CCNA - Exam Practice Questions Papers:

Q1. Which of the following is Class C IP address?

 A. 10.10.14.118

 B. 135.23.112.57

 C. 191.200.199.199

 D. 204.67.118.54

Correct Answer: D.

Explanation:

IP addresses are written using decimal numbers separated by decimal points. This is called dotted decimal notation of expressing IP addresses. The different classes of IP addresses is as below:

Class Format Leading Bit Network address Maximum Maximum pattern Range networks hosts

A N.H.H.H 0 0 - 126 127 16,777,214

B N.N.H.H 10 128 - 191 16,384 65,534

C N.N.N.H 110 192 - 223 2,097,152 254

Network address of all zeros means "This network or segment".

Network address of all 1s means " all networks", same as hexadecimal of all Fs.

Network number 127 is reserved for loopback tests.

Host (Node) address of all zeros mean "This Host (Node)".

Host (Node) address of all 1s mean "all Hosts (Nodes) " on the specified network.

Q2. You have an IP of 156.233.42.56 with a subnet mask of 7 bits. How many hosts and subnets are possible?

 A. 126 hosts and 510 subnets

 B. 128 subnets and 512 hosts

 C. 510 hosts and 126 subnets

 D. 512 subnets and 128 hosts

Correct answer: C

Explanation:

Class B network has the form N.N.H.H, the default subnet mask is 16 bits long.

There is additional 7 bits to the default subnet mask. The total number of bits in subnet are 16+7 = 23.

This leaves us with 32-23 =9 bits for assigning to hosts.

7 bits of subnet mask corresponds to (2^7-2)=128-2 = 126 subnets.

9 bits belonging to host addresses correspond to (2^9-2)=512-2 = 510 hosts.

Q3. Two sub layers of OSI Data Link layer are which of the following? [Select 2].

 A. Logical Link Control

 B. Data Link Control

 C. Media Access Control

 D. Physical Layer Control

Correct answer: A,C

Explanation:

Data Link Layer is layer 2 of OSI reference model. This layer is divided into two sub-layers:

1.Logical Link Control (LLC) sub-layer.

2. Media Access Control (MAC) sub-layer.

The LLC sub-layer handles error control, flow control, framing, and MAC sub-layer addressing.

The MAC sub-layer is the lower of the two sub-layers of the Data Link layer.

MAC sub-layer handles access to shared media, such a Token passing or Ethernet.

Q4. Match the following:

 A. Repeaters 1. Data Link Layer

 B. Bridges 2. Network Layer

 C. Routers 3. Physical Layer

Select the best combination:

 A. A --->2, B--->3, C--->1

 B. A--->3, B---->1, C---->2

 C. A--->3,B----->2, C---->1

 D. A---->1, B---->2, C---->3

Correct answer: B

Explanation:

Repeaters work at Physical layer (Layer 1),

Bridges and simple switches work at Data Link Layer (Layer 2),

Routers work at Network Layer (Layer 3) of ISO Reference Model.

Q5. Which of the following are session layer standards? [Select 2].

 A. NFS

 B. SQL

 C. JPG

 D. MIDI

Correct answer: A,B

Explanation:

 The following are some Presentation Layer standards:

 Graphic and Visual Image: PICT, TIFF, JPEG

 Movies and Sound: MIDI, MPEG, Quick Time

 The following are Session layer standards:

 NFS, SQL, RPC, X -Windows.

Match the corresponding layers of ISO and DoD models?

 DoD Model <---------> ISO OSI Model

 A. Process/Application 1. Application

 B. Host-to-Host 2. Presentation

 C. Internet 3. Session

 D. Network Access 4. Transport

 5. Network

 6. Data Link

 7. Physical

Choose best choice:

 A. A->1+2; B->3+4; C->5; D->6+7

 B. A->1+2+3; B->4; C->5; D->6+7

 C. A->1+2+3; B->4; C->5+6; D->7

 D. A->1+2+3; B->4+5; C->6; D->7

Correct answer: B

Explanation:

DoD Model maps to OSI model as below:

Process/ Application maps to OSI's Application, Presentation,Session layers (layers 7,6,5).

Host-to-Host maps to ISO's Transport layer (layer 4).

Internet maps to ISO's Network layer (layer 3).

Network Access maps to ISO's Data Link and Physical Layers (layers 6,7).

Q7. What is the command used to add a banner to a Cisco router configuration?

 A. add banner

 B. banner motd #

 C. motd banner #

 D. add banner #

Correct answer: B

Explanation:

The banner is displayed whenever anyone logs in to your Cisco router. The syntax is

"banner motd # " . MOTD stands for "Message Of The Day".

# symbol signifies the start of the banner message to the router. You will be prompted for the

message to be displayed. You need to enter "#" symbol at the end of the message, signifying

that the msg has ended.

Q8. What is the default administrative distance for RIP?

 A. 100

 B. 120

 C. 0

 D. 200

Correct answer: B

Explanation:

Default administrative distances are as below:

 Route Source Default Distance

 Directly connect Interface 0

 Static Route 1

 IGRP 100

 RIP 120

 Unknown 255

The administrative distance (metric) is used to represent the trust worthiness of the route.

Q9. The Cisco Catalyst 1900 switches support which three LAN switch types? [Select 3].

 A. Store-and-Forward

 B. FragmentFree

 C. InstaSwitch

 D. FastForward

Correct answer: A,B,D

Explanation:

The Catalyst 1900 and 2820 series switches support three types of switching methods:

1. FastForward (Cut-through): In this type of switching, the packet is forwarded as soon as the destination address is read. This has least latency.

2. FragmentFree ( Modified cut-through): This type of switching is usefull when your network is experiencing large number of collisions. FragmentFree switching has a latency in between FastFoward and the Store-and-Forward.

3. Store-and-Forward: This method stores the entire frame and checks for errors before forwarding it on to another port. Store-and-forward has the highest latency compared with both FastForward and FragmentFree.

The default switching method used by Catalyst 1900 series switches is FastForward.

Q10. Which is true regarding VLANs?

 A. VLAN technology uses VLAN switches (layer 2) which is a substitute for routing technology which uses routers.

 B. A VLAN has same collision domain

 C. A VLAN has same broadcast domain

 D. VLANs are less secure with respect to simple switch or Hub networks.

Correct answer: C

Explanation:

A VLAN is a group of devices on one or more logically segmented LANs. All devices working on a VLAN will have same broadcast domain. Like routers, switches (Layer 2) have the ability to provide domain broadcast segmentation called a VLAN. Using VLAN technology, you can group switch ports and their connected users into logically defined communities of interest. A VLAN operating on a Catalyst switch limits transmission of unicast, multicast, and broadcast traffic to only the other ports belonging to that VLAN, thereby controlling broadcasts.

The benefits of VLANS include:

1. Easy Administration resulting in reduced administration costs,

2. Increased Security due to broadcast control, if you are using simple hub, you can observe traffic corresponding to any node by simply inserting a Network analyzer.

3. Grouping based on functional requirements irrespective of physical location of nodes,

4. Simplify moves, adds, changes,

5. Distribution of traffic thereby using the network bandwidth more efficiently.

Q11. Your internet work consists entirely of Cisco devices. You have given a command "show cdp neighbors". In the response, you get "S" under the head "Capability". What does the letter "S" mean?

A. It means "Source Route Bridge"

B. It means "Host"

C. It means "Switch"

D. It means "Static"

Correct answer: C

Explanation:

The command "show CDP neighbors" displays all the neighboring devices connected and their capability. Several capability codes are:

R - Router

H - Host

T - Trans Bridge

I - IGMP

B - Source Route Bridge

r - repeater

S - Switch

This command "show CDP neighbors" displays the following:

1. Neighbor Device ID : The name of the neighbor device;

2. Local Interface : The interface to which this neighbor is heard

3. Capability: Capability of this neighboring device - R for router, S for switch, H for Host etc.

4. Platform: Which type of device the neighbor is. (2500 router or anything else)

5. Port ID: The interface of the remote neighbor you receive CDP information

6. Holdtime: Decremental hold time in seconds

Q12. You want to verify the encapsulation type being used at Data Link layer for interface s0. Which command can you use?

A. Sh ip protocol

B. sh int s0

C. sh ip interface

D. sh processes

Correct answer: B

Explanation:

"sh int <interface\_no> " is a very useful command. It displays the following information:

1. Hardware address

2. Status of interface and the line protocol - carrier detect brings up the serial port(which means that physical layer connections are working) and keep alive bring up the line protocol (which means that Data link layer protocol is working)..

3. MTU, BW, DLY, rely, and load metrics.

4. Encapsulation type (layer 2, Data link layer) - HDLC is the default.

Q13. You want to run 802.2 frame type on your Ethernet interface. Which encapsulation type has to be chosen?

A. Ethernet\_II

B. 802.2

C. SAP

D. SNAP

Correct answer: C

Explanation:

There are four different Ethernet framing types. Although several encapsulation types can share the same interface, clients and servers with different types cannot communicate without a router.

1. Ethernet\_802.3 - The default for NetWare versions 2.x through 3.11. This is also the default for Cisco routers. Cisco refers to this as Novell-ether.

2. Ethernet\_802.2 - The default for NetWare 3.12 and later versions. Cisco refers to this as SAP.

3. Ethernet\_II - This is also used with TCP/IP and DECnet. Cisco refers to this as ARPA.

4. Ethernet\_SNAP - This is also used with TCP/IP and AppleTalk. Cisco refers to this as SNAP.

Q14. What does -1 signify in an extended IPX access list?

 A. permit this host

 B. deny this host

 C. permit only this subnet

 D. any host or any network

Correct answer: D

Explanation:

-1 is used with IPX access lists to specify wildcard networks. This is same as using "any" in IP access lists.

Q15. Which command sequence will allow only traffic from network 185.64.0.0 to enter interface s0?

A. access-list 25 permit 185.64.0.0 255.255.0.0

 int s0 ; ip access-list 25 out

B. access-list 25 permit 185.64.0.0 255.255.0.0

 int s0 ; ip access-group 25 out

C. access-list 25 permit 185.64.0.0 0.0.255.255

 int s0 ; ip access-list 25 in

D. access-list 25 permit 185.64.0.0 0.0.255.255

 int s0 ; ip access-group 25 in

Correct answer: D

Explanation:

The correct sequence of commands are:

1. access-list 25 permit 185.64.0.0 0.0.255.255

2. int s0

3. ip access-group 25 in

Q16. Which of the following are reference points relevant to ISDN? [Select 2].

A. T

B. U

C. V

D. X

Correct answer: A,B

Explanation:

ISDN uses four different reference points to define logical interfaces:

1. R-reference point: Defines the reference point between non-ISDN compatible devices and a Terminal Adapter (TA).

2. S-reference point: Defines the reference point between user terminals and an NT2.

3. T-reference point: Defines the reference point between NT1 and NT2.

4. U-reference point: Defines the reference point between NT1 devices and line-termination equipment in a carrier network.

The flow of reference points are:

[TE2] ---R--->[TA]---S/T--->[NT1]--->U--->to carrier

[TE2]--->R--->[TA]--->S--->[NT2]--->T--->[NT2]--->to carrier

Q17. Which is true about VLAN Trunk Protocol? [Select 2].

A. VTP is statically configured and no built in intelligence is available.

B. VTP provides intelligence for configuring switches across the network.

C. VTP is not designed to distribute information across the switch fabric.

D. VTP is designed to distribute information across the switch fabric.

Correct answer: B, D

Explanation:

VLAN Trunk Protocol (VTP) is a layer 2 protocol that maintains VLAN configurations through a common administrative domain. Configurations are made to a VTP server, and are propagated across trunk lines to all switches in the VTP domain. VTP provides auto-intelligence for configuring switches across the network.

Q18. Which of the following is a term associated with WAN terminology / is a WAN device? [Select all that apply].

A. Demarc

B. DSU/CSU

C. Modem

D. CPE

Correct answer: A, B, C, D

Explanation:

WANs are connected over serial lines that operate at lower speeds than LANs. Some important WAN terms are:

1. Modems: Modems connect to public telephone circuits through dial-up.

2. CSU/DSU: Stands for Channel Service Unit / Data Service Unit. CSU/DSUs are used for connecting to Central Office of a Telephone switching company and provides serial WAN connections.

3. Multiplexors (mux): Multiplexors combine two or more signals before transmitting on a single channel. Multiplexing can be done by sharing "time" or "frequency".

4. CPE stands for Customer Premise Equipment.

5. Demarc : Demarcation point between carrier equipment and CPE.

Q19. Which of the following can be used to view the previous command you entered into a Cisco router? [Select 2].

A. CTRL+F1

B. The Down Arrow

C. The Up Arrow

D. CTRL + P

Correct answer: C, D

Explanation:

The following are some important commands that can be used to edit and review command history buffer. It will be useful to practice these commands.

<ctrl> A : Move to the beginning of the command line

<ctrl> E : Move to the end of the command line

<ctrl> F : Move forward one character, same as using "Right Arrow".

<ctrl> B : Move backward one character, same as using "Left Arrow".

<ctrl> P : Repeat Previous command, same as using "Up Arrow".

<ctrl> N : Repeat Next (more recent) command, same as using "Down Arrow".

<esc> B : Moves to beginning of previous word.

<esc> F : Moves to beginning of next word.

<ctrl>R : Creates new command prompt, followed by all the characters typed at the last one.

Q20. What is true about static VLANs? [Choose the best answer].

A. The VLAN is configured by a TFTP server.

B. It automatically notify a new network user.

C. The administrator assigns VLAN by port.

D. Static VLAN are more appropriate when the switch fabric becomes more complex.

Correct answer: C

Explanation:

Static VLANs: The administrator statically configures VLAN port assignment. VLAN memberships on the switch ports are assigned on a port-by-port basis.

Dynamic VLANs: A VMPS (VLAN Management Policy Server) can dynamically assign VLAN ports. The MAC address of the node is used to determine the VLAN assignment. A separate server or a Catalyst 5000 can function as a VMPS server. When a frame arrives on a dynamic port at the switch, it queries the VMPS for the VLAN assignment based on the source MAC address of the arriving frame.