

ΣΧΟΛΙΚΗ ΧΡΟΝΙΑ 2023-2024

ΕΞΕΤΑΣΤΕΑ ΥΛΗ

ΓΙΑ ΤΙΣ

ΕΝΙΑΙΕΣ ΤΕΛΙΚΕΣ ΠΡΟΑΓΩΓΙΚΕΣ ΓΡΑΠΤΕΣ ΕΞΕΤΑΣΕΙΣ

ΣΤΟ ΜΑΘΗΜΑ

ΔΙΚΤΥΑ (ΑΚΑΔΗΜΙΑ CISCO) Β' ΛΥΚΕΙΟΥ

---

**ΔΕΙΚΤΕΣ – ΕΝΟΤΗΤΕΣ**

---

**1- Networking Today**

Networks Affect our Lives; Network Components; ~~Network Representations and Topologies~~; Common Types of Networks; Internet Connections; ~~Reliable Networks~~; Network Trends; ~~Network Security~~; ~~The IT Professional~~.

**2 - Basic Switch and End Device Configuration**

Cisco IOS Access; IOS Navigation; The Command Structure; Basic Device Configuration; Save Configurations; Ports and Addresses; Configure IP Addressing; Verify Connectivity.

**3 - Protocols and Models**

~~The Rules~~; ~~Protocols~~; Protocol Suites; ~~Standards Organizations~~; Reference Models; Data Encapsulation; Data Access.

**4 - Physical Layer**

Purpose of the Physical Layer; Physical Layer Characteristics; Copper Cabling; UTP Cabling; ~~Fiber-Optic Cabling~~; ~~Wireless Media~~.

**5 - Number Systems**

Binary Number System; Hexadecimal Number System.

**6 - Data Link Layer**

Purpose of the Data Link Layer; Topologies; ~~Data Link Frame~~.

**7 - Ethernet Switching**

Ethernet Frames; Ethernet MAC Address; The MAC Address Table; Switch Speeds and Forwarding Methods.

**8 - Network Layer**

~~Network Layer Characteristics~~; IPv4 Packet; ~~IPv6 Packet~~; How a Host Routes; ~~Introduction to Routing~~.

**~~9 - Address Resolution~~**

~~MAC and IP~~; ~~ARP~~; ~~IPv6 Neighbor Discovery~~.

**10 - Basic Router Configuration**

Configure Initial Router Settings; Configure Interfaces; Configure the Default Gateway.

**11 - IPv4 Addressing**

IPv4 Address Structure; IPv4 Unicast, Broadcast, and Multicast; Types of IPv4 Addresses; Network Segmentation; Subnet an IPv4 Network; Subnet a Slash 16 and a Slash 8 Prefix; Subnet to Meet Requirements; ~~VLSM~~; ~~Structured Design~~.

**12 - IPv6 Addressing**

IPv4 Issues; Address Representation; ~~IPv6 Address Types~~; ~~GUA and LLA Static Configuration~~; ~~Dynamic Addressing for IPv6 GUAs~~; ~~Dynamic Addressing for IPv6 LLAs~~; IPv6 Multicast Addresses; Subnet an IPv6 Network.

**~~13 - ICMP~~**

~~ICMP Messages~~; ~~Ping and Traceroute Tests~~.

#### **14 - Transport Layer**

Transportation of Data; TCP Overview; UDP Overview; ~~Port Numbers; TCP Communication Process; Reliability and Flow Control; UDP Communication.~~

#### **15 - Application Layer**

~~Application, Presentation, and Session;~~ Peer-to-Peer; Web and Email Protocols; IP Addressing Services; File Sharing Services.

#### **16 - Network Security Fundamentals**

Security Threats and Vulnerabilities; Network Attacks; ~~Network Attack Mitigations;~~ Device Security.

#### **17 - Build a Small Network**

~~Devices in a Small Network; Small Network Applications and Protocols; Scale to Larger Networks; Verify Connectivity; Host and IOS Commands; Troubleshooting Methodologies; Troubleshooting Scenarios.~~