Question Bank

Short Answer Type Questions

Sr. No	Question Type	Question
1	Unit -1	Define the term: network topology and name its various types?
2	Unit -1	List the steps involved in creating the checksum.
3	Unit -1	Point out the difference between 802.11 and 802.6
4	Unit -1	Obtain the 4-bit CRC code word for the data bit sequence 10011011100 (leftmost bit is the least significant) using the generator polynomial given in the previous problem.
5	Unit -1	Name various operations of Physical layer?
6	Unit -1	Explain the use of parity check for error detection?
7	Unit -1	what is the data in the following hamming code: 1 0 0 1 1 1 0 0 1 0 1
8	Unit -1	Why do you need error detection?
9	Unit -1	What is VLAN and how it will reduce the broadcast traffic?
10	Unit -1	What is the channel capacity for a teleprinter channel with a 300 Hz bandwidth and a signal-to-noise ratio of 3 DB?
11	Unit -2	What is the job of the Network Layer under the OSI reference model?
12	Unit -2	What is RIP?
13	Unit -2	How can you identify the IP class of a given IP address?
14	Unit -2	What is a private IP address?.
15	Unit -2	What is the main purpose of OSPF?
16	Unit -2	What is tracert?
17	Unit -2	What is ICMP?
18	Unit -2	Name the various flags used in IPV4.
19	Unit -2	Which layers are network support layers?
20	Unit -2	What is a gateway or Router?
21	Unit-3	Why is SMTP not used for transferring e-mail messages from the recipient's mail server to the recipient's personal computer?
22	Unit-3	What is HTTP and what port does it use?
23	Unit-3	What is meant by 127.0.0.1 and local host?
24	Unit-3	In how many ways the data is represented and what are they?
25	Unit-3	What are the properties of Blockchain?
26	Unit-3	What is Remote desktop protocol?
27	Unit-3	List the protocols in application layer
28	Unit-3	Provide A Reason As To Why Https Should Be Used Instead Of Http?
29	Unit-3	What is encryption? What is its role in Blockchain?
30	Unit-3	Write down the comparison between connection-oriented and connectionless services.
31	Unit-3	What are the functions of transport layer?
32	Unit-3	How Does Symmetric Key Encryption Work?

Long Answer Type Questions

Sr. No	Question Type	Question
1	Unit -1 Average	a) Given the following information, find the minimum bandwidth required for the path: FDM Multiplexing Five devices, each requiring 4000 Hz. 200 Hz guard band for each device.

		b) With the help of diagram , Explain the working of Packet Switching
2	Unit -1 Average	Differentiate between Message switching, Circuit Switching & Packet Switching.
3	Unit -1 Average	How does the logical topology differ from the physical topology? Why can a single physical topology support multiple logical topologies?
4	Unit -1 Average	Elaborate Wavelength Division Multiplexing & its benefits over FDM & TDM
5	Unit -1 Average	Elucidate the underlying concept of Layers & various design issues of layers
6	Unit -1 Average	
7	Unit -1 Average	Illustrate the OSI network model and the advantages & functions of each layer.
8	Unit -1 Average	Illustrate TCP/IP & its advantages over OSI Model
9	Unit -1 Average	Delineate data communication and explain components of datacommunication system.
10	Unit -1 Average	Why multiplexing is required also explain what are the goals of multiplexing.
11	Unit -1 Difficult	We have the following transmission media · Twisted pair · Coaxial cable · Optical fibre cable Discuss the advantages and disadvantages of each of these media in terms of cost, ease of installation and adaptability in providing a range of services to clients
12	Unit -1 Difficult	List the differences between port address, logical address and a physical address?
13	Unit -1 Difficult	Write the underlying concept of FDM? Explain de multiplexing and multiplexing process.
14	Unit -1 Difficult	Elaborate transmission impairment? List the factors that lead to transmission impairment?
15	Unit -1 Difficult	Illustrate OSI model. Explain the functions and protocols of each layer.
16	Unit -1 Difficult	Differentiate between a straight-through and crossover cable in detail?
17	Unit -1 Difficult	Explain in detail CSMA protocol in detail.
18	Unit -1 Difficult	What is a port number and give some examples?
19	Unit -1 Difficult	Optical fiber communications system is required for transmission . Justify . Constuct the neat diagram
20	Unit -1 Difficult	How Data breaks down on each layer from top to bottom ?
21	Unit -1 Difficult	MAC address works on which layer ? What are the differences of MAC sublayer and LLC sublayer?

22	Unit -1 Difficult	Explain in detail Token Ring protocol in detail.
23	Unit -1 Difficult	Mention the different protocols used in data link layer. Explain the operation of HDLC protocol?
24	Unit -1 Difficult	Write different protocols which are being used in Transport layer in TCP/IP model
25	Unit -1 Difficult	Elaborate the concept of data rate limits with different formulations
26	Unit -1 Difficult	Differentiate between point to point and multipoint connections
27	Unit -1 Difficult	Differentiate between circuit switching, packet switching, and message switching on the basis of their concept, transmission system, routing, multiplexing used by them?
28	Unit -1 Difficult	List out different Transmission modes in Computer networks.
29	Unit -1 Difficult	Name the protocols that fall under the TCP/IP Internet Layer? Explain
30	Unit -1 Difficult	List the differences between CSMA/CD and CSMA/CA?
31	Unit -2 Average	You are designing a subnet mask for the 192.168.172.0 network. In first network you have 50 hosts and in second network you have 35 hosts. Design the network by using FLSM method.
32	Unit -2 Average	Do port addresses need to be unique? Why or why not? Why are port addresses shorter than IP addresses?
33	Unit -2 Average	Do the VLSM Subnetting of following network: In this network: - • Development department has 74 computers. • Production department has 52 computers. • Administration department has 28 computers. • Development and production department is connected with Router R1 and Administrative department is connected with Router R2. • The given address space is 192.168.1.0/24. Design the network using VLSM technique.
34	Unit -2 Average	Highlight the various Congestion Control mechanisms to control Congestion problems.
35	Unit -2 Average	Differentiate between classful and classless addressing. What is CIDR? Highlight the CIDR values of each class in case of classful addressing.
36	Unit -2 Average	Consider the NID of a network is 193.168.0.0, Divide the network into 16 sub-networks, list the NIDs and BIDs of all the sub-networks. Also find the subnet mask of the network. Using this subnet mask and and HOST IP address 193.168.0.29, locate the subnet ID in which this host is residing.
37	Unit -2 Average	Demonstrate the concept of NAT. Explain its types with suitable example.
38	Unit -2 Average	Construct the different Congestion control Algorithms.
39	Unit -2 Average	What is classful addressing? Discuss Class A, Class B, Class C, Class D and Class E addresses with its ranges in decimal dotted notation and example.
40	Unit -2 Average	Elaborate the concept of Super and Sub Netting with Example
41	Unit -2 Difficult	Illustrate the techniques in short which are used for achieving Good Quality of Service at Network Layer.

42	Unit -2 Difficult	Illustrate IP addressing? How it is classified? How is subnet addressing is performed?
43	Unit -2 Difficult	Illustrate congestion control. Why it is required? List all policies used for the congestion control. Explain any two policies used for the congestion control in detail.
44	Unit -2 Difficult	List the responsibilities of the Network layer.
45	Unit -2 Difficult	Disclose leaky bucket algorithm and how traffic congestion can be reduced.
46	Unit -2 Difficult	Explain the IP address classification. Identify the following IP addresses and their address class: (i) 200.58.20.165 ii)128.127.23.20 iii)16.196.128.50 iv)150.156.10.10
47	Unit -2 Difficult	Disclose Private IP and Public IP. Where to use each? How can get each? What is the purpose of these terms?
48	Unit -2 Difficult	Illustrate IPV6 with its frame format. Also list advantages of IPV6 over IPV4.
49	Unit -2 Difficult	Differentiate between Distance Vector Routing Protocols and Link State Routing Protocols
50	Unit -2 Difficult	Expand about the various Channel Allocation problem
51	Unit -2 Difficult	Write the underlying concept of Logical Addressing in context with IPv4 and IPv6.
52	Unit -2 Difficult	Demonstrate the concept of Flow Control and Error Control in Detail.
53	Unit -2 Difficult	Illustrate the role of IEEE in computer networking? Elaborate different IEEE standards.
54	Unit -2 Difficult	Illustrate IPV4 with its frame format. Also list advantages of IPV6 over IPV4.
55	Unit -2 Difficult	Demonstrate the concept of Dijkstra algorithm. Explain the algorithm with suitable example.
56	Unit -2 Difficult	What is IPv6? Explain its advantages over IPv4. Also explain its frame format.
57	Unit -2 Difficult	Demonstrate the concept of Bellman Ford algorithm. Explain the algorithm with suitable example.
58	Unit -2 Difficult	Give a reason for the need of network management? Explain the tasks involved in managing a network.
59	Unit -2 Difficult	Elaborate different congestion prevention policies with neat diagrams.
60	Unit -2 Difficult	Expound the concept of Routing. How different routing algorithms help in routing
61	Unit -3 Average	Elaborate the different type of attacks in network security.
62	Unit -3 Average	Elaborate the concept of Security provide services.
63	Unit -3 Average	Write short note on :

		1. FTP 2. TELNET 3. DNS
64	Unit -3 Average	What are the major differences between Symmetric and Asymmetric key? Explain with an example.
65	Unit -3 Average	Explain briefly about MD5 message digest algorithm.
66	Unit -3 Average	Expound the protocol that provide security services for E-mails.
67	Unit -3 Average	How the different attacks crack the Data Encryption standard (DES)?
68	Unit -3 Average	Write short note on following commands: 1. Ping 2. Traceroute 3. Netstat
69	Unit -3 Average	List down the functionalities of Application Layer in detail.
70	Unit -3 Average	**b) Discuss the advantages of AES over DES algorithm.** **c) Write a note on 3DES approach.**
71	Unit -3 Difficult	Write note on : 1. Electronic Mail 2. World Wide Web
72	Unit -3 Difficult	Discuss the importance of Encryption on a network? Explain different encryption alogorithms.
73	Unit -3 Difficult	**How Do Digital Timestamps Support Digital Signatures?**
74	Unit -3 Difficult	Name and elaborate the common sort of ledgers which will be thought of by users in Blockchain?
75	Unit -3 Difficult	What is Digital Signature? Discuss about the RSA approach and the DSS approach of Digital Signature.
76	Unit -3 Difficult	What are the various types of Blockchains? Explain each with an example.
77	Unit -3 Difficult	What is the need for network management? Explain the tasks involved in managing a network.
78	Unit -3 Difficult	Ellaborate the concept of Domain Name System
79	Unit -3 Difficult	**Draw the general structure of DES and explain encryption decryption process.**
80	Unit -3 Difficult	**Discuss two security mechanisms applied at the application layer. Are they safer than those applied at the lower network layer? Justify your answer.**
81	Unit -3 Difficult	List different protocols in Application layer
82	Unit -3 Difficult	How network security is important and explain how security can be achieved in networking.
83	Unit -3 Difficult	**What Is The Quantum Cryptography? Elaborate with an example.**

84	Unit -3 Difficult	Ellaborate the concept of Simple Mail Transfer Protocol with proper working.
85	Unit -3 Difficult	**If you are a victim of Denial of Service (Dos) then what you do?**
86	Unit -3 Difficult	**What is a firewall and what are its limitations? Why do corporate houses implement more than one firewall for security?**
87	Unit -3 Difficult	Ellaborate the concept of SSH (Secure Shell).
88	Unit -3 Difficult	Explain the working of different Remote Management Protocols (Telnet, RDP) with proper working.
89	Unit -3 Difficult	Elaborate the components of NetFlow and also define the use of NetFlow in different fields.
90	Unit -3 Difficult	Index the functionalities of Transport Layer in detail.
91	Unit -3 Difficult	Mention different elements of Transport layer. Explain in details
92	Unit -3 Difficult	Name the different protocols in Transport layer
93	Unit -3 Difficult	List the different connection oriented protocols explain with frame format.
94	Unit -3 Difficult	Differentiate between TCP and UDP with the help of frame format.
95	Unit -3 Difficult	Compare the TCP header and the UDP header. List the fields in the TCP header that are missing from UDP header. Give the reason for their absence.
96	Unit -3 Difficult	Draw the structure of TCP segment. Explain the feature of TCP
97	Unit -3 Difficult	In cases where reliability is not of a good importance, UDP would make a good transport protocol. Explain with an example.
98	Unit -3 Difficult	What do you understand by”3-way Hand Shake” in Tcp Explain
99	Unit -3 Difficult	Write down the differences between TCP and SCTCP with the help of frame format.
100	Unit -3 Difficult	UDP is a message-oriented protocol. TCP is a byte-oriented protocol. If an application needs to protect the boundaries of its message, which protocol should be used, UDP or TCP?
101	Unit -3 Difficult	Draw the structure of TCP segment. Explain the feature of TCP
102	Unit -3 Difficult	Index the maximum and minimum size of TCP Header? And also explain how TCP provides the reliable connection.
103	Unit -3 Difficult	Index and elaborate all Transport Layer Protocols.
104	Unit -3 Difficult	Compare and Contrast TCP and UDP services.
105	Unit -3 Difficult	Ellaborate the concept of Internet Message Access Protocol with proper working.