

M. Zeshan

ID  $\Rightarrow$  11596

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$\Rightarrow$  Hard Hand off:

characterized by an actual break in the connection while switching from one cell or base station to another. The switch takes place so quickly that it can hardly be noticed by the user.

Q3 Flow Control :-

If the sender speed is higher and the receiver speed is lower, there is speed mismatch. Then the flow of data send should be controlled. This method is known as flow control.

Error Control :-

If the receiver identifies an error, it should inform the sender that there is an error in the data, so, the sender retransmit the data. This method is known as error control.

Q4

Ans Soft hand off :-

If we have two connection to the cellphone from two different base stations. It make clear that no breaks will be during the hand off.

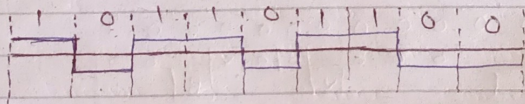
It is more costly.

During hand off the first connection will be broken. Then new connection will be established.

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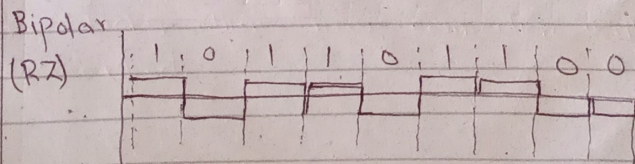
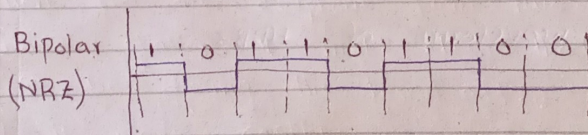
Q1 Draw the waveform for transmitting binary bit stream 101101100 for  
① Polar NRZ      ② Bipolar

Ans ① Polar NRZ: In this type of waveform we have high data and low data. The high data represent the high pulse while the low data represent the negative pulse. It is clear from the figure.



\* Waveform of polar NRZ.

② Bipolar:

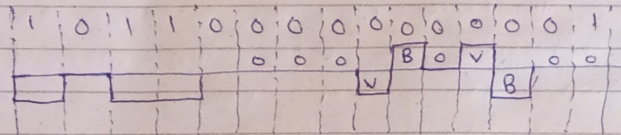


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Q2 Draw the waveform for transmitting binary stream 10110000000001  
(i) B8ZS (ii) HDB3

Ans

(i) B8ZS  $\Rightarrow$  Binary 8 Zero Substitution work in a similar way to AMI by changing pulse for each binary 1. when it found 8 back to back 0's, it replace them by '00VBoVB'. Here we have to mean V violation & B mean Balancing.



Waveform of B8ZS

(ii) HDB3  $\Rightarrow$  10110000000001

$\Rightarrow$  waveform of HDB3

