EETS 7315 – Test #3 – 4/27/2011 – ANSWERS

1. Ethernet 1 has a 16-bit Length field showing the number of bytes (octets) in the Data field, including pad, if any. Ethernet II (DIX) uses this 16-bit space for the Ethertype showing what kind of information is in the data field. The length is 1500 or less; Ethertype is 1536 or more.

2. If a lot of collisions are occurring, a slight increase of attempted throughput will increase collisions, causing more retries, causing more collisions, and it "snowballs" into 100% collisions.

3. After 2 consecutive collisions, additional N collisions cause random wait for retry to be multiplied by 2^N, up to 2^{10}. After N = 16, terminal stops trying and must be manually reset.

4. Needed: UTP and Fiber. Not needed: Coax Cable.

5. Growth and mergers are almost inevitable, so you need to be prepared for extension.

6. Binary "0" is represented by a pulse; "1" is represented by no pulse.. A pulse covers a no-pulse.

7. 3,1,5,4,2

8. HDLC, Ethernet I, ATM

9. c

10. a

11. e

12. c

13. b

14. b

15. b

16. c

17. d

18. a

19. d

20. e

21. D

22. FF

23. C

24. Z

25. R or BB

26. GG

27. F

28. W

29. X

30. @

31. L

32. DD

33. V

34. BB or R