Computer Network

1 Which of the following protocols are examples of TCP/IP transport layer protocols?

2. Which of the following protocols are examples of TCP/IP network access layer protocols?

3. The process of HTTP asking TCP to send some data and make sure that it is received correctly is an example of what?

4. The process of TCP on one computer marking a segment as segment 1, and the receiving computer then acknowledging the receipt of segment 1, is an example of what?

5. The process of a web server adding a TCP header to a web page, followed by adding an IP header, and then a data link header and trailer is an example of what?.

6. Which of the following terms is used specifically to identify the entity that is created when encapsulating data inside data link layer headers and trailers?

7. Which OSI layer defines the functions of logical network-wide addressing and routing?

8. Which OSI layer defines the standards for cabling and connectors?

9. Which OSI layer defines the standards for data formats and encryption?

10. Which of the following terms are not valid terms for the names of the seven OSI layers?

11. List out the advantages and drawbacks of bus topology.

12. List out the advantages and drawbacks of ring topology.

13. Why star topology is commonly preferred?

14 . In what situations contention based MAC protocols are suitable?

15. What is vulnerable period? How it affects the performance in MAC protocols?

16   How throughput is improved in slotted ALOHA over pure ALOHA?

17 . What is the parameter 'a'? How does it affect the performance of the CSMA protocol?

18.   How performance is improved in CSMA/CD protocol compared to CSMA protocol?

19 What are the goals in mind of IEEE 802 committee?

20 . List the functions performed by the physical layer of 802.3 standard?

21 Why do you require a limit on the minimum size of Ethernet frame**?**

22 What are the different types of cabling supported by Ethernet standard?

23 What is the advantage of token passing protocol over CSMA/CD protocol?

24. What are the drawbacks of token ring topology?

25 How the reliability of token ring topology can be improved?

26 What role the active token monitor performs?

27 What is congestion control ?

28 How FDDI offers higher reliability than token ring protocol?

29 What are the functionalities of a Optical Bypass Switch?

30 What are the functionalities provided by SMT standard?

31 Describe various fields in frame format of FDDI?

32 Explain the basic difference between IEEE 802.3 and switched Ethernet, as far as implementation is concerned.

33 . Explain the two techniques for implementing Ethernet switches.

34. What are the different categories of Fast Ethernet?

35 What is the difference between network layer delivery and transport layer delivery?
36 How can a device have more than one IP address?
37 Which control bit is involved in setting up a TCP session?
38 What factors effects the data rate of a link?
39 What are the advantages of FDDI over a basic token ring?
40 What 3 functions can SNMP perform to manage network devices?
41 What is the purpose of the timer at the sender in systems using ARQ?
42 Is there any drawback of using piggybacking?

43 What are the two reasons for using layered protocols?

44 What do you mean by link to link layers of OSI reference model? Explain their functions   briefly?

45 Write a short note on ISDN?
46 What is the difference between boundary level masking and non- boundary level masking? Give examples
    47 Draw the IP datagram header format. "IP datagram has a checksum field still it is called an unreliable protocol". Justify?
    48 What are the principles that were applied to arrive at the seven layers in OSI model?
    49 Explain the working of 3 bit sliding window protocol with suitable example.
    50 Explain the following ARQ techniques in detail
        a) Stop and wait ARQ
        b) Selective repeat ARQ
    51 What are the reasons for using layered protocols ?
    52 10 Enumerate the main responsibilities of data link layer ?
    53   Is the nyquist theorem true for optical fibre or only for copper wire ? Explain.
    54 Why do data link layer protocols position the checksum in the trailer and not in the header ?
    55 Compare the maximum window size in go-back-N and selective-repeat ARQs.
    56   Why does ATM use the cell of small and fixed length ?
    57 Give the equivalent binary word for the polynomial x^8+x^2+x+1.
    58 In which of the 7 layers of OSI will a service handling conversion of characters is from EBCDIC to ASCII be normally implemented ?
    59 Where is the special IP address 127.0.0.0. used ?
    60 Convert the IP address 197.228.17.56 into binary ?

61 Compare satellite with fiber as a communication medium and enumerate the application areas where satellite still holds a niche(or special)marker.

62 A binary signal is sent over a 3-khz channel whose signal-to-noise ratio is 20 db.Calculate the maximum achievable data rate ?

63 What does 'data transparency' mean ? With the help of a flow chart, explain the process of bit de-stuffing at the receiver's end.

64 Write short note on any four of the following:

   (a) The ATM reference model

   (b) HDLC

    (c) Salient difference between ISO-OSI and TCP/IP models.

   (d) Network Topologies and their uses.

   (e) Wireless networks.

65 Differentiate between static and dynamic channel allocation.

66 List out the main responsibilities of the network layer.

67 Give two examples of a 'collision-free' protocol ?

68 Why is IP called 'best-effort delivery' protocol?

69 What are the two sub layers of data link layer called ?

70 What are the other names of IEEE 802.11 protocol or standard?

71 What is the baud rate of a standard 10 mbps Ethernet LAN ?

72 What is a minimum data size of an Ethernet frame ?

73 Write short note on any four of the following:

   (a) Token ring

   (b) FDDI

74 Why transport layer protocols like TCP and UDP are called end-to-end protocols. What is   the difference between them?

75 Differentiate between:

 (i) Baseband co-axial cable and broad band coaxial cable

 (ii) Optical fibre and twisted pair

76 . Explain what is meant by the term 'integrated service digital network'

77 What are the various classes of IP addressing?

78 Why is a data link layer switch preferred over a hub ?

79 Which device is needed to connect two LANs with different network Ids ?

80 Write two ways in which computer applications differ from network applications ?

81   What is ISO-OSI reference model ? Compare it with TCP/IP reference model. Why TCP/IP reference model is more popular than OSI model ? Which layer is used for the following :

(i) to route packets

(ii) to convert packets to frame

(iii) to detect and correct errors

(iv) to run services like FTP, Telnet etc.

82. What is packet switching ? Explain two different approaches of packet switching. ?

83 . How does a token ring network work ? In what way is it different from Ethernet ?

84 Describe and distinguish between FDMA, TDMA, and CDMA.

85 What is sliding window protocol ? Differentiate between stop-and wait ARQ and Go-back-N protocol.

86 Differentiate between ISO-OSI and TCP/IP reference model.

87 . Explain different kinds of Switching techniques.

88 Explain any three error detection and correction techniques.

89 Explain in brief SONET

90 Describe in brief ATM

91 Explain in brief various WAN echnologies

92 Describe the overview of IP version 6.

93 What is ARPANET ? Describe in brief.

94 Explain in brief Fast Ethernet and Gigabit Ethernet

95 Explain the functions of Switches, Bridges,Routers, Gateways.

96 , What is Subnet Addressing ?

97 Explain in brief Internet Control Protocols, ARP, RARP, ICMP.

98 Explain the concept of Frame Relay.

99 Explain in short MAN

100 What are different wireless links ? Explain