

COE 344 – Quiz # 6

Name:

Key Solution (15)

ID#:

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1. A PC sent a packet over a LAN implementing Ethernet protocol IEEE 802.3 where other PCs are also connected to the same LAN. **Hub** is the device that interconnecting these devices. Discuss what may happen to this packet and how Ethernet should respond. Can you predict when this packet would arrive its destination assuming it lies within the same LAN?

(2 points) As hub is the interconnecting device, then we have one collision domain. Then we may expected the following scenarios, we shall assume that the only source of error is the collision:

For arranging the solution in a similar logic (2 points)

Scenario	Condition	Transmission Result	Ethernet standard response
1 (3 points)	No other PC is transmitting	Successful	Nothing, No ACK is sent
2	(2 points) another PC just starts transmitting somewhere in the LAN or after a while before the signal reaches the end of the network	(2 points) Collision	(4 points) <ul style="list-style-type: none">✓ Jamming signal is transmitted once the collision is detected✓ Packet transmission is aborted✓ PCs were transmitting should defer their transmission based on the binary exponential random backoff algorithm