



MCA II YEAR A(2016-2019)
CORE: NETWORK ENGINEERING AND MANAGEMENT-354A
Semester : III
Multiple Choice Questions

- 1) _____ cable consists of an inner copper core and a second conducting outer sheath.
 - a) Twisted-pair.
 - b) Coaxial.**
 - c) Fiber-optic.
 - d) Shielded twisted-pair.

- 2) _____ describes the position of the waveform relative to time 0.
 - a) Frequency.
 - b) Phase.**
 - c) Amplitude.
 - d) Voltage.

- 3) _____ is the protocol suite for the current Internet.
 - a) TCP/IP.**
 - b) NCP.
 - c) UNIX.
 - d) ACM.

- 4) _____ refers to two characteristics: when data should be sent and how fast it can be sent.
 - a) Semantics.
 - b) Syntax.
 - c) Timing.**
 - d) Forum.

- 5) _____ is a type of transmission impairment in which an outside source such as crosstalk corrupts a signal.
 - a) Attenuation.
 - b) Distortion.
 - c) Noise.**
 - d) Decibel.

- 6) _____ is a type of transmission impairment in which the signal loses strength due to the resistance of the transmission medium.
 - a) Attenuation.**
 - b) Distortion.
 - c) Noise.
 - d) Decibel.

- 7) _____ broadcasts packets, but creates loops in the systems.
- a) Forwarding.
 - b) Flooding.**
 - c) Backwarding.
 - d) Routing.
- 8) _____ involves identifying where the problem is located.
- a) Fault detection
 - b) Fault location**
 - c) Restoration
 - d) Identification
- 9) _____ utilization is the use of available bandwidth to achieve specific goals.
- a) Frequency.
 - b) Bandwidth.**
 - c) Amplitude.
 - d) None of the above.
- 10) _____ is a part of service contract where the level of service is formally defined and agreed upon between the service provider and subscriber.
- a) Service Reliable Agreement
 - b) System Routing Agreement
 - c) Service Level Agreement**
 - d) Source Routing Agreement
- 11) _____ is a platform that houses the network manager module.
- a) Network Management System**
 - b) Network Operation Center
 - c) Security Management
 - d) Optical Network unit
- 12) _____ Procedure becomes more complex in virtual local area network (LAN) configuration
- a) Autocorrection
 - b) Autosearch
 - c) Autodiscovery**
 - d) Autoconfiguration
- 13) _____ is one bit error correction code
- a) ASCII code.
 - b) hamming code.**
 - c) grey code.
 - d) BCD code

- 14) _____ codes are special linear block codes with one extra property. If a codeword is rotated, the result is another codeword.
- a) Non-linear.
 - b) Convolution.
 - c) **Cyclic.**
 - d) Non cyclic.
- 15) A _____ connection provides a dedicated link between two devices.
- a) **point-to-point.**
 - b) multipoint.
 - c) primary.
 - d) secondary
- 16) A _____ is a server whose zone consists of the whole tree.
- a) domain server.
 - b) zone server.
 - c) **root server.**
 - d) secondary server.
- 17) A _____ message tells an upstream router to start sending multicast messages for a specific group through a specific router.
- a) weed.
 - b) **graft.**
 - c) prune.
 - d) no weed.
- 18) A _____ routing table contains information entered manually.
- a) **static.**
 - b) dynamic.
 - c) hierarchical.
 - d) non static.
- 19) A _____ routing table is updated periodically using one of the dynamic routing protocols.
- a) static.
 - b) **dynamic.**
 - c) hierarchical.
 - d) non static.
- 20) A _____ is a set of rules that governs data communication.
- a) forum.
 - b) **protocol.**
 - c) standard.
 - d) syntax.

- 21) A _____ server loads all information from the disk file.
- a) **primary.**
 - b) secondary.
 - c) zone.
 - d) root.
- 22) A _____ is a subtree of the domain name space.
- a) label.
 - b) name.
 - c) **domain.**
 - d) zone.
- 23) A full domain name is a sequence of labels separated by _____.
- a) semicolons.
 - b) **dots.**
 - c) colons.
 - d) comma.
- 24) A one to all communication between one source and all hosts on a network is classified as a _____ communication.
- a) unicast.
 - b) multicast.
 - c) **broadcast.**
 - d) point to point.
- 25) A one to one communication between one source and one destination is classified as a _____ communication.
- a) **unicast.**
 - b) multicast.
 - c) broadcast.
 - d) point to point.
- 26) A parabolic dish antenna is a(n) _____ antenna.
- a) omni directional.
 - b) bidirectional.
 - c) **unidirectional.**
 - d) horn.
- 27) A periodic signal completes one cycle in 0.001 s. What is the frequency?
- a) 1 Hz.
 - b) 100 Hz.
 - c) **1 KHz.**
 - d) 1 MHz.

- 28) A port address in TCP/IP is _____ bits long.
- a) 32.
 - b) 48.
 - c) 16.**
 - d) 64.
- 29) A port address in UDP is _____ bits long.
- a) 8.
 - b) 16.**
 - c) 32.
 - d) 64.
- 30) A simple parity check code can detect _____ errors.
- a) an even-number of.
 - b) two.
 - c) no errors.
 - d) an odd number of.**
- 31) A sine wave is _____.
- a) periodic and continuous.**
 - b) aperiodic and continuous.
 - c) periodic and discrete.
 - d) aperiodic and discrete.
- 32) A switched WAN is normally implemented as a _____ network.
- a) virtual circuit.**
 - b) datagram.
 - c) circuit switched.
 - d) checksum.
- 33) Although there are several ways to achieve process to process communication, the most common is through the _____ paradigm.
- a) client server.**
 - b) client client.
 - c) server server.
 - d) server client.
- 34) An application program in NMS generates the _____ command periodically and waits for response
- a) Ping**
 - b) Read
 - c) Write
 - d) Wait

- 35) As frequency increases, the period _____.
- a) **decreases.**
 - b) increases.
 - c) remains the same.
 - d) doubles.
- 36) Circuit switching takes place at the _____ layer.
- a) data link.
 - b) **physical.**
 - c) network.
 - d) transport.
- 37) Data monitoring and resource planning are done by _____
- a) Network Management
 - b) Fault management
 - c) System Management
 - d) **Performance Management**
- 38) Detection and isolation of the problem causing the failure in the network is known as _____
- a) Inventory Management
 - b) Configuration Management
 - c) **Fault Management**
 - d) Network Management
- 39) Expansion of SNMP is _____.
- a) **Simple Network Management Protocol**
 - b) Single Network Management Protocol
 - c) System Network Management Protocol
 - d) Service Network Management Protocol
- 40) For a _____ channel, the Nyquist bit rate formula defines the theoretical maximum bit rate.
- a) noisy.
 - b) **noiseless.**
 - c) band pass.
 - d) low-pass.
- 41) For a _____ channel, we need to use the Shannon capacity to find the maximum bit rate.
- a) **noisy.**
 - b) noiseless.
 - c) band pass.
 - d) low-pass.

- 42) For purposes of routing, the Internet is divided into _____.
- a) wide area networks.
 - b) autonomous networks.
 - c) autonomous systems.**
 - d) local area network.
- 43) Frequency and period are _____.
- a) inverse of each other.**
 - b) proportional to each other.
 - c) the same.
 - d) throughput.
- 44) Frequency of failure and network recovery time after a failure are measures of the _____ of a network.
- a) performance.
 - b) reliability.**
 - c) security.
 - d) feasibility.
- 45) If a label is terminated by a null string, it is called a _____.
- a) PQDN.
 - b) FQDN.**
 - c) SQDN.
 - d) DDNS.
- 46) If the Hamming distance between a data word and the corresponding codeword is three, there are _____ bits in error.
- a) 3.**
 - b) 4.
 - c) 5.
 - d) 2.
- 47) In _____ delivery, both the deliverer of the IP packet and the destination are on the same network.
- a) a connectionless.
 - b) a direct.**
 - c) an indirect.
 - d) a connection.
- 48) In _____ forwarding, the full IP address of a destination is given in the routing table.
- a) next-hop.
 - b) network specific.
 - c) host specific.**
 - d) default.

- 49) In _____ forwarding, the mask and destination addresses are both 0.0.0.0 in the routing table.
- a) next hop.
 - b) network specific.
 - c) host specific.
 - d) default.**
- 50) In _____ forwarding, the routing table holds the address of just the next hop instead of complete route information.
- a) next hop.**
 - b) network specific.
 - c) host specific.
 - d) default.
- 51) In _____ routing, the least cost route between any two nodes is the route with the minimum distance.
- a) path vector.
 - b) distance vector.**
 - c) link state.
 - d) switching.
- 52) In _____ error correction, the receiver corrects errors without requesting retransmission.
- a) backward.
 - b) onward.
 - c) forward.**
 - d) rearward.
- 53) In _____ resolution, the resolver expects the server to supply the final answer.
- a) iterative.
 - b) recursive.**
 - c) straight.
 - d) none of the above.
- 54) In _____, resources are allocated on demand.
- a) datagram switching.**
 - b) circuit switching.
 - c) frame switching.
 - d) line switching.
- 55) In _____, there is no resource allocation for a packet.
- a) datagram switching.**
 - b) circuit switching.
 - c) frame switching.
 - d) line switching.

- 56) In _____, the multicast packet must reach only those networks that have active members for that particular group.
- a) RPF.
 - b) RPB.
 - c) **RPM.**
 - d) RPA.
- 57) In a _____ name space, a name is assigned to an address. A name in this space is a sequence of characters without structure.
- a) **flat.**
 - b) hierarchical.
 - c) organized.
 - d) domain.
- 58) In a _____ name space, each name is made of several parts.
- a) flat.
 - b) **hierarchical.**
 - c) organized.
 - d) domain.
- 59) In a frequency-domain plot, the horizontal axis measures the _____.
- a) peak amplitude.
 - b) **frequency.**
 - c) phase.
 - d) slope.
- 60) In a time-domain plot, the horizontal axis is a measure of _____.
- a) signal amplitude.
 - b) frequency.
 - c) phase.
 - d) **time.**
- 61) In cyclic redundancy checking, the divisor is _____ the CRC.
- a) the same size as.
 - b) one bit less than.
 - c) **one bit more than.**
 - d) the different size as.
- 62) In distance vector routing, each node periodically shares its routing table with _____ and whenever there is a change.
- a) every other node.
 - b) **its immediate neighbors.**
 - c) one neighbor.
 - d) two neighbors.

- 63) In fiber optics, the signal is _____ waves.
- a) **light.**
 - b) radio.
 - c) infrared.
 - d) very low-frequency.
- 64) In modulo-2 arithmetic, _____ give the same results.
- a) addition and multiplication. .
 - b) addition and division.
 - c) **addition and subtraction.**
 - d) retransmission
- 65) In multicast routing, each involved router needs to construct a _____ path tree for each group.
- a) average.
 - b) longest.
 - c) **shortest.**
 - d) very longest.
- 66) In OSPF, a _____ link is a network with several routers attached to it.
- a) point to point.
 - b) **transient.**
 - c) stub.
 - d) multipoint.
- 67) In RPF, a router forwards only the copy that has traveled the _____ path from the source to the router.
- a) **shortest.**
 - b) longest.
 - c) average.
 - d) very longest.
- 68) In TDM, the transmission rate of the multiplexed path is usually _____ the sum of the transmission rates of the signal sources.
- a) **greater than.**
 - b) less than.
 - c) equal to.
 - d) not related to.
- 69) In the group shared tree approach, _____ involved in multicasting.
- a) **only the core router is.**
 - b) all routers are.
 - c) only some routers are.
 - d) different routers.

- 70) In the Internet, the domain name space (tree) is divided into _____ different sections.
- a) **three.**
 - b) two.
 - c) four.
 - d) five.
- 71) In the OSI model, encryption and decryption are functions of the _____ layer.
- a) transport.
 - b) session.
 - c) **presentation.**
 - d) application.
- 72) In the OSI model, what is the main function of the transport layer?
- a) Node-to-node delivery.
 - b) **Process-to-process message delivery.**
 - c) Synchronization.
 - d) Updating and maintenance of routing tables.
- 73) In unicast routing, each router in the domain has a table that defines a _____ path tree to possible destinations.
- a) average.
 - b) longest.
 - c) **shortest.**
 - d) very longest.
- 74) Layer 2 lies between the physical layer and the _____ layer.
- a) **network.**
 - b) data link.
 - c) transport.
 - d) physical.
- 75) Mail services are available to network users through the _____ layer.
- a) data link.
 - b) physical.
 - c) transport.
 - d) **application.**
- 76) Microwaves are _____.
- a) omni directional.
 - b) **unidirectional.**
 - c) bidirectional.
 - d) horn.

- 77) One of the responsibilities of the transport layer protocol is to create a _____ communication.
- a) host-to-host.
 - b) process-to-process.**
 - c) node-to-node.
 - d) interface-to-interface.
- 78) Packet switched networks can also be divided into _____ subcategories: virtual- circuit networks and datagram networks.
- a) four.
 - b) three.
 - c) two.**
 - d) five.
- 79) Pruning and grafting are strategies used in _____.
- a) RPF.
 - b) RPB.
 - c) RPM.**
 - d) RPA.
- 80) RPB creates a shortest path _____ tree from the source to each destination.
- a) unicast.
 - b) multicast.
 - c) broadcast.**
 - d) point to point.
- 81) Setting and changing of configuration of networks and network components is known as _____
- a) Inventory Management
 - b) Configuration Management**
 - c) Element Management
 - d) Fault Management
- 82) Signals with a frequency below 2 MHz use _____ propagation.
- a) ground.**
 - b) sky.
 - c) line-of-sight.
 - d) none of the above.
- 83) TCP is a _____ protocol.
- a) stream-oriented.**
 - b) message-oriented.
 - c) block-oriented.
 - d) packet-oriented.

- 84) TCP is a(n) _____ transport protocol.
- a) unreliable.
 - b) best-effort delivery.
 - c) reliable.**
 - d) effortless delivery.
- 85) TCP/IP is a _____ hierarchical protocol suite developed before the OSI model.
- a) seven-layer.
 - b) five-layer.**
 - c) six-layer.
 - d) four-layer.
- 86) The _____ address uniquely defines a host on the Internet.
- a) physical.
 - b) IP.**
 - c) port.
 - d) specific.
- 87) The _____ of a composite signal is the difference between the highest and the lowest frequencies contained in that signal.
- a) frequency.
 - b) period.
 - c) bandwidth.**
 - d) amplitude.
- 88) The _____ layer establishes, maintains, and synchronizes the interactions between communicating devices.
- a) transport.
 - b) network.
 - c) session.**
 - d) physical.
- 89) The _____ layer is responsible for moving frames from one hop (node) to the next.
- a) physical.
 - b) data link.**
 - c) transport.
 - d) session.
- 90) The _____ layer is responsible for the source-to-destination delivery of a packet across multiple network links.
- a) transport.
 - b) network.**
 - c) data link.
 - d) physical.

- 91) The _____ defines the maximum data rate of the traffic.
- a) **peak data rate.**
 - b) maximum burst size.
 - c) effective bandwidth.
 - d) frequency.
- 92) The _____ domains define registered hosts according to their generic behavior.
- a) **generic.**
 - b) country.
 - c) inverse.
 - d) root server.
- 93) The _____ is the physical path over which a message travels.
- a) protocol.
 - b) **medium.**
 - c) signal.
 - d) message.
- 94) The _____ layer changes bits into electromagnetic signals.
- a) **physical.**
 - b) data link.
 - c) transport.
 - d) network.
- 95) The _____ layer coordinates the functions required to transmit a bit stream over a physical medium.
- a) transport.
 - b) network.
 - c) data link.
 - d) **physical.**
- 96) The _____ layer is the bottom most layer
- a) **physical.**
 - b) data link.
 - c) transport.
 - d) session
- 97) The _____ layer is the layer closest to the transmission medium.
- a) **physical.**
 - b) data link.
 - c) network.
 - d) transport.

- 98) The _____ protocol allows the administrator to assign a cost, called the metric, to each route.
- a) **OSPF.**
 - b) RIP.
 - c) BGP.
 - d) BBGP.
- 99) The _____ between two words is the number of differences between corresponding bits.
- a) hamming code.
 - b) **hamming distance.**
 - c) hamming rule.
 - d) hamming bar.
- 100) The _____ is a function of three values: average data rate, peak data rate, and maximum burst size.
- a) peak data rate.
 - b) maximum burst size.
 - c) **effective bandwidth.**
 - d) frequency
- 101) The _____ layer is responsible for the process-to-process delivery of the entire message.
- a) **transport.**
 - b) network.
 - c) data link.
 - d) physical.
- 102) The _____ attack can endanger the security of the Diffie Hellman method if two parties are not authenticated to each other.
- a) **man in the middle.**
 - b) cipher text attack.
 - c) plaintext attack.
 - d) none of the above.
- 103) The _____ layer enables the users to access the network.
- a) transport.
 - b) **application.**
 - c) data link.
 - d) physical.
- 104) The _____ product defines the number of bits that can fill the link.
- a) bandwidth-period.
 - b) frequency-amplitude.
 - c) **bandwidth-delay.**
 - d) delay-amplitude.

- 105) The checksum of 1111 and 1111 is _____.
- a) 1111.
 - b) 0000.**
 - c) 1110.
 - d) 0111.
- 106) The combination of an IP address and a port number is called a _____.
- a) transport address.
 - b) network address.
 - c) socket address.**
 - d) session address.
- 107) The Hamming distance between 100 and 001 is _____.
- a) 2.**
 - b) 0.
 - c) 1.
 - d) 3.
- 108) The Hamming distance between equal code words is _____.
- a) 1.
 - b) n.
 - c) 0.**
 - d) n+1.
- 109) The information to be communicated in a data communications system is the _____.
- a) medium.
 - b) protocol.
 - c) message.**
 - d) transmission.
- 110) The inner core of an optical fiber is _____ in composition.
- a) glass or plastic.**
 - b) copper.
 - c) bimetallic.
 - d) liquid.
- 111) The input and output ports of a router perform the _____ layer functions of the router.
- a) physical and data link.**
 - b) network.
 - c) transport.
 - d) session.

- 112) The metric used by _____ is the hop count.
- a) OSPF.
 - b) RIP.**
 - c) BGP.
 - d) BBGP.
- 113) The Open Shortest Path First (OSPF) protocol is an intra domain routing protocol based on _____ routing.
- a) distance vector.
 - b) link state.**
 - c) path vector.
 - d) non distance vector.
- 114) The OSI model consists of _____ layers.
- a) three.
 - b) five.
 - c) seven.**
 - d) eight.
- 115) The process-to-process delivery of the entire message is the responsibility of the _____ layer.
- a) network.
 - b) transport.**
 - c) application.
 - d) physical.
- 116) The response time of network depends on _____ and _____ performance
- a) Network & system**
 - b) Network & security
 - c) Speed & resources
 - d) Load & security
- 117) The root of the DNS tree is _____.
- a) a string of characters.
 - b) a string of 63 characters.
 - c) an empty string.**
 - d) resolver.
- 118) The Routing Information Protocol (RIP) is an intra domain routing based on _____ routing.
- a) distance vector.**
 - b) link state.
 - c) path vector.
 - d) distance code.

- 119) The routing processor of a router performs the _____ layer functions of the router.
- a) physical and data link.
 - b) network.**
 - c) transport.
 - d) session.
- 120) The sharing of a medium and its link by two or more devices is called _____.
- a) modulation.
 - b) encoding.
 - c) line discipline.
 - d) multiplexing.**
- 121) The source port address on the UDP user datagram header defines _____.
- a) the sending computer.
 - b) the receiving computer.
 - c) the process running on the sending computer.**
 - d) the process running on the receiving computer.
- 122) The task of moving the packet from the input queue to the output queue in a router is done by _____.
- a) input and output ports.
 - b) routing processor.
 - c) switching fabrics.**
 - d) switches.
- 123) The TCP/IP _____ layer is equivalent to the combined session, presentation, and application layers of the OSI model.
- a) application.**
 - b) network.
 - c) data link.
 - d) physical.
- 124) The _____ address identifies a process on a host.
- a) physical.
 - b) IP.
 - c) port.**
 - d) specific.
- 125) The _____ normally refers to the maximum length of time the traffic is generated at the peak rate.
- a) peak data rate.
 - b) maximum burst size.**
 - c) effective bandwidth.
 - d) descriptors.

- 126) The _____ layer is responsible for the delivery of a message from one process to another.
- a) physical.
 - b) transport.**
 - c) network.
 - d) session.
- 127) Traffic _____ are qualitative values that represent a data flow.
- a) controls.
 - b) descriptors.**
 - c) values.
 - d) peak data rate.
- 128) Transmission media are usually categorized as _____.
- a) fixed or unfixed.
 - b) guided or unguided.**
 - c) determinate or indeterminate.
 - d) metallic or nonmetallic.
- 129) Transmission media lie below the _____ layer.
- a) physical.**
 - b) network.
 - c) transport.
 - d) application.
- 130) UDP and TCP are both _____ layer protocols.
- a) data link.
 - b) network.
 - c) transport.**
 - d) interface.
- 131) UDP does not add anything to the services of IP except for providing _____ communication.
- a) node to node.
 - b) process to process.**
 - c) host to host.
 - d) interface to interface.
- 132) UDP is an acronym for _____.
- a) User Delivery Protocol.
 - b) User Datagram Procedure.
 - c) User Datagram Protocol.**
 - d) User Delivery Procedure.

- 133) UDP is called a _____ transport protocol.
- a) connectionless, reliable.
 - b) connection-oriented, unreliable.
 - c) connectionless, unreliable.**
 - d) connection, reliable.
- 134) UDP needs the _____ address to deliver the user datagram to the correct application process.
- a) port.**
 - b) application.
 - c) internet.
 - d) intranet.
- 135) UDP packets are called _____.
- a) user datagrams.**
 - b) segments.
 - c) frames.
 - d) packets.
- 136) UDP packets are encapsulated in _____.
- a) an Ethernet frame.
 - b) an TCP segment.
 - c) an IP datagram.**
 - d) an Ethernet packets.
- 137) UDP uses _____ to handle outgoing user datagrams from multiple processes on one host.
- a) flow control.
 - b) multiplexing.**
 - c) demultiplexing.
 - d) data control.
- 138) When data are transmitted from device A to device B, the header from A's layer 4 is read by B's _____ layer.
- a) physical.
 - b) transport.**
 - c) application.
 - d) data link.
- 139) When the angle of incidence is _____ the critical angle, the light beam bends along the interface.
- a) more than.
 - b) less than.
 - c) equal to.**
 - d) zero.

- 140) When the IP layer of a receiving host receives a datagram, _____.
- a) delivery is complete.
 - b) a transport layer protocol takes over.**
 - c) a header is added.
 - d) a session layer protocol takes over.
- 141) When the secondary downloads information from the primary, it is called _____ transfer.
- a) domain.
 - b) zone.**
 - c) label.
 - d) root.
- 142) When the sender and the receiver of an email are on the same system, we need only _____.
- a) one UA.
 - b) two UAs.**
 - c) one UA and one MTA.
 - d) two UA and one MTA.
- 143) Which error detection method consists of just one redundant bit per data unit?
- a) Simple parity check.**
 - b) Two dimensional parity check.
 - c) CRC.
 - d) Checksum.
- 144) Which error detection method uses one's complement arithmetic?
- a) Simple parity check.
 - b) Two dimensional parity check.
 - c) CRC.
 - d) Checksum.**
- 145) Which multiplexing technique involves signals composed of light beams?
- a) FDM.
 - b) TDM.
 - c) WDM.**
 - d) None of the above.
- 146) Which multiplexing technique transmits analog signals?
- a) FDM.
 - b) TDM.
 - c) WDM.
 - d) both (a) and (c)**

147) Which multiplexing technique transmits digital signals?

- a) FDM.
- b) TDM.**
- c) WDM.
- d) none of the above.

148) Which of the following is an application layer service?

- a) remote log-in.
- b) file transfer and access.
- c) mail service.
- d) all the above.**

149) Which of the following is not a guided medium?

- a) Twisted-pair cable.
- b) Coaxial cable.
- c) Fiber-optic cable.
- d) Atmosphere.**

150) Which topology requires a central controller or hub?

- a) Mesh.
- b) Star.**
- c) Ring.
- d) Bus.

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