

Subject : 306 - SEC - Computer Network MCQ Question Bank					
Sr No.	Question	Option1	Option2	Option3	Option4
1	Which component of data communication is responsible for carrying the data?	Sender	Receiver	Message	Transmission medium
2	In a basic data communication system, which device originates the data?	Sender	Receiver	Protocol	Medium
3	Which term refers to the rules governing data communication?	Topology	Protocol	Bandwidth	Signal
4	Communication in which data flows in only one direction is called:	Simplex	Half-duplex	Full-duplex	Multiplex
5	Communication in which data can flow in both directions, but not simultaneously, is:	Simplex	Half-duplex	Full-duplex	Broadcast
6	Communication in which data flows in both directions simultaneously is:	Simplex	Half-duplex	Full-duplex	Unicast
7	A computer network is primarily a collection of connected:	Printers only	Computers and devices	Operating systems	Databases
8	Which is a major advantage of computer networking?	Resource sharing	Elimination of all security risks	Removal of protocols	Avoidance of communication
9	Which network category generally covers a small geographic area such as a building?	LAN	WAN	MAN	GAN
10	Which network category covers a large geographic area?	LAN	PAN	WAN	CAN
11	A network covering a city is commonly classified as:	LAN	MAN	PAN	SAN
12	In a client-server network, the server primarily:	Provides services or resources	Only receives signals	Acts as a cable	Removes protocols
13	In a peer-to-peer network, computers generally:	Depend on one central server for all resources	Can act as both clients and servers	Cannot share resources	Use only WAN links
14	A hybrid network combines:	Only wired technologies	Only wireless technologies	Characteristics of different network architectures	Only peer devices
15	Which topology connects devices to a central device?	Bus	Ring	Star	Mesh
16	Which topology uses a single shared backbone cable?	Bus	Star	Ring	Tree
17	Which topology connects devices in a closed loop?	Bus	Ring	Star	Hybrid
18	Which topology provides a dedicated link between every pair of devices?	Bus	Ring	Mesh	Star
19	A protocol is best described as a set of:	Hardware components	Communication rules	Network cables	User accounts
20	Which of the following is a transport-layer protocol?	HTTP	FTP	TCP	Ethernet
21	Which protocol is connectionless at the transport layer?	TCP	UDP	FTP	HTTP
22	Which protocol is commonly used for web communication?	HTTP	ARP	Ethernet	ICMP
23	Which protocol is commonly associated with secure web communication?	HTTP	HTTPS	FTP	SMTP

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24	The Internet is best described as a:	Single LAN	Network of interconnected networks	Single computer	Private bus topology
25	A network model provides a framework for:	Understanding and organizing network	Replacing all hardware	Removing protocols	Storing only files
26	Which device is generally considered an endpoint in a network?	Host computer	Repeater only	Hub only	Cable only
27	A server is a computer that typically:	Provides services to other computers	Only displays graphics	Cannot communicate	Only acts as a cable
28	A peer in a peer-to-peer network can:	Only request services	Only provide services	Both request and provide services	Neither request nor provide services
29	Which network use allows multiple users to access a common printer?	Resource sharing	Signal encoding	Routing	Encryption only
30	Which network advantage supports communication among geographically separated users?	Connectivity	Isolation	Disconnection	Duplication
31	Which network topology normally has a central point of failure?	Star	Bus	Ring	Mesh
32	Which topology is generally the most redundant because of multiple paths?	Bus	Ring	Mesh	Star
33	Which category is intended for a very small personal area?	PAN	WAN	MAN	GAN
34	Which concept identifies how devices are physically or logically arranged?	Topology	Protocol	Bandwidth	Encoding
35	Which statement about networking is correct?	Networks enable communication and	Networks eliminate the need for protocols	Networks cannot use wireless media	Networks only connect servers
36	How many layers are in the OSI reference model?	5	6	7	8
37	Which OSI layer is responsible for physical transmission of bits?	Physical	Data Link	Network	Transport
38	Which OSI layer provides node-to-node delivery?	Physical	Data Link	Network	Session
39	Which OSI layer is responsible for logical addressing and routing?	Data Link	Network	Transport	Session
40	Which OSI layer provides end-to-end delivery?	Network	Transport	Session	Physical
41	Which OSI layer establishes, manages, and terminates sessions?	Session	Transport	Network	Data Link
42	Which OSI layer deals with data representation and translation?	Presentation	Network	Physical	Transport
43	Which OSI layer provides services directly to user applications?	Session	Presentation	Application	Network
44	TCP is associated with which model?	TCP/IP model	OSI physical model	Bus model	Star model
45	The OSI model is mainly used to:	Organize network communication functions	Replace all protocols	Define only cables	Eliminate addressing
46	The TCP/IP model is primarily associated with:	Internet networking	Printer design	Database normalization	CPU scheduling

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47	Which layer is closest to the transmission medium?	Application	Transport	Data Link	Physical
48	Which layer is closest to the end user?	Physical	Data Link	Application	Network
49	A signal is a representation used to:	Carry information	Create topologies	Assign usernames	Replace protocols
50	Digital transmission generally uses:	Discrete signal levels	Only continuous waves	Only analog clocks	No signals
51	Analog transmission is characterized by:	Continuous signals	Only discrete levels	No bandwidth	No medium
52	Bandwidth refers to:	The capacity or frequency range of a communication	The physical length of a cable only	A MAC address	A routing table
53	Which is a guided transmission medium?	Twisted-pair cable	Radio wave	Microwave through air	Infrared through air
54	Which is an unguided transmission medium?	Coaxial cable	Fiber-optic cable	Radio wave	Twisted pair
55	Fiber-optic communication uses:	Light	Sound	Magnetic tape	Mechanical motion
56	Twisted-pair cable consists of:	Pairs of twisted copper wires	Glass tubes only	Radio antennas only	Plastic sheets only
57	Coaxial cable contains:	A central conductor with shielding	Only optical fiber	Only wireless antennas	No conductor
58	Which medium is generally immune to electromagnetic interference?	Fiber optic	Twisted pair	Coaxial	Copper wire
59	Switching is used to:	Forward data toward its destination	Convert all data to analog	Remove addresses	Disable networks
60	IEEE 802.3 is associated with:	Ethernet	Bluetooth	Wi-Fi only	SMTP
61	IEEE 802.11 is associated with:	Wireless LAN	Ethernet cable standards only	TCP	IP addressing
62	The data link layer organizes bits into:	Frames	Packets only	Segments only	Messages only
63	One important function of the data link layer is:	Framing	Domain naming	Application processing	Encryption of all applications
64	Error detection is used to:	Determine whether transmitted data contains	Increase monitor size	Assign IP classes	Create passwords
65	Error correction is used to:	Recover or correct certain transmission errors	Remove all protocols	Assign MAC addresses	Create topologies
66	Which is an error-detection technique?	Parity check	Routing	Multiplexing	Session establishment
67	Which code is commonly used for error detection?	Cyclic Redundancy Check	HTML	DNS	FTP
68	CRC is mainly used for:	Detecting transmission errors	Assigning IP addresses	Routing packets	Creating sessions
69	Data link control includes mechanisms for:	Reliable and orderly frame transmission	Web page design	Application naming	CPU scheduling

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70	CSMA/CD is associated with:	Ethernet medium access	IP addressing	Session layer	Encryption
71	In CSMA/CD, CSMA stands for:	Carrier Sense Multiple Access	Computer Signal Multiple Address	Carrier Signal Media Allocation	Central Switching Multiple Access
72	In CSMA/CD, CD stands for:	Collision Detection	Carrier Delivery	Code Division	Channel Data
73	A collision occurs when:	Two devices transmit on a shared medium at the	No device transmits	Only one device receives	A cable is unplugged
74	A hub generally operates by:	Broadcasting incoming signals to connected ports	Routing IP packets using routes	Encrypting application data	Assigning DNS names
75	A bridge is primarily used to:	Connect and filter segments at the data link	Assign IP addresses	Provide application services	Encrypt websites
76	A switch is commonly used to:	Forward frames based on MAC addresses	Translate URLs into HTML	Assign domain names	Perform user authentication only
77	A repeater is used to:	Regenerate or strengthen signals	Route packets between networks	Manage sessions	Create IP addresses
78	A VLAN is used to:	Logically divide a switched network into separate	Increase cable length only	Replace all routers	Convert analog to digital
79	VLAN stands for:	Virtual Local Area Network	Variable Local Access Node	Virtual Link Address Number	Verified LAN
80	A MAC address is associated primarily with:	The data link layer	The application layer	The session layer	The presentation layer
81	A frame is the data unit of the:	Data Link layer	Network layer	Transport layer	Application layer
82	A packet is commonly associated with the:	Network layer	Physical layer	Session layer	Presentation layer
83	Which device commonly connects different networks?	Router	Hub	Repeater	Bridge only
84	Which device is generally used to connect devices within a LAN and forward frames selectively?	Switch	Router	Gateway only	Modem only
85	Which device regenerates signals without making routing decisions?	Repeater	Router	Gateway	Switch
86	Which technology is specifically mentioned in the syllabus as a wireless LAN standard?	IEEE 802.11	IEEE 802.3	TCP	IP
87	Which statement best describes the physical layer?	It transmits raw bits over a medium	It provides logical addressing	It manages application sessions	It performs end-to-end flow control
88	Which statement best describes the data link layer?	It provides node-to-node delivery and framing	It provides user interfaces	It assigns domain names	It establishes application sessions
89	Which standard is associated with Ethernet LANs?	IEEE 802.3	IEEE 802.11	IEEE 802.5 only	TCP
90	Which OSI layer is responsible for reliable node-to-node framing and error detection?	Data Link	Network	Transport	Application
91	The primary responsibility of the network layer is:	Routing and logical addressing	Bit transmission	Session establishment only	Data presentation
92	A connectionless service establishes:	No dedicated connection before data transfer	A permanent circuit	A physical cable for each packet	A session at the application layer

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93	A connection-oriented service generally involves:	Connection establishment before data transfer	No addressing	No control	Only broadcast transmission
94	Internetworking refers to:	Connecting multiple networks	Disconnecting LANs	Replacing all routers	Removing protocols
95	Logical addressing is mainly associated with:	IP addresses	MAC addresses only	Port numbers only	Username
96	An IPv4 address contains:	32 bits	16 bits	64 bits	128 bits
97	An IPv6 address contains:	32 bits	64 bits	128 bits	256 bits
98	Which device forwards packets between networks?	Router	Hub	Repeater	Printer
99	A gateway can be used to:	Connect networks that may use different	Only regenerate signals	Only detect parity errors	Only create frames
100	Distance-vector routing is based on information about:	Distance and direction toward destinations	Only cable color	Only MAC addresses	Application passwords
101	Link-state routing works by:	Maintaining information about the state of network	Ignoring network topology	Using only application data	Removing routing tables
102	IP addressing provides:	Logical identification of network interfaces	Physical signal regeneration	Session encryption only	Application formatting
103	The transport layer provides:	End-to-end process communication	Only physical transmission	Only framing	Only routing
104	Flow control at the transport layer helps to:	Prevent a fast sender from overwhelming a receiver	Assign MAC addresses	Create VLANs	Convert analog signals
105	Transport-layer multiplexing allows:	Multiple applications to share network	Only one application per host	Only one packet per network	Removal of addresses
106	Which is a transport-layer protocol?	TCP	IP	Ethernet	ARP
107	TCP is generally described as:	Connection-oriented	Connectionless	A physical-layer protocol	A data link protocol
108	UDP is generally described as:	Connectionless	Connection-oriented	A session protocol	A physical protocol
109	Which transport protocol provides reliable, ordered delivery?	TCP	UDP	IP	Ethernet
110	Which transport protocol has lower overhead and does not provide TCP-style reliability?	UDP	TCP	HTTP	FTP
111	Transport service primitives are used to describe:	Operations for transport communication services	Physical cable construction	Web page formatting	VLAN tagging only
112	The session layer is concerned with:	Establishing and managing sessions	Routing packets	Transmitting raw bits	MAC addressing
113	The presentation layer is concerned with:	Data representation, encoding and decoding	Routing	Frame switching	Signal regeneration
114	The application layer provides:	Network services to applications	Electrical signals	MAC addresses	Cable shielding
115	Which protocol is an example of an application-layer protocol?	HTTP	IP	TCP	Ethernet

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116	FTP is primarily used for:	File transfer	Routing	Signal regeneration	VLAN creation
117	SMTP is primarily associated with:	Electronic mail transfer	Routing	Error correction	Physical transmission
118	DNS is primarily used for:	Name resolution	Frame switching	Signal amplification	Encryption of all traffic
119	Network management commands are used to:	Monitor and manage network resources and	Replace physical cables	Create CPU instructions	Remove IP addresses
120	A port number helps identify:	A transport-layer application endpoint	A physical cable	A router model	A VLAN color
121	Which address identifies a host logically on an IP network?	IP address	MAC address only	Port number only	SSID only
122	Which routing approach maintains a view of link conditions?	Link-state	Distance-vector	Simplex	CSMA/CD
123	Which routing approach exchanges distance information with neighboring routers?	Distance-vector	Link-state	Star routing	Session routing
124	Which layer is responsible for logical addressing according to the OSI model?	Network layer	Physical layer	Session layer	Application layer
125	Which layer is responsible for end-to-end communication between processes?	Transport layer	Physical layer	Data Link layer	Presentation layer
126	Network security primarily aims to:	Protect network resources and information	Increase cable length	Remove all protocols	Eliminate networking
127	Which is a common security goal?	Confidentiality	Topology	Bandwidth	Multiplexing
128	Integrity in security means:	Protecting data from unauthorized alteration	Making data public	Increasing bandwidth	Changing topology
129	Availability means:	Authorized users can access resources when	Data is always encrypted with no access	All services are disabled	Only administrators can use networks
130	A digital certificate is primarily used to:	Bind an identity to a public key	Increase bandwidth	Create a VLAN	Replace a router
131	Certificates are commonly associated with:	Public-key security	Physical cabling	CSMA/CD	Network topology
132	A security approach should begin with:	Identifying assets, risks and security requirements	Disabling every computer	Removing all passwords	Replacing all cables
133	A security problem may result in:	Unauthorized access or data loss	Improved confidentiality automatically	Higher bandwidth	Fewer protocols
134	A firewall is used primarily to:	Control network traffic according to security rules	Regenerate signals	Assign MAC addresses	Create optical signals
135	A firewall can help prevent:	Unauthorized network access	All hardware failures	All programming errors	All power failures
136	Encryption converts:	Plaintext into ciphertext	Ciphertext into plaintext only	Frames into cables	IP addresses into MAC addresses
137	Decryption converts:	Ciphertext into plaintext	Plaintext into ciphertext	Signals into VLANs	Packets into cables
138	The purpose of encryption is to provide:	Confidentiality of information	Physical addressing	Topology control	Bandwidth expansion

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139	SSL/TLS is associated with:	Secure communication over networks	Physical cable design	Network topology	Error detection only
140	Secure Socket Layer (SSL) is intended to provide:	Security for network communication	Signal amplification	Routing decisions	MAC learning
141	A VPN provides:	A secure logical connection over an underlying	A new physical cable	Only a larger bandwidth	Only a new topology
142	VPN stands for:	Virtual Private Network	Verified Public Network	Virtual Protocol Node	Variable Private Node
143	A firewall rule can be used to:	Allow or deny specified traffic	Change CPU speed	Create a monitor	Convert analog to digital
144	Which technique hides readable information from unauthorized users?	Encryption	Routing	Multiplexing	Switching
145	Authentication is concerned with:	Verifying identity	Choosing a topology	Increasing bandwidth	Framing packets
146	Authorization is concerned with:	Determining permitted access	Converting signals	Assigning cable types	Detecting collisions
147	A strong security plan should consider:	Threats, vulnerabilities and controls	Only cable length	Only topology	Only bandwidth
148	Security consequences may include:	Data theft, service disruption and	Automatic bandwidth increase	Automatic error correction	Improved signal strength
149	A VPN can help protect data by:	Providing encrypted communication through an	Removing all IP addresses	Replacing all routers	Eliminating authentication
150	Which syllabus topic specifically covers protection using certificates?	Security with certificates	CSMA/CD	Transmission media	VLAN