**Debre Markos University**

**School of Computing - Information Technology Program**

**Computer Networking Exam Worksheet**

1. **Choose the best Answer from the alternatives given**
2. The channel that communicates the sender and receiver and carries a signal from the encoder to the decoder is:
   1. NIC
   2. Transmission Media
   3. MODEM
   4. Transport Layer
3. The time taken or delay interval to transmit a packet from our computer to the transmission medium is termed as?
   1. Transmission Delay
   2. Propagation Delay
   3. Queuing Delay
   4. All delays refer the same concept
4. Haleluya Export uses a network for sharing of files and resources. The company doesn’t install sever due to budget scarcity. Which one of the following cannot be necessarily true about this company network?
   1. It uses token passing
   2. It uses CSMA/CD
   3. It uses dump terminals
   4. It uses peer to peer network
5. Among the connectors on network which one is the most intelligent device from the lists given?
   1. Router
   2. Bridge
   3. Switch
   4. Gateway
6. Among the following routing protocol details, one is false about OSPF protocol
   1. It is an interior Link state protocol to distribute routing information
   2. It is an exterior Distance Vector protocol to distribute routing information
   3. It uses the shortest path first / Dijkstra algorithm
   4. It handles variable length subnet mask on the network
7. On Fiber Optics cable concept one of the following parts is wrongly intermingled
   1. Coating is basic to light-carrying on signal transmission
   2. Cladding protects signal distortion
   3. The core can be made from a glass or plastic
   4. Kevlar is also a fiber to provide strength
8. Which one of the following is false about the IP address 192.168.20.20?
   1. It has mask of 255.255.255.0
   2. The first 3 octets are network ID
   3. It is a private network address on class C
   4. It is a public IP address on Class C
9. One of the following is the correct activity that a network layers should perform
   1. Helps to configure the network id and mask of the network
   2. Helps to find the right path for data delivery
   3. Helps to configure the sender and receiver MAC addresses
   4. Concerned with logical addressing that physical addressing
10. Which one of the following cannot be included in medium of transmission?
    1. Coaxial Cable
    2. Microwave
    3. Free space
    4. Fiber Optics
11. A user can search for a website using IP address (such as using Google.com IP address) if he/she knows the IP address of the hosting computer
12. True
13. False
14. Can’t be determined
15. If you are using signal transmission with a frequency that ranges between 2MHz and 30 MHz, which propagation is appropriate
    1. Sky propagation
    2. Line-of-sight propagation
    3. Ground propagation
    4. All of them can be used
16. Which of the following is least significance factor to be considered while designing transmission media?
    1. The Media Bandwidth
    2. The Media impairments
    3. The Media speed
    4. Computer type
17. Among the transmission media \_\_\_\_\_ cable carries signal in better frequency range than \_\_\_\_ media, select the wrong choice with their respective order
    1. Twisted Pair, Coaxial
    2. Fiber Optics, Twisted Pair
    3. Coaxial, Twisted pair
    4. Fiber Optics Coaxial
18. Which one of the following is not an activity performed by presentation layer?
    1. This layer helps to reduce the data size on communication
    2. This layer segments the data to make easy for session layer
    3. This layer helps to translate the data to certain bit sizes of characters
    4. This layer helps to decrypt the sent data on the receiver side
19. On traditional telephone communication which device helps to convert analog signals to digital and the vice versa
    1. Gateway
    2. Firewall
    3. Modem
    4. Switch
20. A method of communication in which data transmission can takes place in both direction between the sender and receive but only one direction at a time is?
    1. Half duplex
    2. Full duplex
    3. Simplex
    4. Extra-simplex
21. If you use a bridge to segments your networks this device is working on \_\_\_\_ layer of the OSI model?
    1. Physical Layer
    2. Network Layer
    3. Datalink Layer
    4. Transport Layer
22. A computer is sending a message for selected many computers in the organization such destination identification is?
    1. Broadcasting
    2. Unicasting
    3. Multicasting
    4. None of these
23. The device that helps to connect dissimilar networks is \_\_\_\_?
    1. Gateway
    2. Hub
    3. Bridge
    4. Switch
24. Which one of the following cannot be part of an ethernet frame?
    1. Source or destination MAC address
    2. Source or destination IP address
    3. Frame check sequence
    4. Frame payload
25. A device that connect wo or more segments and amplifies signal strength or reshape to the original signal strength for is \_\_?
    1. Router
    2. Switch
    3. Hub
    4. Repeater
26. In which layer of the OSI model does Address Resolution Protocol (ARP) works for?
    1. Physical Layer
    2. Network Layer
    3. Transport Layer
    4. Session Layer
27. If two parties are communicating on a computer networking which one of the following will have more packet exchange on the communication
28. TCP
29. UDP
30. It depends on the type of media they are using
31. It is the same on both TCP and UDP
32. While two computers are communicating the computers to be connected to the other should be authenticate and authorized for the network service. Which layer perform these activities
    1. Session Layer
    2. Physical Layer
    3. Transport Layer
    4. Presentation Layer
33. Among the following IP addresses one can be assigned as an internet interface IP address
    1. 10.10.10.0
    2. 192.168.0.0
    3. 172.16.200.0
    4. 150.10.0.0
34. Among the wireless waves one belongs to the type that can penetrate walls or pass though buildings?
    1. Infrared
    2. Microwave
    3. Radio wave
    4. Satellite
35. On transmission medium one of the following doesn’t serve to connect copper cables
    1. ST – Connector
    2. RJ-45 – connector
    3. BNC – Barrel connector
    4. BNC-T connector
36. On data transmission attenuation is created because of \_\_\_\_?
    1. Signal can be dispersed and change its direction
    2. Signal can loss energy and become weak
    3. Signal can have additional unwanted signals
    4. Signal can be boosted and pushed further
37. On the wide area internal to externals network communication the Network address Translator (NAT gateway) mange one of the following packets
38. Source IP and source MAC only
39. Destination IP address and DNS name
40. Source IP address and source port number
41. Destination IP address and destination port number
42. A device that can act as multiport repeater to connect and amplify signal is \_\_\_?
    1. Repeater
    2. Router
    3. Bridge
    4. Switch
43. The Datalink layer perform all the following activities on the computer networking except?
    1. Works with the 48 bit or 12 hexadecimal address formats
    2. It uses and embedded address for communication
    3. Accept data and perform error detection and correction
    4. Help upper layers to access the media of communication free of error using CSMA
44. Given the IP address 15.220.150.214/12 what is the network id of this IP address?
    1. 11111111.11110000.00000000.0000000/12
    2. 00001111.11010000.00000000.0000000/12
    3. 11110000.00101111.00000000.0000000/12
    4. 00000000.00001111.11111111.1111111/12
45. Which one of the following can be a basic reason to migrate from IPv4 to IPv6?
    1. It is because IPv4 is short to write
    2. It is because IPv6 becomes long number
    3. It is because the number of computers to participate on the internet increased
    4. It is to make the IP address a standard
46. Which one of the following windows commands helps the user to find the ethernet address given the IP address?
    1. arp
    2. ping
    3. ipconfig
    4. nslookup
47. Haleluya Trading got an IP address of 211.50.84.0 from Ethiopian Telecom. Haleluya trading wants to kame 19 subnets. Which of the following is false about its IP consumption?
    1. The third host on the third subnet will have an IP address of 211.50.84.17/29
    2. The subnet mask for the network will be 255.255.255.248
    3. The maximum number of hosts under each subnet will be 8
    4. The last subnet network ID will be 211.50.84.248/29
48. On classical ethernet the Maximum Transmission Unit or payload size for an IP datagram is \_\_\_\_\_?
    1. 48 bits
    2. 64 bits
    3. 1500 bits
    4. 128 bits
49. A device that can performs both encoding of signal and decoding of signal is termed as?
    1. Transmitter
    2. Receiver
    3. Transceiver
    4. Encoder
50. A packet on the transmission of computer network takes long time on the medium to reach from sender computer to reach the receiver computer, such a delay is termed as?
51. Transmission Delay
52. Propagation Delay
53. Queuing Delay
54. All delays refer the same concept
55. Among the wireless transmission medium one uses a light signal to transmit data between two parties
    1. Microwave
    2. Radio Wave
    3. Infrared
    4. Satellite
56. On coaxial cable which core helps to protect external electromagnetic interference?
    1. Inner conductor
    2. Outer conductor
    3. Middle conductor
    4. Plastic jacket – outer polymer
57. If you are doing Classless inter-domain routing the network ID and in the IPv4 address will always be \_\_?
    1. 24 bits long
    2. 32 bits long
    3. 8 bits long
    4. Depends on your subnet
58. Which one of the following protocols helps to assign IP addresses automatically on your network?
    1. IGMP
    2. DHCP
    3. ARP
    4. NAT
59. Among the services of the application layer one of the following is with wrong much
    1. If you have are surfing on the browser you need http rather than https protocol
    2. If you are sending and receiving an email you need SMTP
    3. If you have files to be uploaded you need FTP protocols
    4. If you are working on terminal computer you need Telnet to get connected
60. Among the lists given which one of the following is a network ID on class B IP network
    1. 172.16.200.10
    2. 199.10.180.0
    3. 129.129.129.0
    4. 127.0.0.1
61. Which one of the following cannot be a proper matching of service and protocol on transport layer?
    1. Listening online music 🡪 UDP
    2. Livestream video 🡪 UDP
    3. Browsing on WWW 🡪 UDP
    4. Opening and using email 🡪 TCP
62. If you have two domain names for your website such as, “dns1.com” and “dns2.com” which one of the following is false about these domains?
    1. Both can be configured to point to one IP or one Machine
    2. Each of them can have their own IP address and point to two different machines
    3. One of them can have an IP address and the other may not have an IP address
    4. Both IP addresses can either point to one machine or each point to separate machines.
63. Which one of the following is the right information about IPv6 IP address?
    1. It has a total of 128 bits
    2. It has a total of 32 hexadecimals
    3. 32 bits are for the network and the reaming are for the host
    4. It has shortening techniques to shorten the length
64. One of the following wireless communication can possibly work without line-of-sight communication
    1. Infrared
    2. Radio wave
    3. Satellite
    4. Microwave
65. Which one of the following is more susceptible for interference on network communication?
    1. Unshielded Twisted Pair
    2. Shielded Twisted Pair
    3. Coaxial
    4. Fiber Optics
66. Company X website is accessed through HTTPS protocol and the company Y website is accessed through HTTP protocol. Which one is true about these two companies service
    1. Company X uses TCP and company Y uses UDP
    2. Company X encrypted data and company Y has unencrypted data
    3. Company X uses IP version 6 and company Y uses IP version 4
    4. Company X uses fiber cable for security and company Y uses copper cable
67. How many pairs of insulated copper cables exist in UTP cable?
    1. 8
    2. 4
    3. 6
    4. 2
68. The sender computer wants to compress the data to be sent due to size minimization. The receiver computer should uncompressed the message to view the full size. Which OSI layer help these two parties to perform compressing and uncompressing?
    1. Session Layer
    2. Physical Layer
    3. Transport Layer
    4. Presentation Layer
69. Given the IP address 192.188.10.10/14 which one is incorrect about this IP address
    1. It is a classful IP address that belongs to class A
    2. It is an IP address that contains 14bits for network ID and 18bits for hosting
    3. It is an IP address that belongs to classless division
    4. It is an IP address that has a subnet mask of 225.252.0.0
70. The transport layer of the OSI model is supposed to do all the activities except
    1. Controls the amount of data being transmitted
    2. Perform error correction such as checksum
    3. Segment the data to manageable size
    4. Uses UDP for connection oriented and TCP for connectionless communication
71. You have a cable with the length of 500 meters in your company. You want to connect 35 computers to this cable and establish a network. The cabling method is
    1. Star
    2. Bus
    3. Ring
    4. Mesh
72. Which one of the following is the shorten form of the IP address 2041:0000:1B0F:0000:0000:0000:8700:001B
    1. 1421:0000:1B0F:0:0:0:87:1B
    2. 1421:0:1B0F::8700:1B
    3. 1421:0:1B0F:0:87:1B00
    4. 1421:0:1B0F:0:0:0:8700:1B
73. Among the available transmission media and their performance, one is wrongly written?
    1. All guided media uses electromagnetic signal
    2. Wireless transmissions use air or space
    3. Satellite communication need ground station and spacecraft/orbit station
    4. The capacity of the data transfer in all mediums is measured in Bandwidth
74. On data transmission, according to their distance coverage with meters which one is right?
    1. Thin-net coaxial, greater distance than TP and Thick-net
    2. Thick-net coaxial, greater distance than TP and Fiber
    3. Fiber Optics lesser distance than Thick-net but greater than thin-net
    4. Twisted pair the least of all
75. Based on their form of crimping twisted pair cable which one is false
    1. Roll-over crimping is used to connect wo clients together
    2. Straight-through crimping can start with any color like the other end
    3. Cross-over crimping is used to connect two hosts together
    4. Straight-through through crimping is used to connect clients to hosts
76. Which category of the twisted pair cable support normal phone communication?
    1. Category 1
    2. Category 7
    3. Category 5
    4. Category 3
77. While you ping or traceroute on computer network which one of the following protocols works?
    1. IP at Network Layer
    2. ICMP at Network Layer
    3. DNS or ARP at Network Layer
    4. TCP at Transport Layer
78. Which one of the following routing algorithms can handle a distance vector interior routing algorithm?
    1. RIP
    2. OSPF
    3. EIGRP
    4. BGP
79. Which one of the following computers can be categorized under server computer?
    1. Super computer
    2. Micro Computer
    3. Mini Computer
    4. Mainframe computer
80. Which one is true about IP address
    1. All IPv4 addresses have 32 bits divided in to 4 octets
    2. The network ID for the IP address 102.168.1.15/10 is 102.128.0.0/10
    3. Given the mask address 255.255.220.0 the host bits are 13 bits
    4. In classful IP address B class has equal number of bits for the host and for the network
81. The physical layer of the OSI model can help two parties on \_\_\_\_\_?
    1. Convert binary data to signal and the vice versa
    2. Convert one signal to another signal like light to sound
    3. The converted data of this layer can not be sued before it is converted back to data
    4. Convert frames to bits
82. In the classful IPv4 addressing which one is true about class A IP address?
    1. The range of the first octet is from 1-127
    2. The mask address is 255.0.0.0
    3. The first bit of first octet is reserved
    4. It has a special private IP address that start with 10 on first octet for LAN assignment
83. How many hosts can a company assign if its IP addresses 196.180.30.0/24
    1. 256
    2. 254
    3. 255
    4. 255\*255\*255
84. A coaxial cable with the standard of 10 Base 2 should repeat the signal after \_\_\_\_\_ Meter?
    1. 100
    2. 200
    3. 185
    4. 500
85. You are given an IP address of 121.0.0.0 your company wants to use 60 subnets. Which one of the following is false on this subnetting?
    1. The subnet mask for the given network will be 255.254.0.0
    2. The first computer on the second subnet has an address of 116.2.0.1/15
    3. The last computer IP address of the third subnet will be 116.4.255.255/15
    4. The network ID for the fifth subnet will be 116.8.0.0/15
86. Which one of the following mediums transmits signal longer distance than others?
    1. Coaxial
    2. Fiber Optics
    3. Unshielded Twisted Pair
    4. Shielded Twisted Pair
87. The range of Optical fiber signal strength on light transmission is between the range of
    1. Visible light to ultraviolet
    2. Microwave to ultraviolet
    3. Radio wave to infrared
    4. Ultraviolet to x-ray
88. You have more LANs in your institution, which one of the following devices is appropriate to connect those LANS?
    1. Router
    2. Repeater
    3. Hub
    4. Bridge
89. Which one of the following networks can connect and distribute data to each computer via a central concentrator?
    1. Star Topology
    2. Ring Topology
    3. Bus Topology
    4. Mesh Topology
90. \_\_\_\_\_ is a network connection service can be handled by establishing a connection to the user first, use that connection and terminates the connection after usage?
    1. Connection-Less
    2. Connection-oriented
    3. Service Oriented
    4. UDP
91. You are network administrator for the company Haleluya limited. Haleluya limited has an IP address of 195.10.101.0 you are asked to assign a maximum of 52 computers for each branch. Which address range meets your requirements?
    1. 195.10.101.0/28
    2. 195.10.101.0/26
    3. 195.10.101.0/25
    4. 195.10.101.0/28
92. match the following concepts of OSI layer with their description

|  |  |
| --- | --- |
|  |  |
| 1. Physical Layer 2. Data Link Layer 3. Network Layer 4. Transport Layer 5. Session Layer 6. Presentation Layer 7. Application Layer | * 1. Segmentation   2. User interaction   3. Framing   4. Dialogue management   5. Packetizing   6. Signal to bit conversion   7. Routing |