Time 3 Hours   ANSWER ALL QUESTIONS   Max Marks: 100

PART-A   (10x2=20marks)

1. In FM the signal frequency is 5KHZ and frequency deviation is
   75KHz.Calculate the BW.
2. Mention two advantages of transmission over DSB-AM and
   SSB-AM.
3. An analogue signal is sampled at frequency 8KHZ and samples are coded with 3bits /sample.
   What is the bit rate of the coder?
4. Draw the block diagram of transmitter and receiver of ASK Communication system.
5. Calculate the entropy of binary source with P(0)=0.4 and P(1)=0.6.
6. Draw a NRZ waveform for the data 11100110
7. Give an example for wireless communication system and wire
   communication.
8. Mention any two advantages of spread spectrum modulation System.
9. What are the types of satellite based networks.
10. Define numerical aperture of a fiber

PAR-B   (5X16=80)

11. (i) Explain the following multiple access techniques FDMA and
        TDMA   (10)
    (ii) How will you generate PRBS   (6)

12 (a) (i) Compare AM and FM with respect to frequency band,
           Bw and I.F.   (6)
       (ii) With block diagram explain the function of each block of
            AM superhetrodyne receiver   (10)

                              OR

12 (b) with block diagram describe FM transmitter and receive

13 (a) (i) Perform Shannon Fanon coding on a source whose   (8)
           probability distribution is given find H(s) and efficiency
           P(s)={1/2, 1/8, 1/8, 1/16, 1/16, 1/16, 1/32, 1/32}

       (ii) Generate the codeword [yo,y1------] in the format
            [mo,m1----b0,b1---]for the message 111introduce an
            error in bit y5 and find the syndrome   (8)

                              OR

13 (b) (i) Explain the properties of RZ coding with an example   (6)
       (ii)Explain stop and wait protocol and sliding window   (10)
            Protocol use in ARQ system

14. (a) (i) Explain BFSK communication system   (8)

      (ii) Describe with block diagram PWM transmitter and
      receiver   (8)

<div align="center">OR</div>

      (i) Explain with block diagram transmitter and receiver of
      PCM communication system

15. (a) (i) Briefly explain any six advantages of optical   (6)
      communication system

      (ii) Write about classification of optical fiber based on modes

                                                        (6)

      (iii) What is meant by optical dispersion in optical   (3)
      communication system

<div align="center">OR</div>

   (b) (i) Define antenna lookup angles in satellite communication
       system

                                                          (6)

      (ii) With block diagram explain the function of each
      block of satellite communication system   (10)