Assignment II

15. Describe the parity and checksum error detection methods with examples.
16. Given a data word 1010011110 and divisor polynomial $x^4 + x^2 + x + 1$,
    i. Show the generation of codeword at sender site (using binary division).
    ii. Show the checking of codeword at receiver site (assuming no error).
17. What is flow control and error control? Explain in detail about Stop and Wait ARQ mechanism for error control.
18. Illustrate how delayed and Lost ACK messages are handled.
19. What is framing? Explain the Go Back ARQ method of retransmission with diagram.
20. Explain sliding window protocol with suitable diagram.
21. What is unicasting and multicasting? Explain in brief about mobile IP frame format.
22. You are given an IP address 172.80.10.0/18. As a network engineer design the possible subnets. Also calculate subnet mask, each network address, broadcast address and range of host IPs for each subnet.
23. Differentiate between OSI reference model and TCP/IP model.
24. Explain IPV6 in brief.
25. Compare the frame format of IPV4 and IPV6 with diagram.
26. What do you mean by routing? Explain static and dynamic routing with advantages and disadvantages.
27. What are the reasons for congestion in network? How Leaky Bucket algorithm control the congestion in network. Explain.
28. Difference between distance vector routing algorithm and flow based routing algorithm.
29. Explain Dijkstra's shortest path routing algorithm.
30. Explain the working process of DNS and DHCP with suitable example.
31. Explain the terms: proxy server, firewall, HTTP, FTP.
32. Which technology is used to send and receive the mails in your mail box? Explain necessary steps.
33. How firewall protects a network from attacks.
34. What do you mean by VPN? How can you maintain the confidentiality on network? Explain with anyone suitable algorithm.
35. What does CIA triad of information security mean? Explain in brief.
36. What is cryptography? Explain the symmetric key algorithm and public key algorithm method.