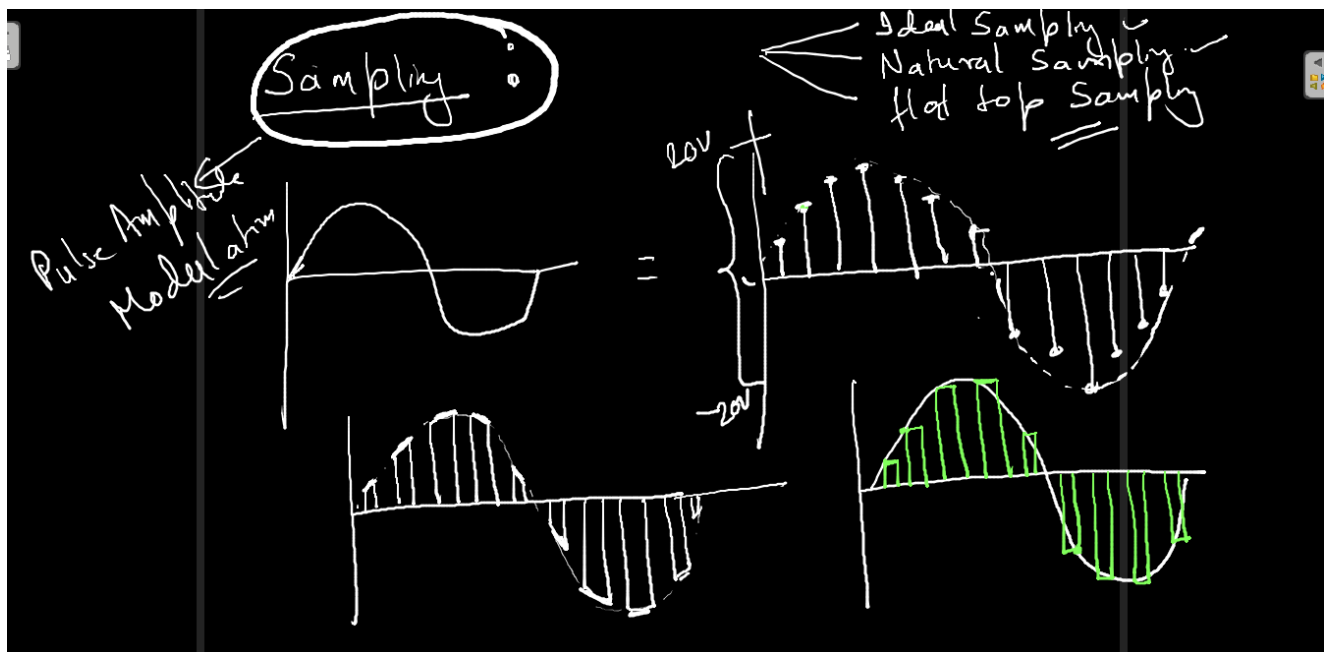
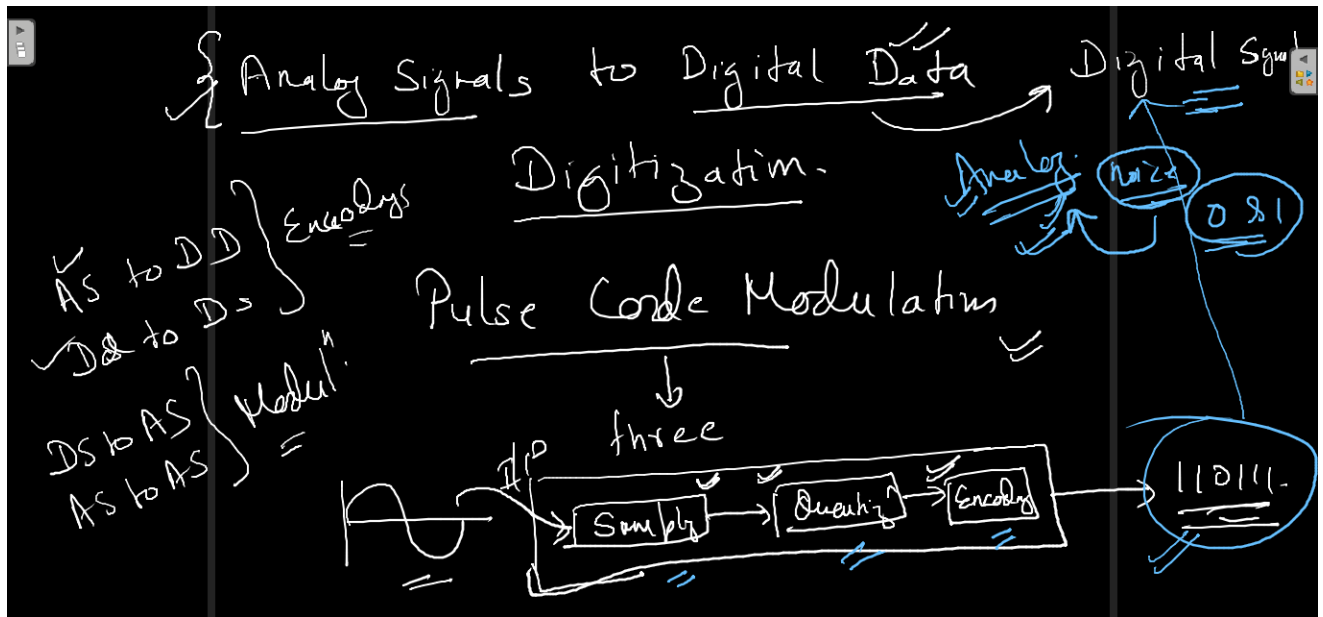
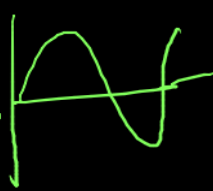
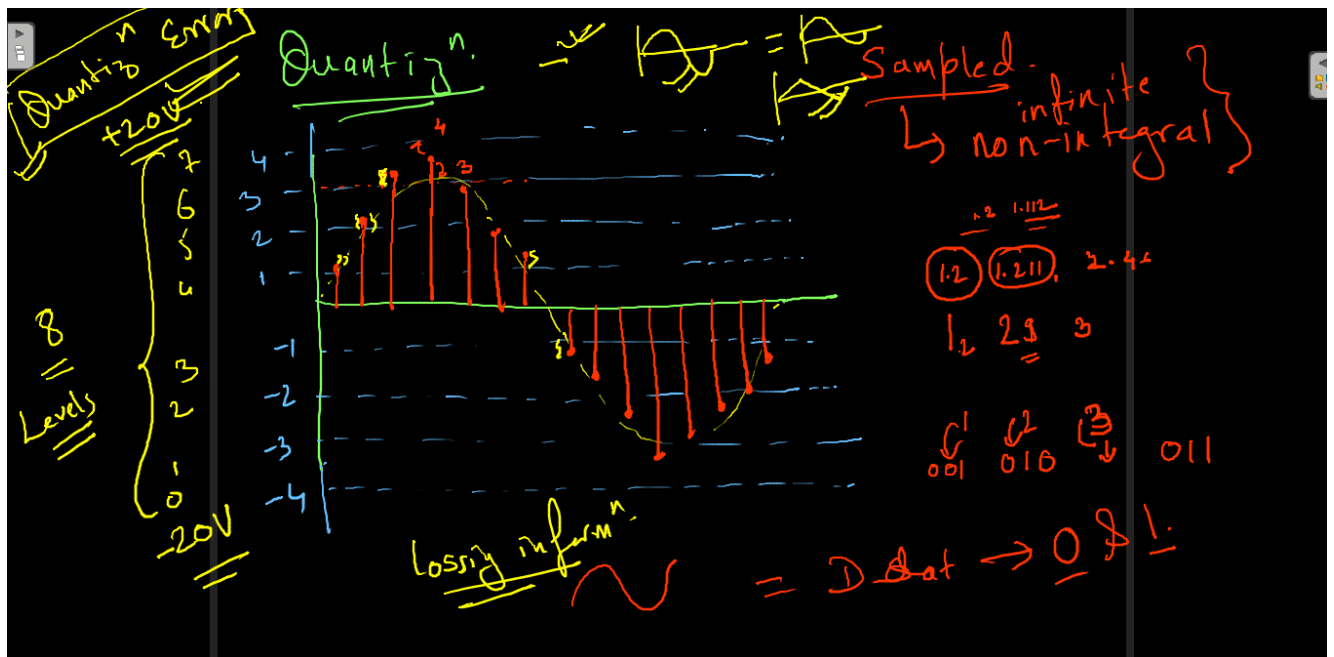


# UNIT I (LAST PART)



$\Rightarrow 2\text{kHz} \rightarrow 10\text{kHz}$   
 rate or frequency =  $f_s = \frac{1}{T_s}$   
 $T_s \rightarrow \text{Every } T_s \text{ Sec}$   
 $f_{DM} =$   
 low-pass channel  
 Bandpass  
 Nyquist Theorem  
 low-pass  $f_{\max} = 0$   
 $f_{\min} = 3\text{kHz}$   
 $2 \times f_{\max}$   
 $= 2 \times 3\text{kHz}$   
 $= 6000\text{Hz}$   
 $f_{\max} - f_{\min}$

$200\text{kHz} \rightarrow \text{low-pass}$   
 $f_{\max} = 200\text{kHz}$   
 $200\text{kHz} \times 2 = 400 \times 1000$   
 $= 400,000$   
 Samples  




Fluctuation

256

1000's

more the levels

lessen the Q Error

Encoding →

$$(8) = 1000$$

$$7 = 111$$

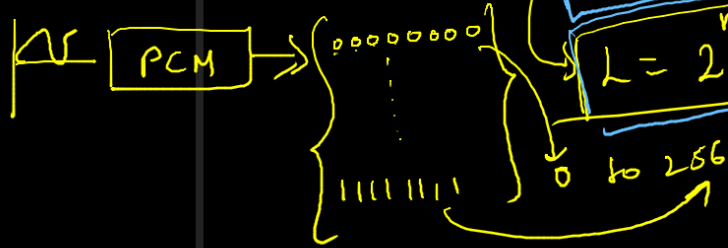
$$256$$

$$2^n = 8$$

bits ⇒

$$n_b = \log_2 \text{Level}$$

$$\log_2 256$$



$$L = 2^n$$

$$2^8 = 256$$