COMPUTER COMMUNICATION AND NETWORKS
QUESTION BANK – III SEMESTER BCA
UNIT-I
2 MARKS

1. Define computer network.
2. What are the different uses of computer network?
3. Expand TCP, UDP.
4. Expand LAN, MAN, WAN.
5. What is peer-to-peer model?
6. What is client-server model?
7. What are the two types of transmission technology?
8. What is unicasting and broadcasting?
9. Differentiate connection oriented and connectionless service.
10. Differentiate OSI and TCP/IP reference model.
11. What do you mean by Half duplex mode of transmission?
12. Differentiate circuit switching and packet switching.

5 Mark Questions

1. List and explain the uses of computer network.
2. Write a note on the following:
    i. Business application
    ii. Home application
3. Write a note on the following:
    i. Mobile users
    ii. Social issues
4. Write a note on the following:
    i. LAN
    ii. MAN
5. Write a note on WAN.
6. Write a note on LAN.
7. Explain protocol hierarchies.
8. Differentiate connection oriented and connectionless service.
9. Explain in brief different layers of OSI reference model.
10. Explain in brief different layers of TCP/IP reference model.
11. Differentiate OSI and TCP/IP reference model.
12. Explain any 3 internetworking devices.
13. Explain the basic elements of Computer networks.
14. Explain circuit switching and Message switching techniques
15. Explain Packet and Message switching
16. What do you mean by transmission modes? Explain the types

UNIT 2

2 Mark Questions

1. Expand TDM, CDM.
2. What is Topology. Mention its types.
3. Mention any 2 drawbacks of Ring Topology.
4. What is transmission medium?
5. What is meant by unguided media?
6. What is meant by guided media?
7. Give examples for guided media.
8. Give examples for unguided media.
9. Draw a cutaway view of a coaxial cable.
10. Draw side view of a single fiber.
11. What is multiplexing?
12. List the types of multiplexing.
13. What is FDM?
14. What is TDM?
15. Differentiate FDM and TDM.
16. Write the different design issues of data link layer.
17. Write the various services offered by the data link layer to the network layer.
18. List the different fields from which the frame is composed of.

5 Mark Questions

1. Write a note on twisted-pair cable.
2. Write a note on the following:
    i. Coaxial cable
    ii. Fiber optics
3. Write a note on radio transmission.
4. Write a note on microwave transmission.
5. Write a note on the following:
    i. Infrared transmission
    ii. Light transmission
6. Write a note on the following:
    i. Error control
    ii. Flow control
7. Explain the Frame Header with all fields.
8. Explain Hamming code of error-correcting codes.
9. Explain Parity of error-detecting code with example.
10. Explain Checksums of error-detecting code with an example.
11. Explain Cyclic Redundancy Checks of error-detecting code with an example.
12. Explain stop-and-wait protocol.
13. Explain Sliding Window protocol.
14. Explain a protocol using Go-Back-N.
15. Explain a protocol using Selective Repeat.
16. Explain Bus and Ring topologies with advantages and disadvantages
17. Explain Star and Tree topologies with advantages and disadvantages

UNIT 3

2 Mark Questions

1. What is store-and-forward packet switching?
2. Write the various services offered by the network layer to the transport layer.
3. What is routing algorithm?
4. Expand OSPF, CIDR.
5. What is broadcast routing?
6. What is multicast routing?
7. What is anycast routing?
8. List the different options for Option field in IPv4 protocol.
9. What is IP address ? Give example.
10. What is meant by subnetting and subnets?
11. What is meant by route aggregation and supernet?
12. List different special IP addresses.
13. What are the major goals of IPv6?
14. List different extension headers of IPv6.
15. What is Proxy ARP?
16. What is the purpose of RARP Protocol?
17. Expand RIP, BGP.
18. List the different types of OSPF message.

5 Mark Questions

1. Explain the implementation of connectionless service.
2. Explain store and forward packet switching.
3. Explain the implementation of connection-oriented service.
4. Explain Distance vector routing with an example.
5. Explain RIP Protocol with Header Format.
6. Explain Link state routing with an example.
7. Explain OSPF Protocol with different types of messages.
8. With a neat diagram explain the format of IP version 4 protocol.
9. Explain Classful addressing.
10. With a neat diagram explain the format of IP version 6 protocol.
11. Explain Path Vector routing algorithm.
12. Explain BGP Protocol with 4 types of messages.
13. Explain classless addressing in IPv4.
14. Explain subnetting in classfull addressing with example.
15. Explain subnetting in classless addressing with example.

UNIT 4

2 Mark Questions

1. Write the various services offered by the transport layer.
2. List the two main protocols in transport layer.
3. Expand TCP , UDP.
4. What is error control?
5. What is flow control?
6. Draw a neat diagram of UDP header.
7. Expand RPC , RTP.
8. What is TCP?
9. Expand DNS , ICANN.
10. How DNS is used?
11. What is Name resolution?
12. Expand SMTP, MIME.
13. What are the two kinds of subsystems of Email system.
14. What is meant by User agent?
15. List the different message headers added by MIME.
16. List different SMTP extensions.
17. Expand HTTP , URL.
18. List the different built-in HTTP request methods.
19. List different HTTP message headers.
20. Draw a neat diagram of HTTP caching.

5 Mark Questions

1. Explain services provided by the Transport Layer.
2. Explain the concept of Addressing in Transport Layer.
3. Explain the process of connection establishment in Transport layer.
4. Explain the process of connection release in Transport layer.
5. Explain the process of Data Transfer in Transport layer.
6. With a neat diagram explain User Datagram Protocol.
7. Explain the technique of Remote Procedure Call.
8. Explain the Services of TCP.
9. With a neat diagram explain TCP segment header.
10. Explain the process of TCP sliding window.
11. Explain the architecture of Email system.
12. Write a note on MIME.
13. Write a note on SMTP.
14. Write a note on IMAP.
15. Write a note on World Wide Web.
16. Write a note on Static webpages.
17. Write a note on HTTP.
18. List and explain the built-in HTTP request methods.
19. List and explain HTTP message headers.
20. Write a note on HTTP caching.