (Wi-Fi Protected Access 3)

Firewall Generation Evolution
- First Generation
- Second Generation
- Third Generation
- Fourth Generation
- Fifth Generation

Firewall Installation
- Packet Filter
- Stateful Inspection
- Application Layer Firewall
- Network Address Translation (NAT)

Network Address Translation
- NAT
- Network Address Translation (NAT)
- Port Address Translation (PAT)
- Network Address Translation (NAT)

TCP/UDP Port Numbers
- TCP
- UDP

Layer 7 Application Protocols
- HTTP
- HTTPS
- FTP
- SSH
- Telnet
- SMTP
- POP3
- IMAP
- DNS
- TFTP

TCP/IP Model
- Network Layer
- Transport Layer
- Session Layer
- Presentation Layer
- Application Layer

Common TCP Protocols
- IP Addresses
- Port Numbers
- Service Identifiers

OSI Reference Model
- Layer 7 (Application)
- Layer 6 (Presentation)
- Layer 5 (Session)
- Layer 4 (Transport)
- Layer 3 (Network)
- Layer 2 (Data Link)
- Layer 1 (Physical)

Network Security
- Security
- Encryption
- Authentication
- Access Control

Firewalls
- Packet Filter
- Stateful Inspection
- Application Layer Firewall
- Network Address Translation (NAT)

IP Addresses
- Class A
- Class B
- Class C
- Class D
- Class E

Remote Services
- Terminal Access
- Remote Access Server
- Remote Access Authentication

Wireless Security
- WEP
- WPA
- WPA2

Wireless Security Standards
- 802.11a
- 802.11b
- 802.11g
- 802.11n

LAN/WAN Media
- Coaxial cabling
- Ethernet cabling
- Fiber cabling

LAN/WAN Media
- Coaxial Cabling
- Ethernet Cabling
- Fiber Optic Cabling

Secure Network Design - Components
- Network Port Protocols
- Internal IP Addresses
- External IP Addresses
- Domain Name System (DNS)


CISSP Cheat Sheet Series (continued)