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CPE 448

HW 3

36. 0_s: (A) → Packet 1 → (R)

1_s: (R) → Packet 1 → (B) / (A) → Packet 2 → (R)

2_s: (A) → P3 (R) → P2 Ack 1 ← (B)

3_s: (A) → P4 Ack 1 ← (R) → P3 Ack 2 ← (B)

4_s: (A) → P5 Ack 2 ← (R) → P4 Ack 3 ← (B)

5_s: (A) → P6 Ack 3 ← (R) → P5 Ack 4 ← (B)

b) 0_s: (A) → P1, P2, P3, P4 (R) (B)

1_s: (A) (R) → P1, P2, P3, P4 (B)

2_s: (A) (R) Ack 1,2,3,4 ← (B)

3_s: (A) Ack 1,2,3,4 ← (R) (B)

4_s: (A) → P5, P6, P7, P8 (R) (B)

5_s: (A) (R) → P5, P6, P7, P8 (B)

37.

				Queue @ R
0_s:	(A) → P1-4	(A)	(B)	0
1_s:	(A)	P2-4 → (R) → P1	(B)	3
2_s:	(A)	P3,4 → (R) → P2	A1 ← (B)	2
3_s:	(A)	A1 ← P4 → (R) → P3	A2 ← (R)	1
4_s:	(A) → P5	A2 ← P5 → (R) → P4	A3 ← (B)	1

42. a) Throughput: 100 Mbps, Transfer Time: 46.4 μs.

100,000,000 bps = X / 0.0000464 s

X = 4,640

Minimum Packet Size: 8,192 bits

b) Higher cost of retransmission, more wasted utilization for data that doesn't align to 8,192 packets.

53. If a node 'D' outside of node 'B's range begins communication with 'C' at the same time & channel as 'B' transmits to 'A', then collisions would occur if 'C' is within 'B's range.

54. An ethernet node sees all traffic, and can simultaneously Tx/Rx. A wireless node can only transmit or recieve at any time on a channel, and it may not be aware of all traffic on other nodes.

55. CSMA/CA has an ACK from reciever to sender which will force retransmission if a hidden terminal collides with the packet. There is also CTS-RTS which alerts hidden terminals to not transmit for a while.