



Subject Name: COMPUTER NETWORKS

Prepared by (Faculty (s) Name) :P.ASHOK KUMAR, Assistant Professor

Year and Sem, Department: IV/I ECE

Unit-I:

IMPORTANT POINTS

1. In sliding window control technique every frame is acknowledge.
2. Star is the simplest and cheapest technology to implement in small network.
3. A protocol defines the rules that both sender and receiver and all intermediate devices need to follow to be able to communicate.
4. Physical layer translates logical communication request from the data link layer into hardware specific operations.
5. ITU-T stands for International telecommunication union .
6. In full duplex transmission mode devices can transmit and receive simultaneously.
7. The range of microwave frequency extended from 300M 300G Hz to 300Hz.
8. The OSI model has 7 layer.
9. NIC stands for National interface card.
- 10.IETF stands for Internet engineering task force.

IMPORTANT QUESTIONS

1. Compare TCP/IP and OSI reference model?
2. Explain stop and wait protocol?
3. Explain TCP sliding windows protocol?
4. Explain the various steps that are followed in releasing a TCP connection?
5. Explain about ARP?
6. Explain about the working of packet switch network?
7. Explain the different types of error detection methods?
8. What is the significance of twisted pair cables and their features?
9. Explain the functions of various layers in ISO-OSI reference model?
10. Illustrate and explain the operations of selective repeat?
11. Discuss about unguided transmission medium?

MULTIPLE CHOICE QUESTIONS :-

1. Communication between a computer and a keyboard involves (D) transmission.
A. Automatic



- B. Half duplex
 - C. Full duplex
 - D. Simplex
2. The (B) is the physical path over which a message travels.
- A. Path
 - B. Medium
 - C. Protocol
 - D. Route
3. The first network (D)
- A. CNNET
 - B. NSFNET
 - C. ASAPENT
 - D. ARPANET
4. OSI stands for (C)
- A. Open system interface
 - B. Open source interface
 - C. Open system interconnection
 - D. Open source interconnection
5. wireless communication can be done (D)
- A. Radio wave
 - B. Microwave
 - C. Infrared
 - D. All above
6. Which transmission media has high transmission speed in a network (c)
- A. Coaxial cable
 - B. Twisted pair
 - C. Optical fibre
 - D. Electrical cable
7. Transmission are usually categorized as (D)
- A. Fixed or unfixd
 - B. Guided or unguided
 - C. Deterministic and in deterministic
 - D. Metallic and non metallic
8. A set of rules that governs data communication (A)
- A. Protocols
 - B. Standards
 - C. RFC'S
 - D. Non of this
9. Which of following one task is not done by data link layer (D)
- A. Framing
 - B. Error control



- C. Flow control
- D. Routing

10. physical layer translates logical communication request from the (A) layer into hardware specific operation

- A. Data link
- B. Network
- C. Transport
- D. Application layer



UNIT 2

IMPORTANT POINTS

1. In Pure ALOHA random access method the station sends a frame whenever it has a frame to send.
2. In control access method the station consult one another to find which station has right to send.
3. CSMA stands for carrier sense multiple access.
4. Bridge function in the data link layer.
5. Automatic repeat request error management mechanism is provided by MAC Sublayer.
6. Physical addressing error control and access to media control are managed by the data link layer.
7. The data link layer is responsible for delivering data units from one station to next without errors.
8. In stop and wait flow control technique every frame is acknowledged.
9. Ethernet is a data link layer protocol.
10. The Network layer concern with packets.
10. Framing error occurs when e or more bits in data unit has been changed during the transmission.
11. A link-layer switch is a connecting device that operates in the data link layer.
12. A bridge connects two or more LANS.
13. Data is grouped into packets in Network layer.
14. ALOHA stands for advocate of linux opens source hawali association.
15. CRC stands for cyclic redundancy code.
16. Ethernet is a data link layer protocol.
17. The Network layer concerns with packets.
18. Data is grouped into packets in Network layer.

IMPORTANT QUESTIONS :

1. Explain about Framing?
2. Give detail note on Hamming code?
3. Explain CSMA/CD protocol and how does it detect collision?
4. Discuss about switched and fast ethernet?
5. Explain about the go-back-N ARQ protocol?
6. Explain check sum with an example?
7. Explain about IEEE 802.3 frame?
8. Explain about CSMA protocol?
9. Describe the stop and wait flow control technique?
10. Describe the ethernet MAC sublayer protocol?
11. Write the short note on the following CSMA scheme: a) Non-persistent b) 1-persistent c) 0-persistent
12. What are the different types of error detection method? Explain the CRC error detection technique using generator polynomial x^4+x^3+1 and data 11100011?
13. Explain in detail the operation of pure ALOHA and slotted ALOHA?



MULTIPLE CHOICE QUESTIONS:-

1. CRC stands for (B)
 - A. Cyclic redundancy check
 - B. Cyclic redundancy code
 - C. Cyclic redundancy channel
 - D. Cyclic return code

2. Which error detection method involves polynomial (A)
 - A. CRC
 - B. Parity check
 - C. Checksum
 - D. Hash value

3. Fast Ethernet has data rate of (C) Mbps.
 - A. 1
 - B. 10
 - C. 100
 - D. 1000

4. Which one of the following is a data link protocol (C)
 - A. Ethernet
 - B. Point to point protocol
 - C. HDLC
 - D. All of them

5. Which one of the following task is not done by data link layer (D)
 - A. Framing
 - B. Error control
 - C. Flow control
 - D. Routing

6. In source routing bridges (A) frame is used to discover the destination
 - A. Discovery
 - B. Control
 - C. Data
 - D. Acknowledgement

7. Checksum uses (A) arithmetic
 - A. One's complement arithmetic
 - B. 2's complement arithmetic
 - C. Either (A) or (B)
 - D. None of the above

8. A single channel is stored by multiple signals by (B)
 - A. Analog modulation
 - B. Digital modulation
 - C. Multiplexing
 - D. None of them



9. which one of the following task is not done by data link layer (D)

- A. Framing
- B. Error control
- C. Flow control
- D. Channel coding

10. Which error detection method involves polynomial (A)

- A. CRC
- B. Parity check
- C. Checksum
- D. Hash value



UNIT 3

IMPORTANT POINTS

1. Network congestion occurs in case of traffic overloading.
2. Routing is a function of a Network layer.
3. In virtual circuit routing, data is not sent by packets.
4. Two devices are in Network if a process in one device is able to exchange information with a process in another device.
5. Internet protocol is the network layer protocol of internet.
6. NIC stands for Network interface card.
7. A bridge connects 2 or more LANs.
8. Distance vector routing uses routers to determine distance to its own neighbours.
9. In IP networking, network and host address are separated using dotted decimals.

IMPORTANT QUESTIONS :

1. Define free protocols mention advantages of Define collision explain collision each protocol?
2. Explain the following:
 - a. bridge
 - b. gateways
 - c. repeaters
3. The major problem with distance vector routing algorithm is count to infinity how exchange complete path from router to destination instead of delay helps in solving count to infinity problem?
4. Explain the design issues of network layer?
5. Discuss the hierarchical routing with examples?
6. Given a network address of 192.168.100.0 & a subnet of 255.255.255.192
 - a. How many subnets are created?
 - b. How many hosts are there per subnet?
7. Discuss ICMP Messages? Explain tunneling in internet layer?
8. Discuss in brief the MAC frame structure for IEEE 802.3?
9. Explain about Dijkstra's shortest path routing algorithm with an example?
10. Explain about reverse address resolution protocol?
11. With a neat diagram explain the IPV6 header format?
12. Mention 5 categories of connecting devices and explain in brief
13. Explain the dynamic routing algorithms in detail?
14. Discuss about count to infinity problems
15. Give the advantages of hierarchical routing
16. Explain about address resolution protocol
17. Explain about ipv6 header format
18. Explain about the spanning tree bridge
19. Explain about types of bridge
20. Explain about hierarchical routing algorithm
21. Distinguish between connectionless and connection oriented network
22. Explain about ARP?



23. Discuss about spanning tree bridges
24. Explain link state routing algorithm in detail?
25. Write the optimal by principal of routing algorithm
26. Describe hierarchical routing algorithm in details
27. Write a note on load shedding?
28. Describe fragmentation in internet working with an example?
29. Explain address resolution protocol in detail?
30. Write the principles of networking layer in internet?

MULTIPLE CHOICE QUESTIONS:-

- 1.The network layer concerns with (C) packets.
 - A. Bits
 - B. Frames
 - C. Packets
 - D. Bytes
- 2.The 4-bytes IP address consists of (C)
 - A. Network address
 - B. Host address
 - C. Both A&B
 - D. None of them
- 3.(A) protocol is the network layer protocol of internet.
 - A. Ethernet
 - B. Internet
 - C. Hypertext
 - D. None of them
- 4.which one of the following is not a function of network layer (C).
 - A. Routing
 - B. Inter- networking
 - C. Congestion control
 - D. None of them
5. Multi destination routing (A)
 - A. Is same as broadcast routing
 - B. Contains the list of all destinations
 - C. Data is not sent by packets
 - D. None of them
- 6.A router is involved in (C) number of layer of TCP/IP protocol suit.
 - A. 4
 - B. 5
 - C. 3
 - D. 6
- 7.An RFC (request for comment). During its lifetime, falls into one of (B) maturity levels.



- A. 5
- B. 6
- C. 7
- D. 8

8. In source routing bridge (A) frame is used to discover the destination.

- A. Discovery
- B. Control
- C. Data
- D. Acknowledgement

9. Which one of the following is not a function of network layer (C)

- A. Routing
- B. Inter- networking
- C. Congestion control
- D. None of them



UNIT-4

IMPORTANT POINTS

1. Rcp is implemented in the client server operation through a technique called STUB.
2. sequence number is 32 bit unsigned number.
3. TCP packet is called segment.
4. UDP packet is called user datagram .
5. HTTP stands for Hyper text transfer protocol.
6. The 3 character domain are called as generic domain.
7. The HMTL is universal language of the club.
8. world wide web user client server interaction.
9. DNS protocol runs over UDO and user 53 port.
10. when too many packets rushing to node or part of network, the network performance degrade and thus situation is called as congestion.
11. A persist time keeps window size information flowing even if the other end closes if receiver window.
12. The DNS name space is hierarchical and it is similar to unix file system.
13. Mail server handle incoming and outgoing mails.
14. The SMTP user a TCP socket on port 25 to transfer e-mail reliably from client software.
15. Well known port number range is 0 to 1023.
16. TCP provides a connection oriented service over packet switches network.
17. UDP is connection less protocol provides no reliability or flow control mechanism.
18. UDP checksum is end to end checksum.
19. TCP does not support multicasting and broadcasting.
19. A TCP connection is a byte stream.
20. TCP header contains six flag bi
21. RED stands for random early detection.
22. SMTP is the main protocol used in electronic mail (e-mail) service.

IMPORTANT QUESTIONS :

1. Give the general principles of various congestion control diagram?
2. What is congestion control? how it is implemented in network layer? what is the role of choke of packet in managing congestion?
3. Explain the error control mechanism in transport layer?
4. How are the connection establishment and connection release managed at the transport layer? Explain?
5. What is electronic mail? Explain the two scenarios of architecture of e-mail? Explain the TCP service model?
6. Compare and contrast UDP header and TCP header? Explain the client server model?
7. Explain how congestion is controlled in network layer?
8. Discuss how simple mail transfer protocol works? Can multimedia messages be transmitted using SMTP?



9. Explain the functions of transport layer and transport control mechanism?
10. How are connection establishment and crash recovery managed at the transport layer
11. Briefly describe the importance of each field of TCP header
12. Explain how TCP controls congestion
13. How does DNS perform name resolution? Explain with an example?
14. In e-mail system where the e-mail messages are stored and why?
15. Explain MAC sublayer protocol in detail
16. Give a detail note on HTTP request response model
17. Explain file transport protocol
18. Compare TCP and UDP protocols
19. Explain sliding window protocol
20. Illustrate the TCP connections TCP releases with state transition diagram? Describe DNS with diagrams and real time examples

MULTIPLE CHOICE QUESTIONS:-

- 1.The network layer concerns with (C) packets.
 - E. Bits
 - F. Frames
 - G. Packets
 - H. Bytes
- 2.The 4-bytes IP address consists of (C)
 - E. Network address
 - F. Host address
 - G. Both A&B
 - H. None of them
- 3.(A) protocol is the network layer protocol of internet.
 - E. Ethernet
 - F. Internet
 - G. Hypertext
 - H. None of them
- 4.which one of the following is not a function of network layer (C).
 - E. Routing
 - F. Inter- networking
 - G. Congestion control
 - H. None of them
5. Multi destination routing (A)
 - E. Is same as broadcast routing
 - F. Contains the list of all destinations
 - G. Data is not sent by packets
 - H. None of them
- 6.A router is involved in (C) number of layer of TCP/IP protocol suit.
 - E. 4



F. 5

G. 3

H. 6

7. An RFC (request for comment). During its lifetime, falls into one of (B) maturity levels.

E. 5

F. 6

G. 7

H. 8

8. In source routing bridge (A) frame is used to discover the destination.

E. Discovery

F. Control

G. Data

H. Acknowledgement

9. Which one of the following is not a function of network layer (C)

E. Routing

F. Inter- networking

G. Congestion control

H. None of them



UNIT-5

IMPORTANT POINTS

- 1.To preserve the integrity of a document, both the document and the finger print are needed.
- 2.A digital signature needs a public -key.
3. Message confidentiality mean that the sender and the receiver expect privacy.
4. Message integrity means that the data will arrive at the receiver exactly as sent.
- 5 Digital signature provides message integrity authentication and non repudiation.
- 6.A keyless message digest is used as modification detection code (MDC).
- 7.A message digest can be used to pressure the integrity of a document or a message.
8. Password- based authentication can be divided into 2 broad categories fixed and one time.
- 9.KDC creates a secret key only between a member and the center.
- 10.A digital signature needs an asymmetric key system.
- 11.kerberos is a popular session key creator protocol that requires an authentication server and ticket- granting server.
- 12 A public-key infrastructure queries about key certificateation.
- 13.subnet mask 225.0.0.0 belongs to class A.
14. class D addresses are used in multi casting.
- 15.An internet protocol (Ip) address has a fixed length of 32 bits.
- 16.In a class A network ,the first byte is assigned to the network address and the remaining 3 bytes used for the nodes address.
- 17.The maximum length of an IP datagram is 65.535 sockets.
- 18.IPV6 addresses are 128bits in length.

IMPORTANT QUESTIONS

1. Explain IPV6 packet format?
2. Distinguish between IPV6 And IPV4
3. Explain the payload types of real time transport protocol?

MULTIPLE CHOICE QUESTIONS:-

- 1.How many ports computer may have (B).
 - A. 1024
 - B. 65535
 - C. 1023
 - D. 65634
- 2.subnet mask 255.0.0.0 belongs to (A).
 - A. Class A
 - B. Class C
 - C. Class B
 - D. Class D