

FORMATIVE ASSESSMENT 1


Module code	SYS412	Module name	System Support 2
Total marks	150	Pass mark	80%
Weeks covered	1-4 (Chapters 1 – 4)		

Essential embedded knowledge and skills required of students

- Ability to analyze scenarios/case studies
- Understanding subject field concepts and definitions

Instructions:

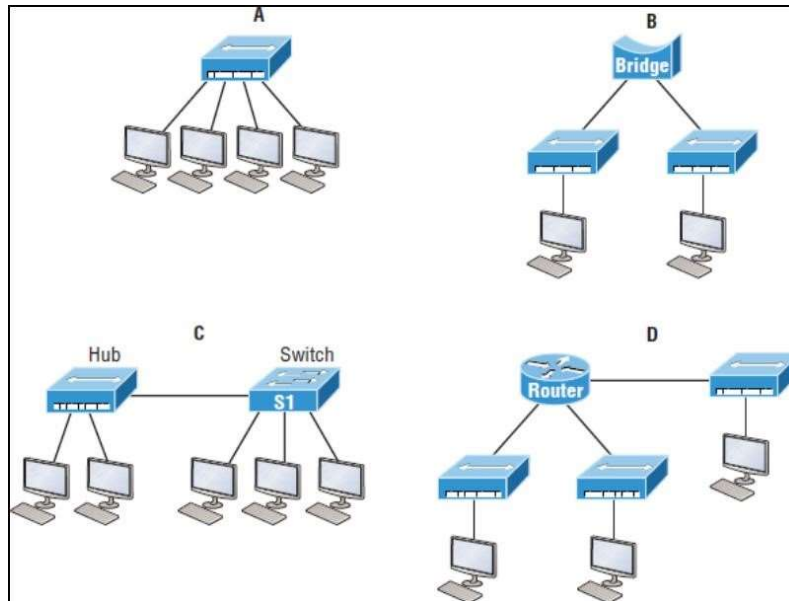
- Remember to keep a copy of all submitted assignments.
- All work must be typed.
- Students are not allowed to offer their work for sale or to purchase the work of other students. This includes the use of professional assignment writers. If this should happen, CTU Training Solutions reserves the right not to accept future submissions from a student.
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QUESTION 1		Total Marks	Marks	Moderated
Select the correct answer(s) from the available answers		64	0	0
1.1	<p>What cable type is shown in the following image?</p>  <p>a) Fiber optic b) Rollover c) Coaxial d) Full-duplex</p>	1		

1.2

Which of the following statements is/are true with regard to the device shown below?

1



- a) It includes one collision domain and one broadcast domain.
- b) It includes no collision domain and one broadcast domains.
- c) It includes 10 collision domains and one broadcast domain.
- d) It includes one collision domain and 10 broadcast domains.
- e) It includes 10 collision domains and 10 broadcast domains.

1.3

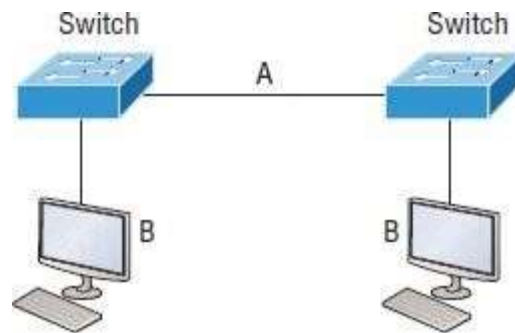
Which of the following Application layer protocols sets up a secure session that's similar to Telnet?

1

- a) FTP
- b) SSH
- c) DNS
- d) DHCP

1.4

In the following diagram, identify the cable types required for connections A and B.



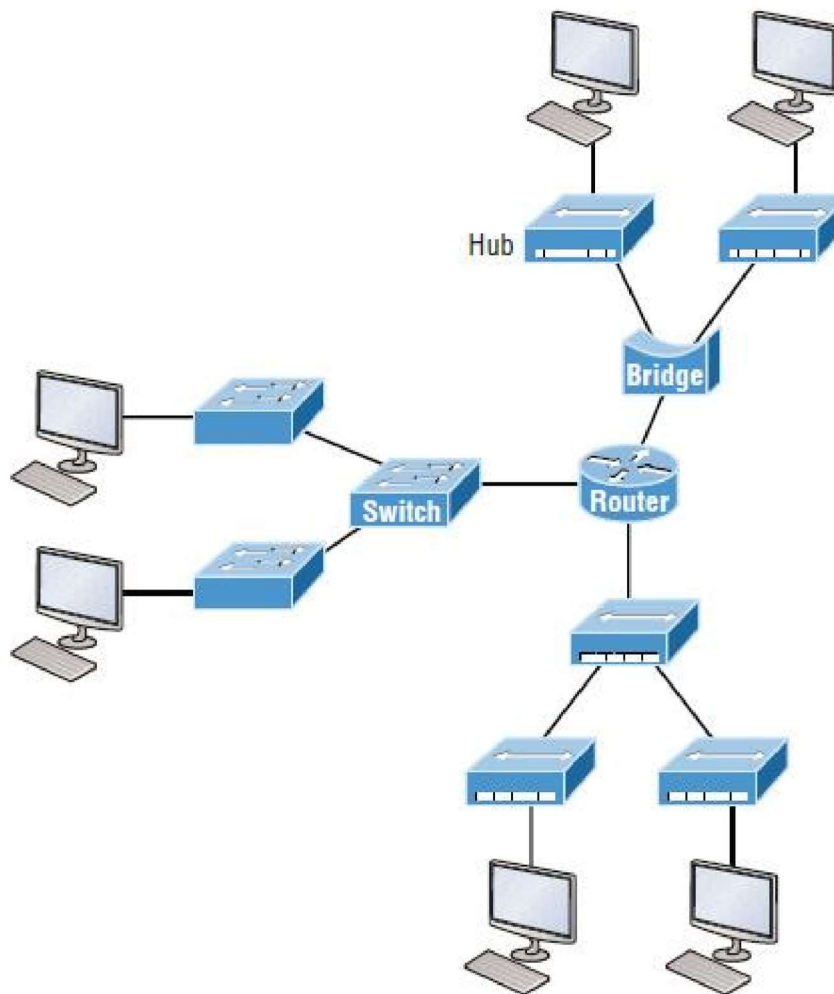
- a) A crossover, B crossover
- b) A crossover, B straight through
- c) A straight through, B straight through
- d) A straight through, B crossover

1

1.5

How many collision domains are present in the following diagram?

1



- a) 8
- b) 9**
- c) 10 +
- d) 11

1.6	<p>What type of cable is used between a host and switch?</p> <ul style="list-style-type: none"> a) crossover b) rollover c) straight through d) console 	1		
1.7	<p>How many octets are parts of the network portion of an IP address when the address is a Class B?</p> <ul style="list-style-type: none"> a) one b) two c) three d) four 	1		
1.8	<p>Which of the following layers of the OSI model was later subdivided into two layers?</p> <ul style="list-style-type: none"> a) Presentation b) Transport c) Data Link d) Physical 	1		
1.9	<p>What is a function of an access point (AP)?</p> <ul style="list-style-type: none"> a) To monitor and control the incoming and outgoing network traffic b) To automatically handle the configuration of a wireless access point c) To allow wireless devices to connect to a wired network d) To connect networks and intelligently choose the best paths between networks 	1		

1.10	<p>A _____ is an example of a device that operates only at the physical layer.</p> <ul style="list-style-type: none"> a) Hub b) Switch c) Router d) Bridge 	1		
1.11	<p>Which of the following statements is not true with regard to layer 2 switching?</p> <ul style="list-style-type: none"> a) Layer 2 switches and bridges are faster than routers because they don't take up time looking at the Data Link layer header information. b) Layer 2 switches and bridges look at the frame's hardware addresses before deciding to either forward, flood, or drop the frame. c) Switches create private, dedicated collision domains and provide independent bandwidth on each port. d) Switches use application-specific integrated circuits (ASICs) to build and maintain their MAC filter tables. 	1		

1.12

List the command that generated the output shown.

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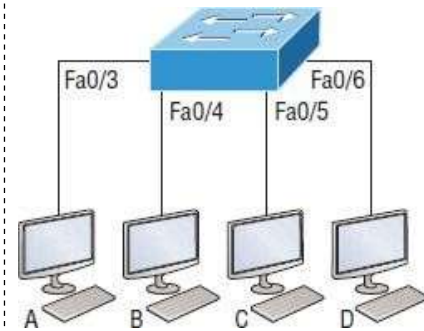
1. Mac Address Table

Vlan	Mac Address	Type	Ports
----	-----	-----	----
All	0100.0ccc.cccc	STATIC	CPU
[output cut]			
1	000e.83b2.e34b	DYNAMIC	Fa0/1
1	0011.1191.556f	DYNAMIC	Fa0/1
1	0011.3206.25cb	DYNAMIC	Fa0/1
1	001a.4d55.2f7e	DYNAMIC	Fa0/1
1	001b.d40a.0538	DYNAMIC	Fa0/1
1	001c.575e.c891	DYNAMIC	Fa0/1
1	aaaa.bbbb.0ccc	STATIC	Fa0/7

- a) show macs address table
- b) show mac address tables
- c) show mac address table
- d) shows macs address tables

1.13

In the diagram shown, what will the switch do if a frame with a destination MAC address of 000a.f467.63b1 is received on Fa0/4?
(Choose one answer.)



Switch# show mac address-table

VLAN	Mac Address	Ports
1	0005.dccb.d74b	Fa0/4
1	000a.f467.9e80	Fa0/5
1	000a.f467.9e8b	Fa0/6

- a) Drop the frame.
- b) Send the frame to every port except the one on which it arrived
- c) Send the frame out of Fa0/4.
- d) Send the frame out of Fa0/5.
- e) Send the frame out of Fa0/6.

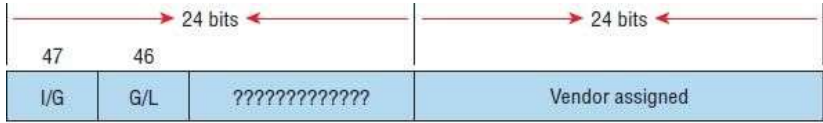
1

1.14

In the list in below, which items are functions of a switch.

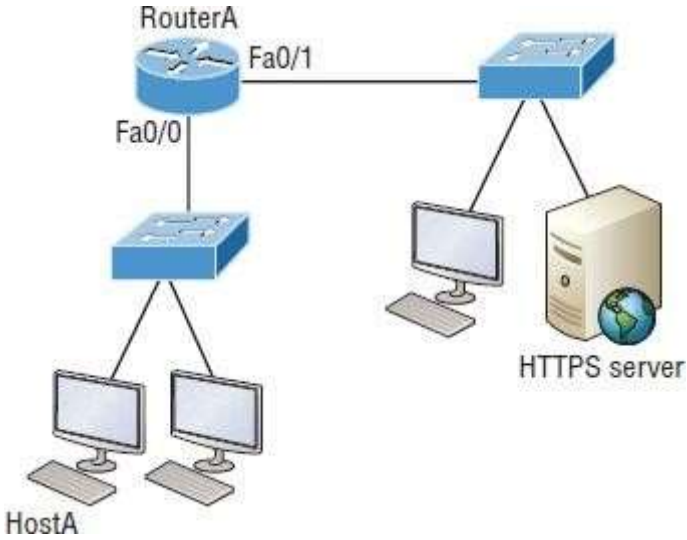
- a) Address learning
- b) Packet forwarding
- c) Layer 3 security
- d) Forward/filter decisions
- e) Loop avoidance

3

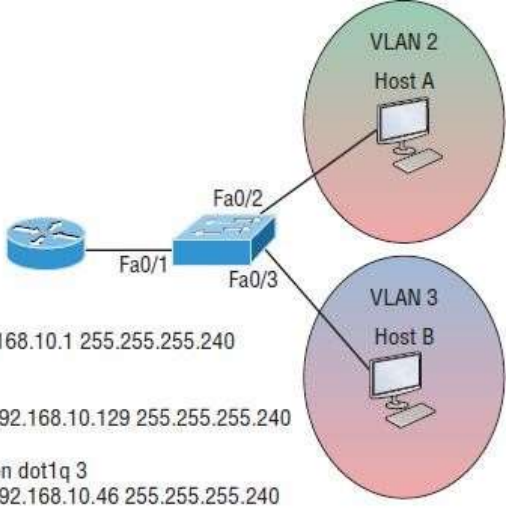
1.15	<p>What statement(s) is/are true about the output shown here? (Choose all that apply.)</p> <pre> 1. S3#sh port-security int f0/3 Port Security : Enabled Port Status : Secure-shutdown Violation Mode : Shutdown Aging Time : 0 mins Aging Type : Absolute SecureStatic Address Aging : Disabled Maximum MAC Addresses : 1 Total MAC Addresses : 2 Configured MAC Addresses : 0 Sticky MAC Addresses : 0 Last Source Address:Vlan : 0013:0ca69:00bb3 :00ba8:1 Security Violation Count : 1 </pre> <p>a) The port light for F0/3 will be amber in color. b) The F0/3 port is forwarding frames. c) This problem will resolve itself in a few minutes. d) This port requires the shutdown command to function.</p>	2		
1.16	<p>In the accompanying graphic, what is the name for the section of the MAC address marked as unknown?</p>  <p style="text-align: center;">Example: 0000.0c12.3456</p> <p>a) IOS b) OSI c) ISO d) OUI</p>	1		

1.17	<p>_____ on an Ethernet network is the retransmission delay that's enforced when a collision occurs.</p> <p>a) Backoff</p> <p>b) Carrier sense</p> <p>c) Forward delay</p> <p>d) Jamming</p>	1																					
1.18	<p>In the Ethernet II frame shown here, what is the function of the section labeled "FCS"?</p> <table><tr><th colspan="7">Ethernet II</th></tr><tr><td>Preamble</td><td>SFD</td><td>Destination</td><td>Source</td><td>Type</td><td>Data and Pad</td><td>FCS</td></tr><tr><td>7 bytes</td><td>1 byte</td><td>6 bytes</td><td>6 bytes</td><td>2 bytes</td><td>46 – 1500 bytes</td><td>4 bytes</td></tr></table> <p>a) Allows the receiving devices to lock the incoming bit stream</p> <p>b) Error detection</p> <p>c) Identifies the upper-layer protocol</p> <p>d) Identifies the transmitting device</p>	Ethernet II							Preamble	SFD	Destination	Source	Type	Data and Pad	FCS	7 bytes	1 byte	6 bytes	6 bytes	2 bytes	46 – 1500 bytes	4 bytes	1
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Preamble	SFD	Destination	Source	Type	Data and Pad	FCS																	
7 bytes	1 byte	6 bytes	6 bytes	2 bytes	46 – 1500 bytes	4 bytes																	
1.19	<p>For what two purposes does the Ethernet protocol use physical addresses? (Choose two.)</p> <p>a) To uniquely identify devices at layer 2</p> <p>b) To allow communication with devices on a different network</p> <p>c) To differentiate a layer 2 frame from a layer 3 packet</p> <p>d) To establish a priority system to determine which device gets to transmit first</p> <p>e) To allow communication between different devices on the same network</p> <p>f) To allow detection of a remote device when its physical address is unknown</p>	2																					

1.20	<p>Which of the following statements is true with regard to VLANs?</p> <ul style="list-style-type: none"> a) VLANs greatly reduce network security. b) VLANs increase the number of collision domains while decreasing their size. c) VLANs decrease the number of broadcast domains while decreasing their size. d) Network adds, moves, and changes are achieved with ease by just configuring a port into the appropriate VLAN. 	1		
1.21	<p>What command was used to generate the following output?</p> <pre> 1. Codes: L - local, C - connected, S - static, [output cut] 10.0.0.0/8 is variably subnetted, 6 subnets, 4 masks C 10.0.0.0/8 is directly connected, FastEthernet0/3 L 10.0.0.1/32 is directly connected, FastEthernet0/3 C 10.10.0.0/16 is directly connected, FastEthernet0/2 L 10.10.0.1/32 is directly connected, FastEthernet0/2 C 10.10.10.0/24 is directly connected, FastEthernet0/1 L 10.10.10.1/32 is directly connected, FastEthernet0/1 S* 0.0.0.0/0 is directly connected, FastEthernet0/0 </pre> <ul style="list-style-type: none"> a) show ip route config b) show ip config route c) show config ip route d) show ip route 	1		
1.22	<p>You are viewing the routing table and you see an entry 10.1.1.1/32. What legend code would you expect to see next to this route?</p> <ul style="list-style-type: none"> a) C b) L c) S d) D 	1		

1.23	<p>Which of the following statements are true regarding the command <code>ip route 172.16.4.0 255.255.255.0 192.168.4.2</code>? (Choose two.)</p> <ul style="list-style-type: none"> a) The command is used to establish a static route. b) The default administrative distance is used. c) The command is used to configure the default route. d) The subnet mask for the source address is 255.255.255.0. e) The command is used to establish a stub network. 	2	
1.24	<p>What destination addresses will be used by HostA to send data to the HTTPS server as shown in the following network? (Choose two.)</p>  <p>The diagram shows a network topology where HostA (two PCs) is connected to a local switch. This switch is connected to RouterA's Fa0/0 interface. RouterA's Fa0/1 interface is connected to a remote switch. The remote switch is connected to an HTTPS server (a tower PC with a globe icon). HostA is labeled 'HostA' and the server is labeled 'HTTPS server'.</p> <ul style="list-style-type: none"> a) The IP address of the switch b) The MAC address of the remote switch c) The IP address of the HTTPS server d) The MAC address of the HTTPS server e) The IP address of RouterA's Fa0/0 interface f) The MAC address of RouterA's Fa0/0 interface 	2	

1.25	<p>Using the output shown, what protocol was used to learn the MAC address for 172.16.10.1?</p> <pre> 1. Interface: 172.16.10.2 --- 0x3 Internet Address Physical Address Type 172.16.10.1 00-15-05-06-31 b0 dynamic </pre> <p>a) ICMP b) ARP c) TCP d) UDP</p>	1		
1.26	<p>Which of the following is called an advanced distance-vector routing protocol?</p> <p>a) OSPF b) EIGRP c) BGP d) RIP</p>	1		
1.27	<p>When a packet is routed across a network, the _____ in the packet changes at every hop while the _____ does not.</p> <p>a) MAC address, IP address b) IP address, MAC address c) Port number, IP address d) IP address, port number</p>	1		

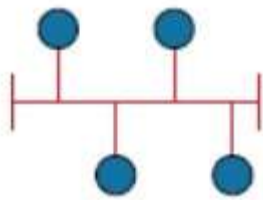
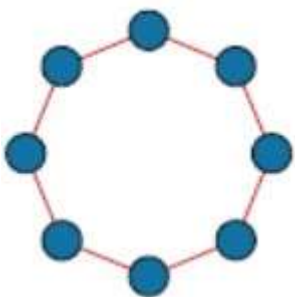
1.28	<p>Write the command that must be present for this layer 3 switch to provide inter-VLAN routing between the two VLANs created with these commands:</p> <pre>S1 (config) #int vlan 10 S1 (config-if) #ip address 192.168.10.1 255.255.255.0 S1 (config-if) #int vlan 20 S1 (config-if) #ip address 192.168.20.1 255.255.255.0</pre> <p>a) on shutdown b) no shutdown c) to shutdown d) by shutdown</p>	1		
1.29	<p>In the configuration and diagram shown, what command is missing to enable inter-VLAN routing between VLAN 2 and VLAN 3?</p> <div style="display: flex; align-items: center; justify-content: center;"> <pre>Router#config t Router(config)#int fa0/0 Router(config-if)#ip address 192.168.10.1 255.255.255.240 Router(config-if)#no shutdown Router(config-if)#int f0/0.2 Router(config-subif)#ip address 192.168.10.129 255.255.255.240 Router(config-subif)#int fa0/0.3 Router(config-subif)#encapsulation dot1q 3 Router(config-subif)#ip address 192.168.10.46 255.255.255.240</pre>  </div> <p>a) encapsulation dot1q 3 under int f0/0.2 b) encapsulation dot1q 2 under int f0/0.2 c) no shutdown under int f0/0.2 d) no shutdown under int f0/0.3</p>	1		

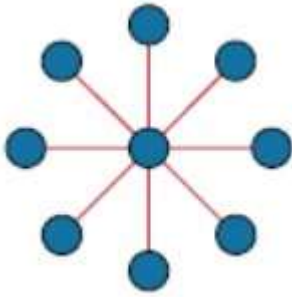
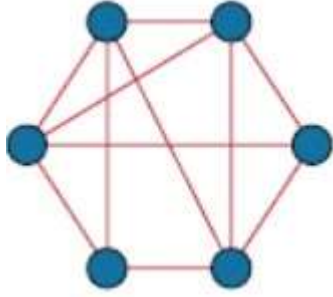
1.30	<p>Based on the configuration shown here, what statement is true?</p> <pre> S1 (config) #ip routing S1 (config) #int vlan 10 S1 (config-if) #ip address 192.168.10.1 255.255.255.0 S1 (config-if) #int vlan 20 S1 (config-if) #ip address 192.168.20.1 255.255.255.0 </pre> <p>a) This is a multilayer switch. b) The two VLANs are in the same subnet. c) Encapsulation must be configured. d) VLAN 10 is the management VLAN.</p>	1		
1.31	<p>Which command will display the CHAP authentication process as it occurs between two routers in the network?</p> <p>a) show chap authentication b) show interface serial 0 c) debug ppp authentication d) debug chap authentication</p>	1		
1.32	<p>Which of the following are true regarding the following command? (Choose two.)</p> <pre> R1(config-router)# neighbor 10.10.200.1 remote-as 6200 </pre> <p>a) R1(config-router)# neighbor 10.10.200.1 remote-as 6200 b) The local router R1 uses AS 6200. c) The remote router uses AS 6200. d) The local interface of R1 is 10.10.200.1. e) The neighbor IP address is 10.10.200.1. f) The neighbor's loopback interface is 10.10.200.1.</p>	2		

1.33	<p>BGP uses which Transport layer protocol and port number?</p> <ul style="list-style-type: none"> a) UDP/123 b) TCP/123 c) UDP/179 d) TCP/179 e) UDP/169 f) TCP/169 	1		
1.34	<p>Which command can you use to know the hold time on the two BGP peers?</p> <ul style="list-style-type: none"> a) show ip bgp b) show ip bgp summary c) show ip bgp all d) show ip bgp neighbor 	1		
1.35	<p>What does a next hop of 0.0.0.0 mean in the show ip bgp command output?</p> <pre> Network Next Hop Metric LocPrf Weight Path *> 10.1.1.0/24 0.0.0.0 0 32768 ? *> 10.13.13.0/24 0.0.0.0 0 32768 ? </pre> <ul style="list-style-type: none"> a) The router does not know the next hop. b) The network is locally originated via the network command in BGP. c) It is not a valid network. d) The next hop is not reachable. 	1		

1.36	<p>Which two of the following are GRE characteristics? (Choose two.)</p> <ul style="list-style-type: none"> a) GRE encapsulation uses a protocol-type field in the GRE header to support the encapsulation of any OSI layer 3 protocol. b) GRE itself is stateful. It includes flow-control mechanisms by default. c) GRE includes strong security mechanisms to protect its payload. d) The GRE header, together with the tunneling IP header, creates at least 24 bytes of additional overhead for tunneled packets. 	2		
1.37	<p>A GRE tunnel is flapping with the following error message:</p> <pre> 07:11:49: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0, changed state to up 07:11:55: %TUN-5-RECURDOWN: Tunnel0 temporarily disabled due to recursive routing 07:11:59: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0, changed state to down 07:12:59: %LINEPROTO-5-UPDOWN: </pre> <p>What could be the reason for the tunnel flapping?</p> <ul style="list-style-type: none"> a) IP routing has not been enabled on the tunnel interface. b) There's an MTU issue on the tunnel interface. c) The router is trying to route to the tunnel destination address using the tunnel interface itself. d) An access list is blocking traffic on the tunnel interface. 	1		

1.38	<p>Which of the following commands will not tell you if the GRE tunnel 0 is in up/up state?</p> <p>a) show ip interface brief b) show interface tunnel 0 c) show ip interface tunnel 0 d) show run interface tunnel 0</p>	1		
1.39	<p>Which of the following PPP authentication protocols authenticates a device on the other end of a link with an encrypted password?</p> <p>a) MD5 b) PAP c) CHAP d) DES</p>	1		
1.40	<p>Which of the following encapsulates PPP frames in Ethernet frames and uses common PPP features like authentication, encryption, and compression?</p> <p>a) PPP b) PPPoA c) PPPoE d) Token Ring</p>	1		
1.41	<p>Select the three upper layers of the OSI model.</p> <p>a) Application layer b) Presentation layer c) Session layer d) Transport layer e) Network layer f) Data Link layer g) Physical layer</p>	3		

1.42	<p>Select the correct network topology for the following image.</p>  <p>a) Ring topology b) Bus topology c) Star topology d) Mesh topology</p>	1		
1.43	<p>Select the correct network topology for the following image.</p>  <p>a) Ring topology b) Bus topology c) Star topology d) Mesh topology</p>	1		

1.44	<p>Select the correct network topology for the following image.</p>  <p>The diagram shows a central blue node connected to eight surrounding blue nodes in a star configuration. All connections radiate from the central node.</p> <ul style="list-style-type: none"> a) Ring topology b) Bus topology c) Star topology d) Mesh topology 	1		
1.45	<p>Select the correct network topology for the following image.</p>  <p>The diagram shows six blue nodes arranged in a hexagonal pattern. Every node is connected to every other node, forming a complete mesh of connections.</p> <ul style="list-style-type: none"> a) Ring topology b) Bus topology c) Star topology d) Mesh topology 	1		

1.46	<p>When a frame arrives at a switch interface, the destination hardware address is compared to the forward/filter MAC database. If the destination hardware address is known and listed in the database, the frame is only sent out of the appropriate exit interface. This is called:</p> <ul style="list-style-type: none"> a) Frame Switching b) Frame Flooding c) Packet Switching d) Packet Flooding 	1		
1.47	<p>If the destination hardware address isn't listed in the MAC database, then the frame will be flooded out all active interfaces except the interface it was received on. If a device answers the flooded frame, the MAC database is then updated with the device's location—its correct interface.</p> <ul style="list-style-type: none"> a) Frame Switching b) Frame Flooding c) Packet Switching d) Packet Flooding 	1		
1.48	<p>Select the three (3) switch functions.</p> <ul style="list-style-type: none"> a) Address learning b) Forward/filter decisions c) Loop avoidance d) Loop recognition e) Address recognition 	3		

1.49	<p>Frames that did not meet the minimum frame size requirement of 64 bytes. Typically caused by collisions.</p> <ul style="list-style-type: none"> a) Runts b) Giants c) CRC d) Frame 	1		
1.50	<p>A(n) _____ port belongs to and carries the traffic of only one VLAN.</p> <ul style="list-style-type: none"> a) Serial b) Parallel c) Access d) Serie 	1		
1.51	<p>The _____ command shows the configuration settings and the interface status as well as the IP address, tunnel source, and destination address.</p> <ul style="list-style-type: none"> a) <code>show interfaces</code> b) <code>show interface</code> 	1		
1.52	<p>The _____ command gives you an overview of the BGP status.</p> <ul style="list-style-type: none"> a) <code>show ip bpg summary</code> b) <code>view ip bgp summary</code> c) <code>show ip bgp summary</code> d) <code>show ip bgp view</code> 	1		

QUESTION 2		Total Marks	Marks	Moderated
State whether the following statements are TRUE or FALSE		59	0	0
2.1	Transmission Control Protocol (TCP) takes large blocks of information from an application and breaks them into segments.	1	false	
2.2	Most programmers use TCP because it removes a lot of programming work, but for real-time video and VoIP, User Datagram Protocol (UDP) is often better because using it results in less overhead.	1	false	
2.3	User Datagram Protocol (UDP) is basically the scaled-down economy model of TCP, which is why UDP is sometimes referred to as a thin protocol.	1		true
2.4	ADP does not sequence the segments and does not care about the order in which the segments arrive at the destination.	1		
2.5	Firewalls are hardware appliances or special software running on servers that control the flow of traffic between parts of the network.	1		true
2.6	Access Points allow wireless devices to connect to a wired network and extend a collision domain from a switch and are typically in their own broadcast domain, or what is referred to as a virtual LAN (VLAN).	1		true
2.7	Wireless Controllers are devices that network administrators or network operations centers use to manage access points in medium to large to extremely large quantities.	1		true

2.8	Users connecting to a cloud provider's network, whether it be for storage or applications, really don't care about the underlying infrastructure because as computing becomes a service rather than a product, it's then considered an on-demand resource.	1		true
2.9	Infrastructure as a Service (IaaS) provides only the network.	1	false	
2.10	Platform as a Service (PaaS) provides the operating system and the network.	1	false	
2.11	Software as a Service (SaaS) provides the required software, operating system, and network.	1	false	
2.12	The core layer is literally the core of the network. At the top of the hierarchy, the core layer is responsible for transporting large amounts of traffic both reliably and quickly.	1		true
2.13	If there's a failure in the core, every single user can be affected!	1		true
2.14	The distribution layer is sometimes referred to as the workgroup layer and is the communication point between the access layer and the core.	1		true
2.15	The access layer controls user and workgroup access to internetwork resources. The access layer is sometimes referred to as the desktop layer.	1		true
2.16	In the collapsed core approach the distribution layer and the core layer are combined into a single layer, thus the name collapsed core.	1	false	

2.17	In a bus topology, every workstation is connected to a single cable, meaning every host is directly connected to every other workstation in the network.	1		true
2.18	In a ring topology, computers and other network devices are cabled together in a way that the last device is connected to the first to form a circle or ring.	1		true
2.19	The most common physical topology is a star topology, which is your Ethernet switching physical layout. A central cabling device (switch) connects the computers and other network devices together. This category includes star and extended star topologies. Physical connection is commonly made using twisted-pair wiring.	1		true
2.20	In a mesh topology, every network device is cabled together with a connection to each other. Redundant links increase reliability and self-healing. The physical connection is commonly made using fiber or twisted-pair wiring.	1		true
2.21	The EIA/TIA (Electronic Industries Alliance and the newer Telecommunications Industry Association) is the standards body that creates the Physical layer specifications for Ethernet.	1	false	
2.22	It's very possible to connect a straight-through cable between two switches, and it will start working because of autodetect mechanisms called auto-mdix.	1		true
2.23	Rolled cable isn't used to connect any Ethernet connections together, you can use a rolled Ethernet cable to connect a host EIA-TIA 232 interface to a router console serial communication (COM) port.	1	false	
2.24	The network address (which can also be called the network number) uniquely identifies each network.	1		true

2.25	The node address is assigned to, and uniquely identifies, each machine on a network.	1		true
2.26	In a Class A network address, the first byte is assigned to the network address and the three remaining bytes are used for the node addresses.	1		true
2.27	The first 3 bytes of a Class C network address are dedicated to the network portion of the address, with only 1 measly byte remaining for the node address.	1		true
2.28	When a switch is first powered on, the MAC forward/filter table (CAM) is empty	1	false	
2.29	If a device answers this flooded frame and sends a frame back, then the switch will take the source address from that frame and place that MAC address in its database as well, associating this address with the interface that received the frame.	1		true
2.30	Packets output is the total number of packets (frames) forwarded out to the interface.	1		true
2.31	Late collisions is if all Ethernet specifications are followed during the cable install, all collisions should occur by the 64th byte of the frame.	1	false	
2.32	A duplex mismatch causes late collision errors at the end of the connection. To avoid this situation, manually set the duplex parameters of the switch to match the attached device.	1		true
2.33	Cisco Discovery Protocol is useful for detecting errors and for gathering port and system statistics on nearby Cisco devices.	1		true

2.34	A created VLAN is unused until it is assigned to a switch port or ports and that all ports are always assigned in VLAN 1 unless set otherwise.	1		true
2.35	Remember to check a switch port's VLAN assignment when plugging in a new host. If you plug a new host into a switch, then you must verify the VLAN membership of that port. If the membership is different than what is needed for that host, the host will not be able to reach the needed network services, such as a workgroup server or printer.	1		true
2.36	The native VLAN is one that carries all untagged traffic or traffic from devices that still reside in the native VLAN. You can change the number of the native VLAN to mitigate certain types of attacks.	1	false	
2.37	The IP routing process is fairly simple and doesn't change, regardless of the size of your network.	1		true
2.38	The administrative distance (AD) is used to rate the trustworthiness of routing information received on a router from a neighbor router.	1		true
2.39	Instead of using a router interface for each VLAN, you can use one FastEthernet interface and run ISL or 802.1q trunking.	1	false	
2.40	When you create a trunked link, all VLANs are allowed to pass data by default.	1	false	
2.41	Static routing is the process that ensues when you manually add routes in each router's routing table.	1	false	

2.42	A stub indicates that the networks in this design have only one way out to reach all other networks, which means that instead of creating multiple static routes, we can just use a single default route.	1	false	
2.43	When a route is created that points to a network (as most route entries do), it is called a network route.	1	false	
2.44	LCP is a method of establishing, configuring, maintaining, and terminating the point-to-point connection. It also provides features such as authentication.	1		true
2.45	You can't just have PPP on one side and HDLC on the other— they don't get along!	1		true
2.46	You can use MLP to connect your home network to an Internet service provider using two traditional modems or to connect a company via two leased lines.	1		true
2.47	Cisco routers use a proprietary High-Level Data Link Control (HDLC) encapsulation on all their serial links by default.	1		true
2.48	The serial WAN topologies that are most widely used are point-topoint, full mesh, and hub and spoke.	1	false	
2.49	When you hear the term circuit switching, think phone call.	1		true
2.50	MultiProtocol Label Switching (MPLS) is a data-carrying mechanism that emulates some properties of a circuit-switched network over a packet-switched network.	1	false	

2.51	Point-to-Point Protocol over Ethernet encapsulates PPP frames in Ethernet frames and is usually used in conjunction with xDSL services.	1		true
2.52	The Cisco Dynamic Multipoint Virtual Private Network (DMVPN) feature enables you to easily scale large and small IPsec VPNs. The Cisco DMVPN is Cisco's answer to allow a corporate office to connect to branch offices with low cost, easy configuration, and flexibility.	1		true
2.53	Extranet VPNs allow an organization's suppliers, partners, and customers to be connected to the corporate network in a limited way for business-to-business (B2B) communications.	1		true
2.54	The Border Gateway Protocol (BGP) is perhaps one of the most well-known routing protocols in the world of networking.	1		true
2.55	The, show ip bgp neighbors, command provides more information about BGP connections to neighbors than the, show ip bgp, command does.	1	false	
2.56	Data can run into congested lines or take a less-than-ideal route to the destination, and delays like these can make some applications, such as VoIP, fail.	1		true
2.57	Out-of-order delivery is also a result of packets taking different paths through the network to their destinations.	1		true
2.58	Policers and shapers identify traffic violations in a similar manner, but they differ in their response.	1	false	
2.59	Shapers are usually deployed between an enterprise network, on the egress side, and the service provider network to make sure you stay within the carrier's contract rate.	1		true

QUESTION 3 Refer to Reserved IP addresses Match the Address with the appropriate Function	Total Marks	Marks	Moderated
	7	0	0

Address		Function	
3.1	Network address of all 0s d	a	Reserved for loopback tests. Designates the local node and allows that node to send a test packet to itself without generating network traffic
3.2	Network address of all 1s g	b	Interpreted to mean “all nodes” on the specified network; for example, 128.2.255.255 means “all nodes” on network 128.2 (Class B address)
3.3	Network 127.0.0.1 a	c	Interpreted to mean “network address” or any host on a specified network
3.4	Node address of all 0s b	d	Interpreted to mean “this network or segment”
3.5	Node address of all 1s c	e	Used by Cisco routers to designate the default route. Could also mean “any network”
3.6	Entire IP address set to all 0s e	f	Broadcast to all nodes on the current network; sometimes called an “all 1s broadcast” or local broadcast

3.7	Entire IP address set to all 1s (same as 255.255.255.255) f	g	Interpreted to mean “all networks”
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<p>QUESTION 4</p> <p>Refer to basic commands that you can use to help troubleshoot your network from both a PC and a Cisco router.</p> <p>Match the Command with the appropriate Function</p>	Total Marks	Marks	Moderated
	6	0	0

Command		Function	
4.1	Ping f	a	Displays the list of routers on a path to a network destination by using TTL time-outs and ICMP error messages. This command will not work from a command prompt.
4.2	Traceroute a	b	Displays IP-to-MAC-address mappings on a Windows PC
4.3	Tracert e	c	Same function as arp -a, but displays the ARP table on a Cisco router. Like the commands traceroute and tracert, arp -a and show ip arp are not interchangeable through DOS and Cisco.
4.4	arp -a b	d	Used only from a Windows command prompt; shows you the PC network configuration
4.5	show ip arp c	e	Same function as traceroute, but it's a Microsoft Windows command and will not work on a Cisco router

4.6	ipconfig /all d	f	Uses ICMP echo request and replies to test if a node IP stack is initialized and alive on the network
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QUESTION 5 Refer to varieties of spanning-tree protocols. Match the Protocol with the appropriate Definition.			Total Marks		
				Marks	Moderated
			5	0	0

Command		Function	
5.1	IEEE 802.1d b	a	Also called Rapid Spanning Tree Protocol (RSTP), this iteration enhanced the BPDU exchange and paved the way for much faster network convergence, but it still only allows for one root bridge per network like CST.
5.2	PVST+ (Cisco default version) e	b	IEEE standard that started out as Cisco propriety MSTP.
5.3	IEEE 802.1w a	c	The original standard for bridging and STP, which is really slow but requires very little bridge resources. It's also referred to as Common Spanning Tree (CST).
5.4	802.1s (MSTP) c	d	Cisco's version of RSTP that also uses PVST+ and provides a separate instance of 802.1w per VLAN.
5.5	Rapid PVST+ d	e	Per-VLAN Spanning Tree+ (PVST+) is the Cisco proprietary enhancement for STP that provides a separate 802.1d spanningtree instance for each VLAN.

QUESTION 6 Refer to Default administrative distances. Match the Route Source with the appropriate Default AD.	Total Marks	Marks	Moderated
	9	0	0

Command		Function	
6.1	Connected interface i	a	1
6.2	Static route a	b	20
6.3	External BGP b	c	110
6.4	EIGRP h	d	120
6.5	OSPF c	e	170
6.6	RIP d	f	200
6.7	External EIGRP e	g	255
6.8	Internal BGP f	h	90
6.9	Unknown g	i	0