IT Networking 300 Questions with Answers – By Durgesh StudyHub

- **Which device is used to connect multiple networks together?**
a) Hub
b) Switch
c) Router
d) Bridge
☑ **Answer:** c) Router

- **Which layer of the OSI model deals with routing?**
a) Data Link Layer
b) Network Layer
c) Transport Layer
d) Session Layer
☑ **Answer:** b) Network Layer

- **What does IP stand for?**
a) Internet Provider
b) Internet Protocol
c) Internal Program
d) Internet Process
☑ **Answer:** b) Internet Protocol

- **Which protocol is used to send email?**
a) FTP
b) SMTP
c) SNMP
d) HTTP
☑ **Answer:** b) SMTP

- **Which protocol is used to transfer files?**
a) FTP
b) DNS
c) HTTP
d) IMAP
☑ **Answer:** a) FTP

- **Which device works on the Data Link layer?**
a) Switch
b) Router
c) Gateway
d) Repeater
☑ **Answer:** a) Switch

- **What is the default port number of HTTP?**
a) 20
b) 21
c) 25
d) 80
☑ **Answer:** d) 80

- **Which protocol converts domain names to IP addresses?**
a) DHCP
b) DNS
c) SMTP
d) SNMP
☑ **Answer:** b) DNS

- **Which IP address class provides the most host addresses?**
a) Class A
b) Class B
c) Class C
d) Class D
☑ **Answer:** a) Class A

- **Which topology has a central hub?**
a) Mesh
b) Star
c) Bus
d) Ring
☑ **Answer:** b) Star

- **Which device amplifies the signal in a network?**
a) Switch
b) Router
c) Repeater
d) Bridge
☑ **Answer:** c) Repeater

- **Which IP version uses 128-bit addresses?**
a) IPv4
b) IPv5
c) IPv6
d) IPv3
☑ **Answer:** c) IPv6

- **What is the main function of ARP?**
a) To resolve MAC address
b) To resolve IP address
c) To establish connections
d) To route packets
☑ **Answer:** a) To resolve MAC address

- **What is the function of DHCP?**
a) Assigns IP addresses automatically
b) Transmits emails
c) Encrypts data
d) Manages routing
☑ **Answer:** a) Assigns IP addresses automatically

- **Which of the following is a private IP address?**
a) 8.8.8.8
b) 192.168.0.1
c) 172.32.5.4
d) 11.0.0.1
☑ **Answer:** b) 192.168.0.1

- **Which layer ensures reliable delivery of data?**
a) Application
b) Transport
c) Network
d) Physical
☑ **Answer:** b) Transport

- **Which of these is a connectionless protocol?**
a) TCP
b) UDP
c) FTP
d) SMTP
☑ **Answer:** b) UDP

- **Which layer of OSI is responsible for encryption?**
a) Network
b) Session
c) Presentation
d) Application
☑ **Answer:** c) Presentation

- **Which network topology has all nodes connected to every other node?**
a) Star
b) Mesh
c) Bus
d) Ring
☑ **Answer:** b) Mesh

- **Which protocol is used for secure web browsing?**
a) HTTP
b) HTTPS
c) FTP
d) TELNET
☑ **Answer:** b) HTTPS

- **Which device operates on all seven layers of the OSI model?**

a) Hub

b) Router

c) Gateway

d) Switch

☑ **Answer:** c) Gateway

- **Which topology uses a single backbone cable?**

a) Star

b) Bus

c) Ring

d) Mesh

☑ **Answer:** b) Bus

- **Which network type covers the smallest geographical area?**

a) WAN

b) MAN

c) LAN

d) PAN

☑ **Answer:** d) PAN

- **Which of the following is a Layer 3 device?**

a) Switch

b) Bridge

c) Router

d) Hub

☑ **Answer:** c) Router

- **What does MAC stand for?**

a) Media Access Control

b) Machine Access Code

c) Media Authentication Control

d) Main Access Channel

☑ **Answer:** a) Media Access Control

- **Which protocol is used for remote login?**

a) HTTP

b) FTP

c) TELNET

d) SMTP

☑ **Answer:** c) TELNET

- **Which protocol replaces TELNET for secure login?**

a) SSH

b) SNMP

c) POP3

d) SFTP

☑ **Answer:** a) SSH

- **Which protocol is used by web browsers to fetch data?**
a) SMTP
b) HTTP
c) FTP
d) SNMP
☑ **Answer:** b) HTTP

- **Which layer is responsible for physical addressing?**
a) Network
b) Data Link
c) Transport
d) Application
☑ **Answer:** b) Data Link

- **What is the range of Class B IP addresses?**
a) 1.0.0.0 – 126.255.255.255
b) 128.0.0.0 – 191.255.255.255
c) 192.0.0.0 – 223.255.255.255
d) 224.0.0.0 – 239.255.255.255
☑ **Answer:** b) 128.0.0.0 – 191.255.255.255

- **Which protocol is used for error reporting in IP?**
a) ICMP
b) ARP
c) DNS
d) DHCP
☑ **Answer:** a) ICMP

- **Which of the following is a wireless security protocol?**
a) WEP
b) TCP
c) FTP
d) IP
☑ **Answer:** a) WEP

- **Which command is used to test network connectivity?**
a) ipconfig
b) ping
c) nslookup
d) traceroute
☑ **Answer:** b) ping

- **Which protocol is used to retrieve email messages?**
a) SMTP
b) POP3
c) FTP
d) SNMP
☑ **Answer:** b) POP3

- **What is the default subnet mask for Class C?**
a) 255.0.0.0
b) 255.255.0.0
c) 255.255.255.0
d) 255.255.255.255
☑ **Answer:** c) 255.255.255.0

- **Which device breaks collision domains?**
a) Hub
b) Repeater
c) Switch
d) Bridge
☑ **Answer:** c) Switch

- **Which command shows IP configuration in Windows?**
a) ipconfig
b) netstat
c) route
d) ifconfig
☑ **Answer:** a) ipconfig

- **Which of the following is NOT an application layer protocol?**
a) FTP
b) HTTP
c) TCP
d) SMTP
☑ **Answer:** c) TCP

- **What is the main purpose of subnetting?**
a) Increase collisions
b) Divide networks for better management
c) Reduce bandwidth
d) Increase latency
☑ **Answer:** b) Divide networks for better management

- **Which protocol is used to automatically assign IP addresses?**
a) DNS
b) DHCP
c) ARP
d) ICMP
☑ **Answer:** b) DHCP

- **Which device connects different LANs using IP addresses?**
a) Switch
b) Router
c) Bridge
d) Hub
☑ **Answer:** b) Router

- **Which layer of the OSI model adds headers and trailers to data?**
a) Transport Layer
b) Data Link Layer
c) Network Layer
d) Application Layer
☑ **Answer:** b) Data Link Layer

- **Which of the following is a WAN technology?**
a) Ethernet
b) Token Ring
c) Frame Relay
d) Wi-Fi
☑ **Answer:** c) Frame Relay

- **What is the function of a firewall?**
a) Encrypt data
b) Block unauthorized access
c) Speed up the network
d) Store data packets
☑ **Answer:** b) Block unauthorized access

- **Which of these is a connection-oriented protocol?**
a) UDP
b) TCP
c) ICMP
d) IP
☑ **Answer:** b) TCP

- **Which device works at the Physical layer?**
a) Repeater
b) Switch
c) Router
d) Gateway
☑ **Answer:** a) Repeater

- **What is the purpose of a proxy server?**
a) To store web pages
b) To control access and cache web content
c) To transmit emails
d) To assign IP addresses
☑ **Answer:** b) To control access and cache web content

- **Which protocol provides terminal emulation over TCP/IP?**
a) SMTP
b) TELNET
c) FTP
d) SNMP
☑ **Answer:** b) TELNET

- **Which of the following is NOT a network topology?**
a) Mesh
b) Bus
c) Star
d) Cloud
☑ **Answer:** d) Cloud

- **Which layer is responsible for establishing connections?**
a) Session Layer
b) Network Layer
c) Transport Layer
d) Presentation Layer
☑ **Answer:** a) Session Layer

- **What does SNMP stand for?**
a) Simple Network Management Protocol
b) Secure Network Messaging Protocol
c) Simple Node Management Program
d) System Network Management Protocol
☑ **Answer:** a) Simple Network Management Protocol

- **Which of the following is an example of a hybrid topology?**
a) Ring
b) Star-Bus
c) Bus
d) Mesh
☑ **Answer:** b) Star-Bus

- **Which command is used to display routing tables?**
a) route print
b) ipconfig
c) ping
d) tracert
☑ **Answer:** a) route print

- **What is the maximum length of a CAT6 Ethernet cable?**
a) 50 meters
b) 75 meters
c) 100 meters
d) 150 meters
☑ **Answer:** c) 100 meters

- **Which IP class is used for multicast addresses?**
a) Class A
b) Class B
c) Class C
d) Class D
☑ **Answer:** d) Class D

- **Which protocol does HTTPS use for encryption?**
a) SSL/TLS
b) SSH
c) IPSec
d) DES
☑ **Answer:** a) SSL/TLS

- **Which type of IP address is used to identify a network interface on a local link only?**
a) Public IP
b) Private IP
c) Loopback IP
d) Link-local IP
☑ **Answer:** d) Link-local IP

- **Which layer of OSI model handles packet sequencing?**
a) Network
b) Data Link
c) Transport
d) Session
☑ **Answer:** c) Transport

- **What is the default port number of FTP?**
a) 20 and 21
b) 22
c) 23
d) 25
☑ **Answer:** a) 20 and 21

- **Which of the following tools can analyze network traffic?**
a) Wireshark
b) Paint
c) Excel
d) PowerPoint
☑ **Answer:** a) Wireshark

- **Which device divides a large network into smaller segments?**
a) Switch
b) Router
c) Bridge
d) Repeater
☑ **Answer:** c) Bridge

- **Which port is used by HTTPS?**
a) 80
b) 23
c) 443
d) 21
☑ **Answer:** c) 443

- **Which of the following is not a wireless technology?**
a) Wi-Fi
b) Bluetooth
c) Ethernet
d) Infrared
☑ **Answer:** c) Ethernet

- **What does LAN stand for?**
a) Local Access Network
b) Local Area Network
c) Linked Area Network
d) Line Area Network
☑ **Answer:** b) Local Area Network

- **Which device uses IP addresses to make forwarding decisions?**
a) Router
b) Bridge
c) Switch
d) Hub
☑ **Answer:** a) Router

- **Which of the following protocols is used to securely transfer files?**
a) FTP
b) SFTP
c) TFTP
d) SMTP
☑ **Answer:** b) SFTP

- **Which of these is a Layer 2 addressing scheme?**
a) IP address
b) MAC address
c) Port number
d) URL
☑ **Answer:** b) MAC address

- **Which protocol helps to synchronize time between computers?**
a) NTP
b) SNMP
c) ICMP
d) ARP
☑ **Answer:** a) NTP

- **Which type of network connects computers within a building?**
a) WAN
b) MAN
c) LAN
d) SAN
☑ **Answer:** c) LAN

- **Which IP address is used for loopback testing?**
a) 0.0.0.0
b) 127.0.0.1
c) 192.168.1.1
d) 255.255.255.0
☑ **Answer:** b) 127.0.0.1

- **Which cable type is most common for Ethernet networks?**
a) Coaxial
b) Twisted Pair
c) Fiber Optic
d) Serial
☑ **Answer:** b) Twisted Pair

- **Which of the following is an advantage of fiber optic cables?**
a) Low cost
b) High bandwidth and low signal loss
c) Easy to install
d) Uses electrical signals
☑ **Answer:** b) High bandwidth and low signal loss

- **Which device connects a computer to a network?**
a) NIC
b) Switch
c) Router
d) Hub
☑ **Answer:** a) NIC

- **Which command is used to check the path taken by packets?**
a) ping
b) tracert
c) ipconfig
d) route
☑ **Answer:** b) tracert

- **Which OSI layer handles compression and encryption?**
a) Presentation
b) Network
c) Transport
d) Data Link
☑ **Answer:** a) Presentation

- **What does VPN stand for?**
a) Virtual Private Network
b) Virtual Personal Node
c) Verified Public Network
d) Virtual Protocol Network
☑ **Answer:** a) Virtual Private Network

- **Which of the following is a protocol used for network monitoring?**
a) SNMP
b) FTP
c) POP3
d) DHCP
☑ **Answer:** a) SNMP

- **Which layer in OSI model converts packets into frames?**
a) Transport
b) Data Link
c) Network
d) Application
☑ **Answer:** b) Data Link

- **Which of the following is a characteristic of UDP?**
a) Reliable
b) Connectionless
c) Error correction
d) Ordered delivery
☑ **Answer:** b) Connectionless

- **What is the main advantage of a star topology?**
a) Easy to troubleshoot
b) High cost
c) Difficult cabling
d) Network stops if one node fails
☑ **Answer:** a) Easy to troubleshoot

- **Which command shows all active connections on a computer?**
a) ipconfig
b) netstat
c) tracert
d) nslookup
☑ **Answer:** b) netstat

- **Which of these topologies has a token passing method?**
a) Star
b) Ring
c) Bus
d) Mesh
☑ **Answer:** b) Ring

- **Which protocol is used to fetch emails from a mail server?**
a) SMTP
b) POP3
c) FTP
d) HTTP
☑ **Answer:** b) POP3

- **Which IP address class is used for experimental purposes?**
a) Class A
b) Class B
c) Class D
d) Class E
☑ **Answer:** d) Class E

- **Which of the following uses light signals to transmit data?**
a) Coaxial Cable
b) Twisted Pair
c) Fiber Optic Cable
d) Power Line
☑ **Answer:** c) Fiber Optic Cable

- **Which of these is a disadvantage of a bus topology?**
a) High speed
b) Difficult fault isolation
c) Easy installation
d) Central hub failure
☑ **Answer:** b) Difficult fault isolation

- **Which protocol is used to manage and share files in Windows networks?**
a) NFS
b) SMB
c) FTP
d) DNS
☑ **Answer:** b) SMB

- **What is the data unit at the Network layer called?**
a) Frame
b) Packet
c) Segment
d) Bit
☑ **Answer:** b) Packet

- **Which of these assigns IP addresses dynamically?**
a) DNS
b) DHCP
c) ARP
d) ICMP
☑ **Answer:** b) DHCP

- **Which IP version provides built-in security using IPSec?**
a) IPv4
b) IPv5
c) IPv6
d) IPv3
☑ **Answer:** c) IPv6

- **Which network device prevents data collision in a LAN?**
a) Hub
b) Bridge
c) Switch
d) Repeater
☑ **Answer:** c) Switch

- **Which layer ensures data is delivered in sequence?**
a) Data Link Layer
b) Network Layer
c) Transport Layer
d) Application Layer
☑ **Answer:** c) Transport Layer

- **Which type of cable is immune to electromagnetic interference?**
a) Coaxial
b) UTP
c) Fiber Optic
d) STP
☑ **Answer:** c) Fiber Optic

- **Which of these protocols is used for internet addressing?**
a) TCP
b) IP
c) UDP
d) ARP
☑ **Answer:** b) IP

- **Which port number does DNS use?**
a) 21
b) 25
c) 53
d) 110
☑ **Answer:** c) 53

- **Which command is used to find the IP address of a domain name?**
a) ping
b) nslookup
c) route
d) ipconfig
☑ **Answer:** b) nslookup

- **Which of these provides a secure remote connection to a network?**
a) VPN
b) DHCP
c) FTP
d) SMTP
☑ **Answer:** a) VPN

- **Which of the following layers of OSI model is responsible for routing?**
a) Session
b) Network
c) Presentation
d) Application
☑ **Answer:** b) Network

- **Which of these terms refers to the smallest unit of data on a network?**
a) Bit
b) Byte
c) Frame
d) Packet
☑ **Answer:** a) Bit

- **Which layer of OSI model translates data for the application layer?**
a) Presentation Layer
b) Transport Layer
c) Session Layer
d) Network Layer
☑ **Answer:** a) Presentation Layer

- **Which routing protocol uses hop count as its metric?**
a) OSPF
b) RIP
c) BGP
d) EIGRP
☑ **Answer:** b) RIP

- **Which protocol is used for secure file transfer over SSH?**
a) FTP
b) SFTP
c) TFTP
d) FTPS
☑ **Answer:** b) SFTP

- **Which layer of OSI model is responsible for logical addressing?**
a) Network
b) Data Link
c) Transport
d) Session
☑ **Answer:** a) Network

- **Which type of IP address is 169.254.x.x?**
a) Private
b) Public
c) APIPA (Automatic Private IP Address)
d) Loopback
☑ **Answer:** c) APIPA

- **Which command displays ARP cache entries?**

a) arp –a

b) netstat

c) ipconfig

d) tracert

☑ **Answer:** a) arp –a

- **Which of the following is a distance-vector routing protocol?**

a) OSPF

b) RIP

c) IS-IS

d) BGP

☑ **Answer:** b) RIP

- **Which type of attack floods a network with useless traffic?**

a) Phishing

b) DDoS

c) Spoofing

d) MITM

☑ **Answer:** b) DDoS

- **What is the primary goal of subnetting?**

a) Reduce broadcast traffic

b) Increase bandwidth

c) Create larger networks

d) Eliminate routers

☑ **Answer:** a) Reduce broadcast traffic

- **Which protocol is used to send error and control messages?**

a) ICMP

b) TCP

c) UDP

d) ARP

☑ **Answer:** a) ICMP

- **What is the maximum number of hosts in a /24 network?**

a) 128

b) 254

c) 256

d) 512

☑ **Answer:** b) 254

- **Which IP class supports up to 65,534 hosts?**

a) Class A

b) Class B

c) Class C

d) Class D

☑ **Answer:** b) Class B

- **Which protocol is used to securely access remote systems?**

a) SSH

b) TELNET

c) FTP

d) SNMP

☑ **Answer:** a) SSH

- **What is the size of an IPv4 address?**

a) 32 bits

b) 64 bits

c) 128 bits

d) 256 bits

☑ **Answer:** a) 32 bits

- **Which protocol is responsible for converting IP to MAC address?**

a) ICMP

b) ARP

c) DNS

d) DHCP

☑ **Answer:** b) ARP

- **What does OSPF stand for?**

a) Open Shortest Path First

b) Optimal Standard Path Forward

c) Open System Path Forwarding

d) Online Secure Path Function

☑ **Answer:** a) Open Shortest Path First

- **Which device is known as an "intelligent hub"?**

a) Switch

b) Bridge

c) Repeater

d) Router

☑ **Answer:** a) Switch

- **Which of these IPs is a broadcast address in Class C?**

a) 192.168.10.255

b) 192.168.10.0

c) 192.168.10.1

d) 192.168.10.100

☑ **Answer:** a) 192.168.10.255

- **What is the default port for SSH?**

a) 21

b) 22

c) 23

d) 25

☑ **Answer:** b) 22

- **Which of the following uses store-and-forward switching?**
a) Hub
b) Switch
c) Bridge
d) Router
☑ **Answer:** b) Switch

- **What is a VLAN used for?**
a) To logically segment a LAN
b) To connect different LANs
c) To replace IP addresses
d) To boost Wi-Fi range
☑ **Answer:** a) To logically segment a LAN

- **Which of these protocols uses path vector algorithm?**
a) RIP
b) OSPF
c) BGP
d) IS-IS
☑ **Answer:** c) BGP

- **Which IP address represents localhost in IPv6?**
a) 127.0.0.1
b) 0:0:0:0:0:0:0:1
c) 255.255.255.255
d) ::FFFF
☑ **Answer:** b) 0:0:0:0:0:0:0:1

- **Which term describes the time taken for a packet to travel from source to destination?**
a) Bandwidth
b) Latency
c) Throughput
d) Jitter
☑ **Answer:** b) Latency

- **What is the purpose of NAT?**
a) To translate private IPs into public IPs
b) To assign MAC addresses
c) To encrypt data
d) To monitor traffic
☑ **Answer:** a) To translate private IPs into public IPs

- **Which layer handles segmentation of data?**
a) Network
b) Transport
c) Session
d) Application
☑ **Answer:** b) Transport

- **Which of the following is a routing protocol for IPv6?**
a) RIPng
b) DHCPv6
c) OSPFv3
d) Both a and c
☑ **Answer:** d) Both a and c

- **What is the size of an IPv6 address?**
a) 32 bits
b) 64 bits
c) 128 bits
d) 256 bits
☑ **Answer:** c) 128 bits

- **Which port number is used by TELNET?**
a) 20
b) 22
c) 23
d) 25
☑ **Answer:** c) 23

- **Which device can separate collision domains but not broadcast domains?**
a) Switch
b) Router
c) Bridge
d) Repeater
☑ **Answer:** a) Switch

- **Which OSI layer is responsible for error detection and correction?**
a) Data Link
b) Network
c) Transport
d) Session
☑ **Answer:** a) Data Link

- **Which routing protocol uses Dijkstra's algorithm?**
a) OSPF
b) RIP
c) BGP
d) EIGRP
☑ **Answer:** a) OSPF

- **Which network device connects networks with different architectures?**
a) Hub
b) Gateway
c) Bridge
d) Switch
☑ **Answer:** b) Gateway

- **Which of these IPs is a valid private IP?**
a) 10.1.1.5
b) 172.35.10.1
c) 192.0.2.1
d) 11.11.11.11
☑ **Answer:** a) 10.1.1.5

- **What does the 'ping' command use to test connectivity?**
a) TCP
b) UDP
c) ICMP
d) ARP
☑ **Answer:** c) ICMP

- **Which routing protocol supports VLSM?**
a) RIP v1
b) RIP v2
c) IGRP
d) BGP
☑ **Answer:** b) RIP v2

- **Which technology is used in VoIP communication?**
a) TCP
b) UDP
c) ICMP
d) HTTP
☑ **Answer:** b) UDP

- **What is the range of private Class A IP addresses?**
a) 192.168.0.0 – 192.168.255.255
b) 10.0.0.0 – 10.255.255.255
c) 172.16.0.0 – 172.31.255.255
d) 11.0.0.0 – 11.255.255.255
☑ **Answer:** b) 10.0.0.0 – 10.255.255.255

- **Which OSI layer ensures end-to-end delivery of data?**
a) Session
b) Transport
c) Network
d) Data Link
☑ **Answer:** b) Transport

- **Which device connects multiple LAN segments in the same broadcast domain?**
a) Bridge
b) Switch
c) Hub
d) Router
☑ **Answer:** b) Switch

- **Which protocol is used to translate domain names into IP addresses?**
a) DHCP
b) DNS
c) ARP
d) ICMP
☑ **Answer:** b) DNS

Which of the following is NOT a type of network topology?
a) Star
b) Bus
c) Ring
d) Bridge
☑ **Answer:** d) Bridge

142. Which topology uses a central hub or switch?
a) Ring
b) Mesh
c) Star
d) Bus
☑ **Answer:** c) Star

143. What is the main function of a router?
a) To connect networks and direct data packets
b) To amplify signals
c) To connect devices in a LAN
d) To store data
☑ **Answer:** a) To connect networks and direct data packets

144. Which device operates at the Data Link layer (Layer 2)?
a) Switch
b) Router
c) Repeater
d) Gateway
☑ **Answer:** a) Switch

145. IP address 192.168.1.1 belongs to which class?
a) Class A
b) Class B
c) Class C
d) Class D
☑ **Answer:** c) Class C

146. The main purpose of DNS is:
a) To assign MAC addresses
b) To translate domain names into IP addresses
c) To send emails
d) To secure the network
☑ **Answer:** b) To translate domain names into IP addresses

147. Which of the following uses connection-oriented communication?
a) TCP
b) UDP
c) ICMP
d) IP
☑ **Answer:** a) TCP

148. The default port number for HTTP is:
a) 20
b) 21
c) 80
d) 25
☑ **Answer:** c) 80

149. The IP address 127.0.0.1 refers to:
a) Default Gateway
b) DNS Server
c) Localhost
d) Broadcast address
☑ **Answer:** c) Localhost

150. Which layer of the OSI model is responsible for encryption and compression?
a) Transport
b) Network
c) Presentation
d) Session
☑ **Answer:** c) Presentation

151. The physical address of a computer is known as:
a) IP Address
b) MAC Address
c) Domain Name
d) Port Number
☑ **Answer:** b) MAC Address

152. Which protocol is used to send email?
a) POP3
b) SMTP
c) HTTP
d) FTP
☑ **Answer:** b) SMTP

153. Which command is used to test network connectivity in Windows?
a) connect
b) ping
c) path
d) check
☑ **Answer:** b) ping

154. What does LAN stand for?
a) Large Area Network
b) Local Access Node
c) Local Area Network
d) Linked Access Network
☑ **Answer:** c) Local Area Network

155. The protocol used for secure web browsing is:
a) HTTP
b) HTTPS
c) FTP
d) TELNET
☑ **Answer:** b) HTTPS

156. The main function of a firewall is to:
a) Speed up the internet
b) Filter incoming and outgoing network traffic
c) Store web pages
d) Connect LAN and WAN
☑ **Answer:** b) Filter incoming and outgoing network traffic

157. Which of the following is NOT a wireless communication technology?
a) Wi-Fi
b) Bluetooth
c) Ethernet
d) Infrared
☑ **Answer:** c) Ethernet

158. What is the purpose of DHCP?
a) Dynamic IP address allocation
b) Encrypting data
c) Managing web traffic
d) File transfer
☑ **Answer:** a) Dynamic IP address allocation

159. Which layer of the OSI model handles error detection?
a) Application
b) Data Link
c) Network
d) Session
☑ **Answer:** b) Data Link

160. The unit used to measure network speed is:
a) Hertz
b) Bits per second
c) Bytes
d) Joules
☑ **Answer:** b) Bits per second

161. Which device connects different networks together?
a) Hub
b) Switch
c) Router
d) Repeater
☑ **Answer:** c) Router

162. What is the purpose of ARP in networking?
a) To assign IP addresses
b) To map IP address to MAC address
c) To secure network communication
d) To convert domain names
☑ **Answer:** b) To map IP address to MAC address

163. Which layer of the OSI model does IP operate on?
a) Transport
b) Network
c) Data Link
d) Physical
☑ **Answer:** b) Network

164. The 5th layer of the OSI model is:
a) Session layer
b) Network layer
c) Presentation layer
d) Transport layer
☑ **Answer:** a) Session layer

165. Which of the following is a private IP address?
a) 172.32.0.1
b) 10.0.0.1
c) 8.8.8.8
d) 192.0.2.1
☑ **Answer:** b) 10.0.0.1

166. Which network device works on all seven layers of the OSI model?
a) Router
b) Gateway
c) Switch
d) Hub
☑ **Answer:** b) Gateway

167. What does ICMP stand for?
a) Internet Control Message Protocol
b) Internal Connection Management Protocol
c) Internet Communication Main Protocol
d) Inter-Control Machine Process
☑ **Answer:** a) Internet Control Message Protocol

168. The default port for HTTPS is:
a) 443
b) 80
c) 25
d) 21
☑ **Answer:** a) 443

169. What is the maximum length of a CAT6 Ethernet cable for reliable transmission?
a) 50 meters
b) 100 meters
c) 150 meters
d) 200 meters
☑ **Answer:** b) 100 meters

170. Which of the following is an example of a point-to-point network?
a) Internet
b) Telephone line connection
c) LAN
d) MAN
☑ **Answer:** b) Telephone line connection

171. The process of dividing a network into smaller parts is called:
a) Bridging
b) Subnetting
c) Switching
d) Routing
☑ **Answer:** b) Subnetting

172. Which protocol is used to access a remote computer securely?
a) FTP
b) SSH
c) TELNET
d) SMTP
☑ **Answer:** b) SSH

173. What is the purpose of the "traceroute" command?
a) To test connectivity
b) To trace the route taken by packets
c) To display IP configuration
d) To check DNS records
☑ **Answer:** b) To trace the route taken by packets

174. What type of network spans a city?
a) LAN
b) MAN
c) WAN
d) PAN
☑ **Answer:** b) MAN

175. A MAC address is how many bits long?
a) 32 bits
b) 48 bits
c) 64 bits
d) 128 bits
☑ **Answer:** b) 48 bits

176. What is the role of a switch in networking?
a) To forward data based on MAC addresses
b) To convert analog signals
c) To store data packets
d) To assign IP addresses
☑ **Answer:** a) To forward data based on MAC addresses

177. The main disadvantage of a bus topology is:
a) Expensive
b) Difficult to install
c) Single point of failure at main cable
d) Complex design
☑ **Answer:** c) Single point of failure at main cable

178. Which protocol is used to transfer files between computers?
a) SMTP
b) FTP
c) SNMP
d) ICMP
☑ **Answer:** b) FTP

179. The range of Class B IP addresses is:
a) 1–126
b) 128–191
c) 192–223
d) 224–239
☑ **Answer:** b) 128–191

180. In a ring topology, data travels in:
a) Both directions
b) One direction
c) Random direction
d) No specific direction
☑ **Answer:** b) One direction

181. Which of the following is an example of a WAN?
a) Internet
b) Office LAN
c) Home Wi-Fi
d) Bluetooth
☑ **Answer:** a) Internet

182. Which protocol is used for remote desktop access in Windows?
a) FTP
b) RDP
c) SSH
d) SNMP
☑ **Answer:** b) RDP

183. What is the function of a modem?
a) Converts digital signals to analog and vice versa
b) Amplifies network signals
c) Filters network traffic
d) Stores data packets
☑ **Answer:** a) Converts digital signals to analog and vice versa

184. Which of the following is NOT a valid IP address?
a) 192.168.1.300
b) 172.16.0.1
c) 10.10.10.10
d) 8.8.8.8
☑ **Answer:** a) 192.168.1.300

185. What type of network covers a small area such as a home or office?
a) MAN
b) LAN
c) WAN
d) SAN
☑ **Answer:** b) LAN

186. What is the full form of VPN?
a) Virtual Private Network
b) Visual Packet Network
c) Virtual Personal Node
d) Virtual Public Network
☑ **Answer:** a) Virtual Private Network

187. Which layer of the OSI model ensures reliable communication?
a) Network
b) Transport
c) Session
d) Application
☑ **Answer:** b) Transport

188. What is a default gateway?
a) The IP address of the DNS server
b) The device that routes traffic from a local network to other networks
c) A firewall rule
d) The local IP address
☑ **Answer:** b) The device that routes traffic from a local network to other networks

189. What is the main purpose of NAT (Network Address Translation)?
a) Encrypts data packets
b) Converts private IPs to public IPs
c) Assigns IP addresses
d) Filters network traffic
☑ **Answer:** b) Converts private IPs to public IPs

190. The loopback IP address is used for:
a) Testing local network interface
b) Remote connection
c) DNS lookup
d) Data transfer
☑ **Answer:** a) Testing local network interface

191. Which of the following is NOT a routing protocol?
a) OSPF
b) RIP
c) BGP
d) HTTP
☑ **Answer:** d) HTTP

192. What is the size of an IPv4 address?
a) 32 bits
b) 64 bits
c) 128 bits
d) 48 bits
☑ **Answer:** a) 32 bits

193. IPv6 address is represented in:
a) Decimal
b) Hexadecimal
c) Binary
d) Octal
☑ **Answer:** b) Hexadecimal

194. Which of the following protocols uses port 53?
a) HTTP
b) DNS
c) FTP
d) SNMP
☑ **Answer:** b) DNS

195. What is the maximum number of hosts in a Class C network?
a) 126
b) 254
c) 1024
d) 65534
☑ **Answer:** b) 254

196. Which of the following is used to dynamically assign IP addresses?
a) DHCP
b) DNS
c) NAT
d) ARP
☑ **Answer:** a) DHCP

197. Which of these topologies provides the highest redundancy?
a) Bus
b) Ring
c) Mesh
d) Star
☑ **Answer:** c) Mesh

198. Which of the following devices is used at the Physical Layer?
a) Repeater
b) Router
c) Switch
d) Bridge
☑ **Answer:** a) Repeater

199. What is the main function of SNMP?
a) Network management and monitoring
b) File transfer
c) Email exchange
d) Web hosting
☑ **Answer:** a) Network management and monitoring

200. The main purpose of the OSI model is to:
a) Standardize network communication
b) Increase data transfer rate
c) Encrypt data
d) Replace TCP/IP
☑ **Answer:** a) Standardize network communication

201. Which layer of the OSI model handles logical addressing?
a) Network
b) Data Link
c) Transport
d) Session
☑ **Answer:** a) Network

202. Which protocol is used to transfer web pages?
a) HTTP
b) FTP
c) SMTP
d) SNMP
☑ **Answer:** a) HTTP

203. What is the full form of NIC?
a) Network Interface Card
b) Network Internal Chip
c) Node Internet Connector
d) Network Identification Code
☑ **Answer:** a) Network Interface Card

204. Which device divides a network into collision domains?
a) Switch
b) Router
c) Hub
d) Repeater
☑ **Answer:** a) Switch

205. What is a broadcast address used for?
a) Sending data to one host
b) Sending data to all hosts in a network
c) Sending data to the router
d) Encrypting network data
☑ **Answer:** b) Sending data to all hosts in a network

206. Which layer ensures data is sent in sequence and error-free?
a) Session
b) Transport
c) Presentation
d) Network
☑ **Answer:** b) Transport

207. What is the function of a repeater?
a) Strengthens a signal
b) Stores data packets
c) Converts analog to digital
d) Routes data
☑ **Answer:** a) Strengthens a signal

208. What does VLAN stand for?
a) Virtual Local Area Network
b) Verified LAN
c) Variable LAN
d) Virtualized Link Access Network
☑ **Answer:** a) Virtual Local Area Network

209. Which of the following uses a token-passing access method?
a) Ethernet
b) Token Ring
c) Wi-Fi
d) DSL
☑ **Answer:** b) Token Ring

210. Which command displays your computer's IP configuration in Windows?
a) ping
b) ipconfig
c) tracert
d) arp
☑ **Answer:** b) ipconfig

211. Which of the following is NOT a networking cable type?
a) Coaxial
b) Fiber-optic
c) HDMI
d) Twisted pair
☑ **Answer:** c) HDMI

212. How many layers are there in the TCP/IP model?
a) 5
b) 7
c) 4
d) 6
☑ **Answer:** c) 4

213. The term "bandwidth" refers to:
a) The frequency of data transmission
b) The amount of data transmitted per second
c) The number of connections
d) The time delay in transmission
☑ **Answer:** b) The amount of data transmitted per second

214. What type of IP address is permanently assigned to a device?
a) Static IP
b) Dynamic IP
c) Private IP
d) Local IP
☑ **Answer:** a) Static IP

215. Which device connects multiple computers in a LAN?
a) Switch
b) Router
c) Modem
d) Firewall
☑ **Answer:** a) Switch

216. What is latency?
a) Speed of data transfer
b) Delay before data transfer begins
c) Number of packets per second
d) Network load
☑ **Answer:** b) Delay before data transfer begins

217. What does VoIP stand for?
a) Voice over Internet Protocol
b) Virtual Online Internet Path
c) Video on IP
d) Voice of Internet Program
☑ **Answer:** a) Voice over Internet Protocol

218. Which of these uses CSMA/CD access method?
a) Ethernet
b) Wi-Fi
c) Bluetooth
d) Token Ring
☑ **Answer:** a) Ethernet

219. What is the main purpose of proxy servers?
a) To cache web pages and filter traffic
b) To send emails
c) To detect viruses
d) To assign IP addresses
☑ **Answer:** a) To cache web pages and filter traffic

220. Which topology provides a dedicated connection between nodes?
a) Mesh
b) Star
c) Ring
d) Bus
☑ **Answer:** a) Mesh

🌐 **221–240**

221. Which of these is a wireless standard?
a) 802.11
b) 802.3
c) 802.5
d) 802.15
☑ **Answer:** a) 802.11

222. What is the main advantage of optical fiber cable?
a) Low speed
b) High bandwidth and low noise
c) Easy bending
d) Cheap installation
☑ **Answer:** b) High bandwidth and low noise

223. Which layer handles routing?
a) Network
b) Data Link

c) Transport
d) Session
☑ **Answer:** a) Network

224. What is the full form of SMTP?
a) Simple Mail Transfer Protocol
b) Secure Mail Transfer Protocol
c) Standard Mail Transmission Path
d) Simple Message Transmission Protocol
☑ **Answer:** a) Simple Mail Transfer Protocol

225. Which layer of OSI model deals with framing?
a) Data Link
b) Network
c) Transport
d) Physical
☑ **Answer:** a) Data Link

226. The 127.x.x.x address range is reserved for:
a) Local testing
b) DNS
c) Internet backbone
d) VPN
☑ **Answer:** a) Local testing

227. Which of the following is a valid IPv6 address?
a) 192.168.1.1
b) 2001:0db8::1
c) 255.255.255.255
d) 10.0.0.5
☑ **Answer:** b) 2001:0db8::1

228. What is the function of a bridge?
a) Connects two LAN segments
b) Converts signals
c) Routes packets
d) Filters viruses
☑ **Answer:** a) Connects two LAN segments

229. Which layer ensures session establishment between applications?
a) Session layer
b) Transport layer
c) Presentation layer
d) Network layer
☑ **Answer:** a) Session layer

230. A packet-switching network is used in:
a) Internet
b) Telephone

c) Telegraph
d) Radio
☑ **Answer:** a) Internet

231. What is MTU?
a) Maximum Transmission Unit
b) Multi Transfer Utility
c) Maximum Time Utility
d) Multiple Transmission Update
☑ **Answer:** a) Maximum Transmission Unit

232. The IEEE standard for Ethernet is:
a) 802.3
b) 802.5
c) 802.11
d) 802.2
☑ **Answer:** a) 802.3

233. Which protocol is used for network management?
a) SNMP
b) FTP
c) SMTP
d) POP3
☑ **Answer:** a) SNMP

234. The default subnet mask for Class B is:
a) 255.0.0.0
b) 255.255.0.0
c) 255.255.255.0
d) 255.255.255.255
☑ **Answer:** b) 255.255.0.0

235. A collision occurs in which type of network?
a) Shared medium
b) Point-to-point
c) Wireless
d) Token
☑ **Answer:** a) Shared medium

236. What is the main function of a gateway?
a) Connects networks with different protocols
b) Assigns IP addresses
c) Stores data packets
d) Monitors bandwidth
☑ **Answer:** a) Connects networks with different protocols

237. What does "ping" use internally?
a) ICMP
b) TCP

c) UDP
d) ARP
☑ **Answer:** a) ICMP

238. The physical layer is concerned with:
a) Transmission of raw bits
b) Routing of data
c) Logical addressing
d) Encryption
☑ **Answer:** a) Transmission of raw bits

239. What is the typical size of an Ethernet frame?
a) 64–1518 bytes
b) 32–256 bytes
c) 128–2048 bytes
d) 512–4096 bytes
☑ **Answer:** a) 64–1518 bytes

240. What is the main function of CSMA/CD?
a) Avoids data collisions
b) Encrypts data
c) Routes packets
d) Increases speed
☑ **Answer:** a) Avoids data collisions

241. Which of the following layers is responsible for path determination?
a) Network layer
b) Data Link layer
c) Transport layer
d) Session layer
☑ **Answer:** a) Network layer

242. Which of these devices operates only at the physical layer?
a) Hub
b) Switch
c) Router
d) Bridge
☑ **Answer:** a) Hub

243. The main disadvantage of mesh topology is:
a) Slow communication
b) High cost of cabling
c) Low reliability
d) Complex protocol
☑ **Answer:** b) High cost of cabling

244. Which type of address is used by switches?
a) MAC Address
b) IP Address

c) Port Number
d) Hostname
☑ **Answer:** a) MAC Address

245. Which protocol is used for secure file transfer?
a) SFTP
b) FTP
c) HTTP
d) SNMP
☑ **Answer:** a) SFTP

246. Which of the following assigns domain names?
a) ICANN
b) IEEE
c) IANA
d) IETF
☑ **Answer:** a) ICANN

247. The process of converting domain names to IP addresses is called:
a) Resolution
b) Translation
c) Routing
d) Forwarding
☑ **Answer:** a) Resolution

248. What is the default subnet mask of a Class A IP address?
a) 255.0.0.0
b) 255.255.0.0
c) 255.255.255.0
d) 255.255.255.252
☑ **Answer:** a) 255.0.0.0

249. A default gateway works at which layer?
a) Network
b) Data Link
c) Transport
d) Application
☑ **Answer:** a) Network

250. Which topology has a central cable connecting all nodes?
a) Bus
b) Ring
c) Star
d) Mesh
☑ **Answer:** a) Bus

251. The first layer of OSI model is:
a) Physical layer
b) Data Link layer

c) Network layer
d) Transport layer
☑ **Answer:** a) Physical layer

252. Which network protocol provides error detection and flow control?
a) TCP
b) UDP
c) IP
d) ICMP
☑ **Answer:** a) TCP

253. IPv4 address consists of how many octets?
a) 4
b) 6
c) 8
d) 16
☑ **Answer:** a) 4

254. The function of ARP is to:
a) Map IP to MAC address
b) Map MAC to IP address
c) Assign IP address
d) Resolve DNS
☑ **Answer:** a) Map IP to MAC address

255. Which protocol is connectionless?
a) TCP
b) UDP
c) FTP
d) SSH
☑ **Answer:** b) UDP

256. What is the maximum transmission speed of Cat5e cable?
a) 100 Mbps
b) 1 Gbps
c) 10 Gbps
d) 10 Mbps
☑ **Answer:** b) 1 Gbps

257. Which layer segments and reassembles data?
a) Transport
b) Network
c) Data Link
d) Session
☑ **Answer:** a) Transport

258. The combination of IP address and port number is called:
a) Socket
b) Packet

c) Frame
d) Segment
☑ **Answer:** a) Socket

259. The process of hiding internal IP addresses is called:
a) NAT
b) Subnetting
c) Masking
d) Proxying
☑ **Answer:** a) NAT

260. The range of Class A IP addresses is:
a) 1–126
b) 128–191
c) 192–223
d) 224–239
☑ **Answer:** a) 1–126

🖥 **261–280**

261. Which of the following layers handles encryption?
a) Presentation
b) Session
c) Application
d) Transport
☑ **Answer:** a) Presentation

262. Which protocol is used for file transfer in Windows?
a) SMB
b) SMTP
c) SNMP
d) SSH
☑ **Answer:** a) SMB

263. A wireless network uses which frequency bands?
a) 2.4 GHz and 5 GHz
b) 1.2 GHz and 3 GHz
c) 7 GHz and 10 GHz
d) 9 GHz and 12 GHz
☑ **Answer:** a) 2.4 GHz and 5 GHz

264. The "TTL" field in an IP packet is used for:
a) Limiting packet lifetime
b) Encryption
c) Error checking

d) Fragmentation
☑ **Answer:** a) Limiting packet lifetime

265. A device that regenerates and amplifies signals is called:
a) Repeater
b) Hub
c) Switch
d) Router
☑ **Answer:** a) Repeater

266. The IEEE standard for Bluetooth is:
a) 802.15
b) 802.11
c) 802.3
d) 802.5
☑ **Answer:** a) 802.15

267. Which protocol provides domain-to-IP resolution?
a) DNS
b) DHCP
c) FTP
d) SNMP
☑ **Answer:** a) DNS

268. How many bits are in an IPv6 address?
a) 64
b) 128
c) 256
d) 512
☑ **Answer:** b) 128

269. The default port for FTP is:
a) 21
b) 23
c) 25
d) 80
☑ **Answer:** a) 21

270. Which device provides wireless connectivity to a wired network?
a) Access Point
b) Hub
c) Bridge
d) Switch
☑ **Answer:** a) Access Point

271. Which layer of OSI provides logical addressing?
a) Network
b) Data Link
c) Transport

d) Session
☑ **Answer:** a) Network

272. Which device filters traffic based on rules?
a) Firewall
b) Hub
c) Repeater
d) Switch
☑ **Answer:** a) Firewall

273. The smallest unit of data in networking is called:
a) Bit
b) Byte
c) Packet
d) Frame
☑ **Answer:** a) Bit

274. Which network topology provides the least cable cost?
a) Bus
b) Star
c) Ring
d) Mesh
☑ **Answer:** a) Bus

275. Which command shows the route a packet takes?
a) tracert
b) ping
c) nslookup
d) netstat
☑ **Answer:** a) tracert

276. What is the speed of Fast Ethernet?
a) 100 Mbps
b) 10 Mbps
c) 1 Gbps
d) 10 Gbps
☑ **Answer:** a) 100 Mbps

277. The device that connects LAN to WAN is:
a) Router
b) Switch
c) Hub
d) Bridge
☑ **Answer:** a) Router

278. Which protocol is used for email retrieval?
a) POP3
b) SMTP
c) HTTP

d) FTP
☑ **Answer:** a) POP3

279. Which layer defines data formats and syntax?
a) Presentation
b) Session
c) Transport
d) Network
☑ **Answer:** a) Presentation

280. The OSI model was developed by:
a) ISO
b) IEEE
c) IETF
d) W3C
☑ **Answer:** a) ISO

🌐 281–300

281. What is the function of a subnet mask?
a) Divides IP address into network and host parts
b) Encrypts IP address
c) Assigns MAC addresses
d) Converts analog to digital
☑ **Answer:** a) Divides IP address into network and host parts

282. Which command displays active network connections?
a) netstat
b) ping
c) arp
d) tracert
☑ **Answer:** a) netstat

283. Which of these is a Class D IP address used for multicasting?
a) 224.0.0.1
b) 192.168.1.1
c) 10.10.0.1
d) 172.16.1.1
☑ **Answer:** a) 224.0.0.1

284. Which protocol is used for automatic IP assignment?
a) DHCP
b) DNS
c) ICMP
d) FTP
☑ **Answer:** a) DHCP

285. Which network device operates at both Layer 2 and Layer 3?
a) Multilayer switch
b) Hub
c) Repeater
d) Bridge
☑ **Answer:** a) Multilayer switch

286. The unit for measuring bandwidth is:
a) bps
b) Hertz
c) Volt
d) Ohm
☑ **Answer:** a) bps

287. What is the default port for Telnet?
a) 23
b) 22
c) 25
d) 110
☑ **Answer:** a) 23

288. Which layer handles end-to-end communication?
a) Transport
b) Network
c) Data Link
d) Session
☑ **Answer:** a) Transport

289. The OSI layer responsible for data compression is:
a) Presentation
b) Session
c) Application
d) Network
☑ **Answer:** a) Presentation

290. Which protocol is responsible for routing packets across networks?
a) IP
b) TCP
c) UDP
d) FTP
☑ **Answer:** a) IP

291. The term "throughput" refers to:
a) Actual data transfer rate
b) Theoretical bandwidth
c) Latency
d) Network delay
☑ **Answer:** a) Actual data transfer rate

292. What does "SSID" stand for?
a) Service Set Identifier
b) Secure System ID
c) Simple Signal Identifier
d) System Security ID
☑ **Answer:** a) Service Set Identifier

293. The main function of ICMP is to:
a) Send error and control messages
b) Transfer files
c) Assign IP addresses
d) Encrypt data
☑ **Answer:** a) Send error and control messages

294. Which command is used to clear DNS cache in Windows?
a) ipconfig /flushdns
b) dns /reset
c) ping /clear
d) tracert /flush
☑ **Answer:** a) ipconfig /flushdns

295. Which wireless security protocol is most secure?
a) WPA3
b) WEP
c) WPA
d) WPA2
☑ **Answer:** a) WPA3

296. The TCP/IP model layer equivalent to OSI's Data Link + Physical layers is:
a) Network Interface
b) Application
c) Internet
d) Transport
☑ **Answer:** a) Network Interface

297. What is the range of private IP addresses for Class C?
a) 192.168.0.0 – 192.168.255.255
b) 172.16.0.0 – 172.31.255.255
c) 10.0.0.0 – 10.255.255.255
d) 169.254.0.0 – 169.254.255.255
☑ **Answer:** a) 192.168.0.0 – 192.168.255.255

298. Which organization manages IP addresses globally?
a) IANA
b) ISO
c) ICANN
d) IEEE
☑ **Answer:** a) IANA

299. Which network device can reduce network congestion using VLANs?
a) Switch
b) Router
c) Hub
d) Gateway
☑ **Answer:** a) Switch

300. The device that connects a computer to the Internet is:
a) Modem
b) Router
c) Switch
d) Bridge
☑ **Answer:** a) Modem