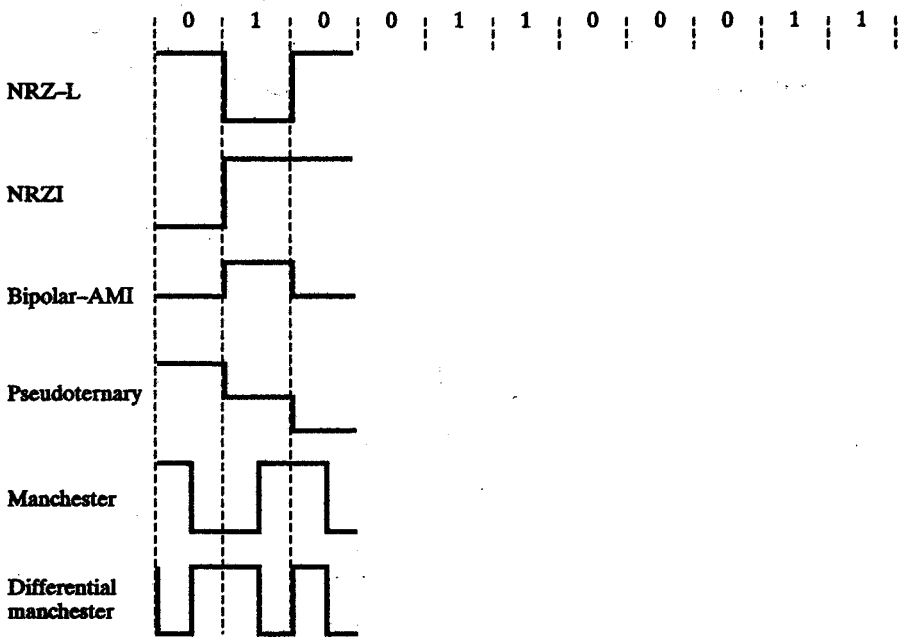
1. Some digital signal encoding formats are shown in the picture. What do the hidden parts of the waveforms look like?



2. Using modulo 2 arithmetic calculate a 5 bit frame check sequence (FCS) to a given message M:

   Message M = 1010001101 (10 bits)
   Pattern P = 110101 (6 bits)

   Pattern P is the divisor used in the CRC process.

   Then show how the receiver will see if there have been errors in the message.

3. Digital switching systems use time-division switching and space division switching. How are these used when switching TDM signals?

4. Give an example of the signaling procedures when
   a) a virtual circuit is opened across an X.25 network
   b) a bearer channel (B channel) is opened through the ISDN network.

5. Give an example of using the OSI service primitives (request, indication, response, confirm).