CN Important Questions

MID-1

1. Explain the differences between OSI model and TCP/IP model?
2. Explain in detail the OSI reference model.
3. Explain in detail the TCP/IP reference model.
4. With neat sketch explain Coaxial cable, Standards of coaxial cable and connectors of coaxial cables.

5. Explain the following error detection techniques
   i) Cheksum ii) CRC

6. Explain the following networks

   ARPANET NSFNET

7. What is the significance of layered architecture? Explain the OSI layered architecture with neat sketch.
8. Explain the following error detection techniques
   i) LRC
   ii) CRC

9. Explain about various guided transmission media?

10. Explain sliding window protocol using Go back N?

11. For the data 1010110110110001 to be send using a Generator Polynomial x^4+x^2+1 find CRC code

12. Explain various network topologies in detail.

13. Differentiate LAN, MAN and WAN network topologies.

14. Explain briefly about CSMA/CD.

14. Explain in detail about the sliding window protocol using Selective Repeat.

15. Explain different flow control protocols for noisy channels.

16. Compare and contrast a circuit-switched network and a packet switched network

17. Explain the purpose of slotted ALOHA with a neat diagram.

18. Explain the point-to-point protocol.

19. Explain CSMA with collection detection protocol.

20. An 8-bit byte with binary value 10101111 is to be encoded using an even –

parity Hamming code. What is the binary value after encoding?

21. Sketch the manchester encoding for the bit stream: 0001110101.

22. Sketch the RZ(Uni-Polar,Bipolar), NRZ(Uni-Polar,Bipolar) and Manchester encoding for the bit stream: 10001110101.110

23. A bit string, 0111101111101111110, needs to be transmitted at the data link layer. What is the string actually transmitted after bit stuffing?

24. What is the difference between a port address, a logical address and a physical address?

25. Explain HDLC protocol briefly?

26. What is internet? Explain its architecture.

27. A channel has a bit rate of 4Kbps and a propagation delay of 20 msec. For what range of frame sizes does stop-and-wait given an efficiency of at least 50 percent?

28. The following character encoding is used in data link layer protocol

A: 01000111 B: 11100011 FLAG: 01111110 and ESC: 11100000.

The original message(Frame) that is to be transmitted is **A B ESC FLAG A.** Find the message that actually is transmitted by sender for a) Character(Byte) Count b) Byte Stuffing and c) Bit Stuffing

29. A bit string 011110111110011111010 needs to be transmitted by datalink layer. What is the bit string actually being transmitted after bit stuffing.

30. Obtain CRC code to be transmitted after dividing $x^7+ x^5+1$ by the generator polynomial x^3+1.

31. Explain the services offered by network layer.

32. Draw the datagram structure of IPV4. Explain each field in the header

33. Write a notes on Classful addressing scheme.

MID-2

1. With an example explain the Dynamic routing algorithms used in computer networks.

2. What are the reasons for congestion? What are the problems with congestion?
3. Explain the Services of Transport layer.
4. Explain how Network Security can be achieved.
5. Write about electronic mail in detail.
6. Discuss about TCP and UDP Protocols
7. Explain the working of DNS.
8. With an example explain the distance vector routing algorithms used in computer Networks
9. Explain in detail about Connection management.
10. Discuss about the header format of UDP.
11. Explain the Network layer in the internet.
12. Write short notes on the following. a) SMTP b)FTP
13. What is the format of IPv4 header? Describe the significance of each field.
14. Explain the Real Time Transport Protocol.
15. How DNS service maps domain names to IP addresses.
16. Explain flow control in transport layer in detail.
17. Compare classful and classless addressing, giving examples for both.
18. Write short note on RIP.
19. List and explain any three closed loop congestion control techniques.
20. Differentiate between static and dynamic routing.
21. Define Subnetting. What are the advantages of Subnetting? Explain with an example
22. What is the use of ARP? Explain ARP operation and packet format.
23. List and explain the different types of error reporting messages used by ICMP.
24. Explain the File Transfer Protocol (FTP) and its features.
25. Draw and explain the datagram format for IPv6.
26. Distinguish between Flooding and broadcasting in computer networks
27. List the private addressing range in class A,B and C
28. What are port numbers and how they are important in computer communication

Refer : Forouzen Text Book