FINAL TERM EXAMINATION
2010

Question No: 31 (Marks: 2)
What kind of error is undetectable by the checksum? [2]
Answer: Page 180 (repeated)

Question No: 32 (Marks: 2)
What are properties of signals?
Answer: (Page 17)
Capable of being propagated over TX. Medium ,Interpretable as data at the Receiver

Question No: 33 (Marks: 2)
Whether in Asynchronous or Synchronous TDM, addressing is used?
Answer: (Page 158)
Addressing is used only in Asynchronous TDM.

Question No: 34 (Marks: 2)
What is the basic purpose of Router?
Answer: Click here for detail
Basic purpose of Router:
A router is a device that extracts the destination of a packet it receives, selects the best path to that destination, and forwards data packets to the next device along this path. They connect networks together; a LAN to a WAN for example, to access the Internet.

Question No: 35 (Marks: 3)
Why we need a Null Modem?
Answer: (Page 106)
A null modem provide DTA –DTE interface w/o DCEs

Question No: 36 (Marks: 3)
Count LRC for the following bits?
10011010 10100101 1101 0110

Question No: 37 (Marks: 3)
What are the categories of multiplexing?
Answer: Page 148
There are three catogaries of multiplxing
FDM
TDM
Have a two other catagories
Synchronous and asyrounce
WDM

Question No: 38 (Marks: 3)
What are the three purposes of control frames at data link layer?
Answer: (Page 209)
Control frames serve 3 purposes:

Establishing Connections
Maintaining Flow and Error Control during Data Transmission
Terminating Connection

Question No: 39 (Marks: 5)
Compare line discipline methods ENQ/ACK and Poll/ Select?
Answer: (Page 188-189)
=>ENQ/ACK coordinates which device may start a transmission and whether or not the intended recipient is ready and enabled.
=> Using ENQ/ACK, a session can be initiated by either station on a link as long as both are of equal rank.
=> In both half-duplex and full-duplex transmission, the initiating device establishes the session.
=> In half duplex, the initiator then sends its data while the responder waits. The responder may take over the link when the initiator is finished or has requested a response.
=> In full duplex, both devices can transmit simultaneously once the session has been established.

POLL/SELECT:

=> The poll/select method of line discipline works with topologies where one device is designated as a primary station and the other devices are secondary stations.
=> Multipoint systems must coordinate several nodes, not just two.
=> The primary device controls the link and the secondary device follow sits instruction
It is up to the primary to determine which device is allowed to use the channel data given time

Question No: 40 (Marks: 5)
What is the difference between character oriented and bit oriented protocols?
Answer: repeat

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Question No: 31 (Marks: 2)
What are the advantages of a multipoint connection over a point-to-point connection?
Answer:
Point-to-point connection is limited to two devices, where else more than two devices share a single link in multipoint connection. Multipoint connection can be used for fail-over and reliability.

Question No: 32 (Marks: 2)
What's the name of the telephone service in which there is no need of dialing.
Answer: (Page 164)
DSS (digital data service) is the telephone service in which there is no need of dialing.

Question No: 33 (Marks: 2)
Which type of frames is present in BSC frames?
Answer: (Page 206)

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There are two types of frames that are present in BSC.

1. Control Frames and
2. Data Frames

Question No: 34 (Marks: 2)

What methods of line discipline are used for peer to peer and primary secondary communication?

Answer: (Page 187)

Line discipline is done in two ways:

1. ENQ/ACK (Enquiry Acknowledgement)

   This is used for peer to peer communication.
2. Poll/ Select
   This method is used for primary secondary communication.

Question No: 35 (Marks: 3)

How does the checksum checker know that the received data unit is undamaged? [3]

Answer: (Page 179)

Checksum Checker or generator:

The sender subdivides data units into equal segments of 'n' bits(16 bits)

1. These segments are added together using one's complement.
2. The total (sum) is then complemented and appended to the end of the original data unit as redundancy bits called CHECKSUM.
3. The extended data unit is transmitted across the network.
4. The receiver subdivides data unit and adds all segments together and complement the result.
5. If the intended data unit is intact, total value found by adding the data segments and the checksum field should be zero.
6. If the result is not zero, the packet contains an error & the receiver rejects it.

Question No: 36 (Marks: 3)

Which one has more overhead, a repeater or a bridge? Explain your answer. [3]

Answer:

A bridge has more overhead than a repeater. A bridge processes the packet at two layers; a repeater processes a frame at only one layer. A bridge needs to search a table and find the forwarding port as well as to regenerate the signal; a repeater only regenerates the signal. In other words, a bridge is also a repeater (and more); a repeater is not a bridge.

Question No: 37 (Marks: 3)

Write down disadvantages of Ring Topology.

Answer: (Page 33)

Disadvantages of Ring Topology

- Unidirectional Traffic
- A break in a ring I.e. a disabled station can disable the entire network

- Can be solved by using:
  - Dual Ring or
  - A switch capable of closing off the Break

Question No: 38 (Marks: 3)
How parity bits are counted in VRC error detection method technique in case of odd parity generator?

Question No: 39 (Marks: 5)
How are lost acknowledgment and a lost frame handled at the sender site? [5]
Answer:
A lost or damaged frame is handled in the same way by the receiver; when the receiver receives a damaged frame, it discards it, which essentially means the frame is lost. The receiver remains silent about a lost frame and keeps its value of R.

Question No: 40 (Marks: 5)
Explain Protocol Data Unit (PDU)?
Answer: **(Page 221)**
Protocol Data Unit (PDU)
The data unit in the LLC level is called the Protocol Data unit (PDU)
The PDU contains 4 fields familiar from HDLC:
–A destination service access point (DSAP)
–A source service access point (SSAP)
–A control field
–An Information field