Line Encoding			
Category	***Scheme***	***Starting Level***	***Alternating Level Rule***
Unipolar	NRZ	0 ➔ Zero 1 ➔ Positive	*No*
Polar	NRZ-L	0 ➔ Positive 1 ➔ Negative	***Alternate*** *on* *every opposite bit*
	NRZ-I		***Alternate*** *on* *bit 1; No inversion on bit 0*
	RZ	0 ➔ Negative to Zero 1 ➔ Positive to Zero	*No*
Biphase (NRZ-x + RZ)	Manchester	0 ➔  1 ➔ 	*No*
	Differential Manchester	0 ➔ (i)  Or, (ii)  1 ➔ (iii)  Or, (iv) 	***Connecting with the latest signal pattern*** *(if that makes an alternate, it will auto-adjust)*
Bipolar	AMI	0 ➔ Zero *1 ➔ Positive*	***Alternate polarity*** *level for* *bit 1*
	Pseudoternary *(Opposite of AMI)*	0 ➔ *Positive* 1 ➔ Zero	***Alternate polarity*** *level for* *bit 0*
Multilevel	2B1Q	Based on Data and Codes (Transition Table)	*No*
	8B6T	Based on Data and Codes.	*If the* ***total weight so far is NOT Zero***, ***invert*** *the current code's sign to make the total weight zero)*
	4D-PAM5	Based on Data and Codes.	
Multitransition	MLT-3	0 ➔ Zero 1 ➔ Positive	*3 levels (-V, 0, +V)* ***Alternate*** *as* *1. Bit is 0 ➔ No transition.* *2. Bit is 1 ➔ look at the latest level* *a. Non-Zero ➔ Zero* *b. Zero ➔ Opposite of Previous Non-Zero Level*
Scrambling			
Bipolar	B8ZS	*Same as AMI* A pulse of **8 consecutive 0**'s will convert into **000VB0VB.**	*In AMI, if the next bit is 1, then it will be in the opposite polarity of the previous 1.* ***V = Violation of this rule; no alter (same level as previous nonzero)*** ***B = In order of this Bipolar rule; alternate.*** *Therefore,* • *The* ***initial V will follow*** *the latest 1's level.* • *Following V or B will have the alternate level to the latest V to follow the V-B rule.*
	HDB3	A pulse of **4 consecutive 0**'s will convert based on the number of Nonzero pulses after the last substitution. If Even ➔ **B00V** | Odd ➔ **000V**	*Following the V-B rule.*