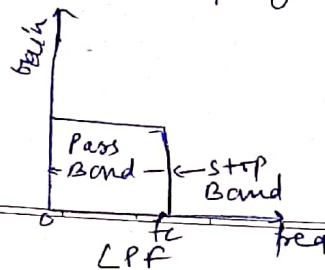


NETWORK FILTER & TRANSMISSION LINES FILTERS

→ A filter is a circuit capable of passing certain frequencies while attenuating other frequencies.

Four major types of filters

→ The four primary types of filter include the Low Pass filter, High Pass filter, Band Pass filter & the Band Stop filter.

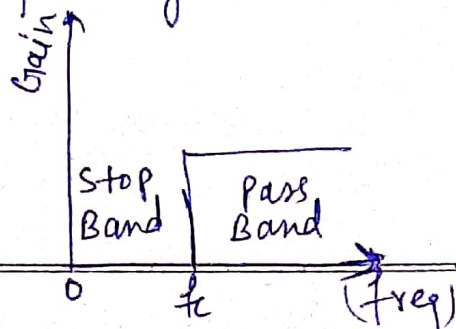


→ Low Pass filter - A filter that provides a constant output from DC up to a cut off frequency f_c and then passes no signal above that frequency is called an ideal LPF.

frequency between 0 and f_c called Pass band

→ shown in fig (1) & the frequency above f_c are called stop band.

→ High pass filter - A filter that passes signals above a ~~cut~~ cut off frequency f_c is a high pass filter show in fig (2).

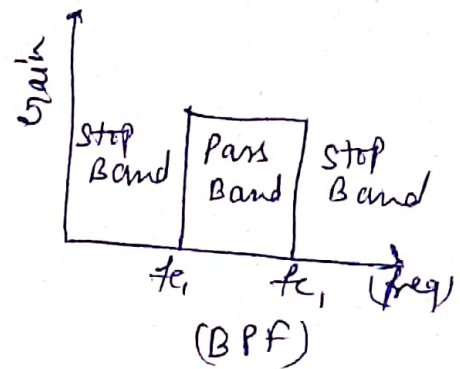


Band Pass filter -

When the filter circuit passes signals that are above one cut off frequency and below a second cut off frequency. called BPF.

$$\text{Bandwidth} = f_{c_2} - f_{c_1}$$

where f_{c_1} & f_{c_2} is lower & higher cutoff frequencies.



Band Reject filter -

Band stop & Band reject filter opposite to BPF. It has two Pass band $0 < f < f_{c_1}$ & $f > f_{c_2}$.

