DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE,
PERAMBALUR – 621 212
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
COMPUTER NETWORKS
QUESTION BANK

UNIT – I

PART A

1. Describe the need and use of Data communication.
2. List out the 5 components of Data communication.
3. Define Network.
4. State the categories of networks.
5. Mention the types of connections.
6. Define Topology.
7. Specify the types of topologies.
8. Define Protocol.
9. List out the OSI Layers.
10. Distinguish between Protocols and Standards.
11. How are the guided media differing from unguided transmission media?
12. List out the disadvantages of optical fiber.
13. Write down the propagation types.
14. Describe the need and use of modems.
15. Write a note on space propagation.
16. List out the specifications of the Bell modems.
17. Write down the advantages of optical fiber.
18. Write down the advantages of Mesh topology.
19. Describe the need and use of Bus topology.
20. Write a note on line configuration.
21. Expand UTP.
22. Write down the 2 relationships of topologies.
23. List out the 3 characteristics of data communications.
24. Describe the need and use of real – time transmission.
25. List the categories of standards.

PART – B

1. Discuss in detail about Data Communication.
2. Describe in detail about categories of networks.
3. Explain in detail about Topologies.
4. With a neat sketch explain OSI layers.
5. Briefly explain about classifications of transmission media.
6. Write a note on the following:

i) Coaxial Cable
ii) Optical Fiber
iii) Twisted Pair

7. Illustrate the concepts of modems.

8. Discuss in detail about types of connections.
9. Briefly explain about distributed processing and network criteria.
10. Describe in detail about protocols and standards.

UNIT-II

Part A

1. List the responsibilities of data link layer.
2. Specify the types of errors.
3. Expand VRC.
4. Describe the need and use of Hamming Code.
5. Mention the function of go-back N-ARQ.
6. Specify the different kinds of Ethernet networks.
7. Expand CRC.
8. Mention the types of error correcting methods.
9. How does a single bit error differ from a burst error?
10. Specify the function of stop and wait flow control.
11. Specify the function of token passing.
12. Expand FDDI.
13. Define checksum.
14. Expand SONET.
15. List the SONET devices.
16. Write down the SONET layers.
17. Mention the function of photonic layer.
18. Specify the types of Bridges.
19. Write a note on transparent bridge.
20. Expand and define CSMA/CD.
21. Write a note on twisted-pair Ethernet.
22. Specify the function of switched Ethernet.
23. How is CRC superior to LRC?
24. Specify the functions of CRC performance.
25. Mention the function of burst error.

PART B

1. Describe in detail about data link layer in IEEE project 802.
2. Explain error detection and error correction techniques.
3. Discuss in detail about FDDI.
4. Illustrate the concept of Ethernet 802.3 in detail.
5. Briefly explain about 802.11 in details.
6. Describe in detail about sliding window protocol.
7. Illustrate the concepts of SONET.
8. Discuss in detail about Bridges.
9. Briefly explain the concept of CRC.

UNIT III

PART A

1. Specify the responsibilities of network layer.
2. Define Inter network.
3. List the four internetworking devices?
4. Write down the functions of MAC.
5. What is PDU?
6. Distinguish between adaptive and non adaptive routing algorithms.
7. Write the keys for understanding the distance vector routing.
8. Define IP address.
9. Specify various addressing schemes in IP.
10. Write the keys for understanding the link state routing.
11. Describe the need and use of datagrams.
12. Define Subnetting
13. Expand LSP
14. Define adaptive routing.
15. Write down the functions of least-cost routing.
16. Expand SVC.
17. Define Packet switching.
18. List the functions of Repeaters.
19. Expand and define PVC.
20. Distinguish between packet switching and circuit switching.
21. Write the keys for understanding the link state routing.
22. Expand and define LSD.
23. Write a note on shortest path tree.
24. Mention the functions of Router.
25. In routing, what does the term shortest mean?

PART B

1. Discuss in detail about link state routing.
2. Briefly explain about Distance vector routing.
3. Illustrate the concepts of Routers.
4. Explain IP addressing method.
5. Illustrate the concept of subnetting.
6. Describe in detail about the two approaches of packet switching techniques.
7. Illustrate the concept of internetworking devices.
8. Discuss in detail about Repeaters.
9. With the help of block diagram explain in detail about gateways.

10. Explain in detail about packet switching approaches.

UNIT IV

PART A

1. Mention the duties of the transport layer.
2. What is meant by end-to-end delivery?
3. Define error control.
4. Write a note on flow control.
5. Define segmentation.
6. Write short notes about integrated services.
7. List the types of multiplexing?
8. Describe the need and use of sockets.
9. Define Multiplexing.
10. Distinguish between logical address and a port address.
11. Draw the UDP header and explain its fields.
12. Name the timers used by TCP.
13. List out the scheduling techniques designed to improve the quality of service.
14. Mention the two categories of QoS attributes.
15. Distinguish between TCP and UDP.
16. Define congestion control.
17. Expand BECN.
18. Define addressing.
19. Write a note on reliable delivery.
20. Define concatenation.
21. Describe the need and use of duplication control.
22. When is upward multiplexing used?
23. When is a three way handshaking used?

PART B

1. Illustrate the concepts of duties of transport layer.
2. Distinguish between TCP and UDP in detail.
3. Describe in detail about User Datagram Protocol.
4. Explain about congestion control.
5. Briefly explain about leaky bucket and token bucket algorithm.
6 Discuss in detail about Quality of Service.
7. Explain details about Transmission Control Protocol.
8. Write short notes on the following:
i) Reliable delivery
ii) Error control
iii) Flow control
9. Explain in detail about Multiplexing.
10. Answer Briefly:

i) End-to-End Delivery
ii) Addressing
iii) Reliable Delivery

UNIT V

PART - A

1. Discuss the three main division of the domain name space.
2. What is the use of local part? With example.
3. Discuss the TCP connections needed in FTP.
4. Discuss the basic model of FTP.
5. What is the function of SMTP?
6. Give the format of HTTP request message.
7. Define POP3.
8. Write down the three types of WWW documents.
9. Name four factors needed for a secure network.
10. What is a digital signature?
11. Give the format of HTTP response message.
12. List out the 2 components of SMTP.
13. Define UA.
14. What do you meant by MIME?
15. What is meant by Hypermedia?
16. Define static documents.
17. List out the structure of a web page.
18. Define CGI.
19. Write a note on URL.
20. Define Cryptography.
21. What do you meant by MTA?
22. Difference between POP3 and SMTP.
23. What is meant by encryption & decryption?
24. Define Authentication.
25. What do you meant by public key?

PART B

1. Explain the functions of SMTP.
2. Write short notes on FTP.
3. Discuss in detail about HTTP.
4. Briefly explain the concept of WWW in detail.
5. Illustrate the concepts of Cryptography.
6. Describe in detail about DNS concepts.
7. List out the protocols in application layer, explain with example.
8. Explain the following in detail
a) User Agent
b) Mail Transfer Agent

9. Discuss in detail about CGI.
10. Illustrate the concepts of static & dynamic document in World Wide Web.