

MCQs

1. UTP Cables

- What does "UTP" stand for in networking?
 - a) Universal Twisted Pair
 - b) Unshielded Twisted Pair
 - c) Unified Transmission Protocol
 - d) Unique Twisted PairAnswer: b) Unshielded Twisted Pair
- How many pairs of wires are typically found in a Cat 5e UTP cable?
 - a) 2
 - b) 4
 - c) 6
 - d) 8Answer: b) 4

2. Basic Network Devices

- Which device operates at the data link layer of the OSI model?
 - a) Router
 - b) Switch
 - c) Hub
 - d) ModemAnswer: b) Switch
- Which device is used to connect a local network to the internet?
 - a) Hub
 - b) Router
 - c) Repeater
 - d) NICAnswer: b) Router

3. IP Classes

- What is the default subnet mask for a Class B IP address?
 - a) 255.0.0.0
 - b) 255.255.0.0
 - c) 255.255.255.0
 - d) 255.255.255.255Answer: b) 255.255.0.0
- Which class of IP addresses supports the largest number of hosts?
 - a) Class A
 - b) Class B
 - c) Class C

d) Class D

Answer: a) Class A

True/False

1. UTP cables are more susceptible to electromagnetic interference compared to STP cables.

Answer: True

2. A switch can be used to route traffic between different networks.

Answer: False

3. The IP address 192.168.1.1 belongs to Class A.

Answer: False

4. Hub devices can operate in both full-duplex and half-duplex modes.

Answer: False

Basic Switch Configuration

MCQs (20 Questions)

1. What command is used to assign a hostname to a switch?

a) hostname <name>

b) switch-name <name>

c) set switchname <name>

d) assign-hostname <name>

Answer: a) hostname <name>

2. Which command is used to configure a switch's management IP address?

a) ip address

b) interface vlan 1

c) ip vlan configure

d) set vlan ip

Answer: b) interface vlan 1

3. Which mode must you be in to configure a switch's hostname?

a) Privileged EXEC mode

b) Global configuration mode

c) User EXEC mode

d) Interface configuration mode

Answer: b) Global configuration mode

4. What is the default state of switch ports?

a) Disabled

b) Shutdown

c) Enabled

d) Blocked

Answer: c) Enabled

5. What is the purpose of the show mac address-table command?
- a) Displays the switch's IP address
 - b) Shows the MAC addresses learned by the switch
 - c) Configures VLAN settings
 - d) Displays connected routers

Answer: b) Shows the MAC addresses learned by the switch

6. How do you save a running configuration on a switch?
- a) save-config
 - b) write memory
 - c) copy running-config startup-config
 - d) save running-config

Answer: c) copy running-config startup-config

7. Which cable is used for connecting a PC to a switch?
- a) Straight-through
 - b) Crossover
 - c) Coaxial
 - d) Fiber optic

Answer: a) Straight-through

8. Which command verifies the VLAN configuration?
- a) show vlan
 - b) vlan show
 - c) display vlan-config
 - d) check vlan

Answer: a) show vlan

9. How many VLANs are supported by default on most switches?
- a) 10
 - b) 100
 - c) 1005
 - d) 4096

Answer: c) 1005

10. What is the purpose of VLANs on a switch?
- a) To create virtual networks for separate broadcast domains
 - b) To improve internet speed
 - c) To manage MAC addresses
 - d) To disable unused ports

Answer: a) To create virtual networks for separate broadcast domains

11. What command disables a specific port on a switch?
- a) port off
 - b) shutdown
 - c) disable

d) no enable

Answer: b) shutdown

12. What does the command interface fastethernet 0/1 do?

a) Enters interface configuration mode for FastEthernet 0/1

b) Enables FastEthernet 0/1

c) Shuts down the FastEthernet 0/1 interface

d) Assigns an IP to FastEthernet 0/1

Answer: a) Enters interface configuration mode for FastEthernet 0/1

13. What is the purpose of the switchport access vlan 10 command?

a) Assigns VLAN 10 to the access port

b) Configures the trunk link

c) Configures the management interface

d) Disables the VLAN on the port

Answer: a) Assigns VLAN 10 to the access port

14. What does the show interfaces command display?

a) IP configurations

b) Interface status and statistics

c) VLAN configurations

d) Active routes

Answer: b) Interface status and statistics

15. What command verifies spanning tree information?

a) show spanning-tree

b) show tree-config

c) spanning-tree display

d) tree-status

Answer: a) show spanning-tree

16. How do you assign a description to an interface?

a) set description

b) interface description

c) description <text>

d) config description

Answer: c) description <text>

17. What command shows detailed information about VLAN membership?

a) show vlan

b) vlan members

c) show vlan brief

d) vlan membership

Answer: c) show vlan brief

18. Which mode must you be in to disable a switch port?

a) Global configuration mode

- b) Privileged EXEC mode
- c) Interface configuration mode
- d) User EXEC mode

Answer: c) Interface configuration mode

19. What is the purpose of the show startup-config command?

- a) Saves the running configuration
- b) Displays the configuration stored in NVRAM
- c) Configures startup settings
- d) Restores the switch to factory defaults

Answer: b) Displays the configuration stored in NVRAM

20. What is the default spanning-tree mode on a Cisco switch?

- a) Rapid PVST+
- b) PVST+
- c) MST
- d) STP

Answer: b) PVST+

True/False (10 Questions)

1. VLANs create separate collision domains on a switch.

Answer: False

2. The show interfaces command displays the IP address of the switch.

Answer: False

3. The no shutdown command activates a port on a switch.

Answer: True

4. A switch does not require an IP address to forward frames at Layer 2.

Answer: True

5. Spanning Tree Protocol prevents switching loops.

Answer: True

6. All switches support VLANs by default.

Answer: True

7. A switch learns MAC addresses dynamically from incoming frames.

Answer: True

8. Trunk ports can carry traffic for multiple VLANs.

Answer: True

9. The show vlan command displays all active and inactive VLANs.

Answer: True

10. Management VLANs cannot have IP addresses assigned.

Answer: False

Basic Router Configuration

MCQs (20 Questions)

1. Which command is used to set the hostname on a router?

- a) set router-name <name>
- b) hostname <name>
- c) router-name <name>
- d) configure name <name>

Answer: b) hostname <name>

2. Which mode must you be in to configure a router's interfaces?

- a) Privileged EXEC mode
- b) User EXEC mode
- c) Global configuration mode
- d) Interface configuration mode

Answer: d) Interface configuration mode

3. What command enables an interface on a router?

- a) interface enable
- b) interface up
- c) no shutdown
- d) activate interface

Answer: c) no shutdown

4. What is the default state of router interfaces?

- a) Enabled
- b) Disabled
- c) Shutdown
- d) Active

Answer: c) Shutdown

5. How do you assign an IP address to an interface on a router?

- a) assign ip
- b) interface-ip
- c) ip address <IP> <subnet mask>
- d) configure ip

Answer: c) ip address <IP> <subnet mask>

6. Which command displays the current configuration stored in NVRAM?

- a) show config
- b) show startup-config
- c) show running-config
- d) display nvram

Answer: b) show startup-config

7. What does the ping command verify?

- a) MAC address resolution

- b) DNS resolution
- c) Network connectivity
- d) IP address assignment

Answer: c) Network connectivity

8. How do you save the router's running configuration?

- a) write config
- b) save running-config
- c) copy running-config startup-config
- d) commit config

Answer: c) copy running-config startup-config

9. Which command is used to configure a static route?

- a) ip static-route
- b) route add
- c) ip route <destination> <subnet mask> <next-hop>
- d) set route

Answer: c) ip route <destination> <subnet mask> <next-hop>

10. What is the default administrative distance for static routes?

- a) 0
- b) 1
- c) 10
- d) 20

Answer: b) 1

11. How do you view the routing table on a router?

- a) show ip route
- b) display routes
- c) show routing table
- d) ip route show

Answer: a) show ip route

12. What command configures a default route on a router?

- a) set default-gateway
- b) ip route 0.0.0.0 0.0.0.0 <next-hop>
- c) default route
- d) configure gateway

Answer: b) ip route 0.0.0.0 0.0.0.0 <next-hop>

13. Which command is used to set the console password?

- a) set console password
- b) enable console password
- c) line console 0 followed by password <password>
- d) console-password <password>

Answer: c) line console 0 followed by password <password>

14. What does the show ip interface brief command display?

- a) Detailed interface statistics
- b) IP address and status of interfaces
- c) VLAN membership
- d) Current running configuration

Answer: b) IP address and status of interfaces

15. Which command prevents unauthorized access to a router's privileged mode?

- a) line vty 0 4
- b) enable secret <password>
- c) ip access-list
- d) console password

Answer: b) enable secret <password>

16. What command verifies active network connections?

- a) show ip connections
- b) show ip route
- c) show cdp neighbors
- d) show interfaces

Answer: d) show interfaces

17. Which command shows directly connected devices to the router?

- a) show ip direct
- b) show ip neighbors
- c) show cdp neighbors
- d) direct show

Answer: c) show cdp neighbors

18. What command is used to configure a router for DHCP?

- a) enable dhcp
- b) ip dhcp pool
- c) dhcp server configure
- d) set dhcp

Answer: b) ip dhcp pool

19. How can you prevent a router's configuration from being erased accidentally?

- a) lock config
- b) secure nvram
- c) config-register 0x2102
- d) disable erase

Answer: c) config-register 0x2102

20. Which protocol is responsible for translating private IPs to public IPs on a router?

- a) NAT
- b) DHCP
- c) ICMP

d) DNS

Answer: a) NAT

True/False (10 Questions)

1. The no shutdown command is required to enable an interface on a router.

Answer: True

2. Static routes have an administrative distance of 10 by default.

Answer: False

3. The show ip route command displays the routing table of a router.

Answer: True

4. A router interface can function without an IP address assigned.

Answer: False

5. DHCP is used to assign IP addresses dynamically to devices on a network.

Answer: True

6. NAT translates private IP addresses to public IP addresses.

Answer: True

7. A router can function as a switch by default.

Answer: False

8. The ping command can verify if the next-hop device is reachable.

Answer: True

9. Routers do not need a default route to forward packets outside the local network.

Answer: False

10. The enable secret command is used to set a password for user mode access.

Answer: False

SSH and Telnet Configuration

MCQs (20 Questions)

1. Which command is used to configure a router for SSH access?

- a) ip ssh enable
- b) enable ssh
- c) ip domain-name <domain>
- d) ssh-config

Answer: c) ip domain-name <domain>

2. What is the first step in configuring SSH on a router?

- a) Set the hostname
- b) Configure a local user account
- c) Enable SSH

d) Assign an IP address

Answer: a) Set the hostname

3. What command generates cryptographic keys for SSH?

a) crypto enable

b) generate ssh-key

c) crypto key generate rsa

d) ssh-keygen

Answer: c) crypto key generate rsa

4. Which command limits the vty lines to only accept SSH?

a) line vty 0 4

b) transport input ssh

c) transport input telnet

d) enable ssh input

Answer: b) transport input ssh

5. What protocol is used for encrypted remote access to a router?

a) Telnet

b) FTP

c) SSH

d) HTTP

Answer: c) SSH

6. Which command is used to configure a password for Telnet access?

a) password <password>

b) line vty password <password>

c) set telnet-password

d) line vty 0 4 followed by password <password>

Answer: d) line vty 0 4 followed by password <password>

7. How do you enable Telnet access on a router?

a) enable telnet

b) transport input telnet

c) telnet-config

d) set telnet access

Answer: b) transport input telnet

8. What is the default port number for Telnet?

a) 21

b) 22

c) 23

d) 80

Answer: c) 23

9. What is the default port number for SSH?

a) 21

- b) 22
- c) 23
- d) 80

Answer: b) 22

10. Which command sets the maximum number of concurrent Telnet or SSH sessions?

- a) session limit <number>
- b) line vty 0 <number>
- c) session maximum <number>
- d) vty limit <number>

Answer: b) line vty 0 <number>

11. What does the show ssh command display?

- a) Current SSH sessions
- b) SSH configuration details
- c) Cryptographic key details
- d) Enabled SSH version

Answer: a) Current SSH sessions

12. Which command configures a router to use a local username and password for SSH or Telnet authentication?

- a) username <name> password <password>
- b) enable authentication local
- c) login local
- d) ssh authenticate local

Answer: c) login local

13. What command allows both Telnet and SSH on a router?

- a) transport input both
- b) transport input all
- c) transport input telnet ssh
- d) enable remote-access

Answer: c) transport input telnet ssh

14. Which SSH version is more secure and commonly used?

- a) SSHv1
- b) SSHv2

Answer: b) SSHv2

15. What does the login command in vty line configuration do?

- a) Requires users to authenticate with a password
- b) Enables SSH only
- c) Disables authentication
- d) Sets up username-based login

Answer: a) Requires users to authenticate with a password

16. How can you disable Telnet access while keeping SSH active?

- a) disable telnet
- b) transport input ssh
- c) no telnet
- d) ssh-only

Answer: b) transport input ssh

17. What type of encryption is used by SSH in routers?

- a) MD5
- b) RSA
- c) DES
- d) SHA

Answer: b) RSA

18. What command shows all active Telnet sessions?

- a) show telnet
- b) show session
- c) show running-config
- d) show telnet-sessions

Answer: b) show session

19. Which command verifies if SSH is enabled on a router?

- a) show ssh
- b) show ssh-status
- c) ssh-check
- d) show remote-access

Answer: a) show ssh

20. Which configuration ensures SSH uses version 2?

- a) ssh version 2
- b) ip ssh version 2
- c) set ssh v2
- d) enable ssh2

Answer: b) ip ssh version 2

True/False (10 Questions)

1. Telnet provides encrypted remote access to a router.

Answer: False

2. SSH requires a domain name and hostname for configuration.

Answer: True

3. The transport input ssh command enables only SSH on vty lines.

Answer: True

4. The crypto key generate rsa command is used to generate keys for Telnet.

Answer: False

5. The default SSH port is 23.

Answer: False

6. Telnet is considered less secure than SSH.

Answer: True

7. The show ssh command lists active SSH sessions on the router.

Answer: True

8. A router must have an IP address configured on an interface to support SSH or Telnet.

Answer: True

9. SSH cannot be configured without a username and password.

Answer: True

10. Both Telnet and SSH can be configured simultaneously on a router.

Answer: True

Short Questions (3 Questions with Answers)

1. **Question:** What are the steps to configure SSH on a router?

Answer:

- Set the hostname using hostname <name>.
- Configure a domain name using ip domain-name <domain>.
- Generate RSA keys using crypto key generate rsa.
- Create a local user account with username <name> password <password>.
- Enable SSH on vty lines using line vty 0 4, login local, and transport input ssh.

2. **Question:** How do you configure a router to accept both Telnet and SSH connections?

Answer: Use the command transport input telnet ssh under the line vty configuration mode.

3. **Question:** What command would you use to disable Telnet but keep SSH active on a router?

Answer: transport input ssh under line vty 0 4 configuration.