

- c) i) An analog signal has bit rate of 8000 bps and a band rate 1000 band. How many data elements are carried by each signal element? How many signal elements do we need? 5
- ii) Define with comparison of bit rate and band rate. 5

UNIT - III

3. a) Define switching? Compare different switching techniques. 10
- b) Explain with neat diagram FDM. 10
- c) Explain the following with neat diagram. 10
- i) Time slot and frames.
- ii) Interleaving.

UNIT - IV

4. a) i) Calculate CRC check sum for the message polynomial $G(x) = x^5 + x^2$ with generator polynomial $P(x) = x^3 + x^2 + 1$ 5
- ii) Explain CRC and check sum. 5
- b) What do you mean by flow control? What are techniques used for flow control? Explain any one in detail. 10
- c) What are the different types of errors? How error correction can be done? 10

UNIT - V

5. a) What do you mean by control access? Explain FDMA in detail. 10
- b) Explain CSMA/CD with neat diagram. 10
- c) What are different network connecting devices used? State function of each. 10

