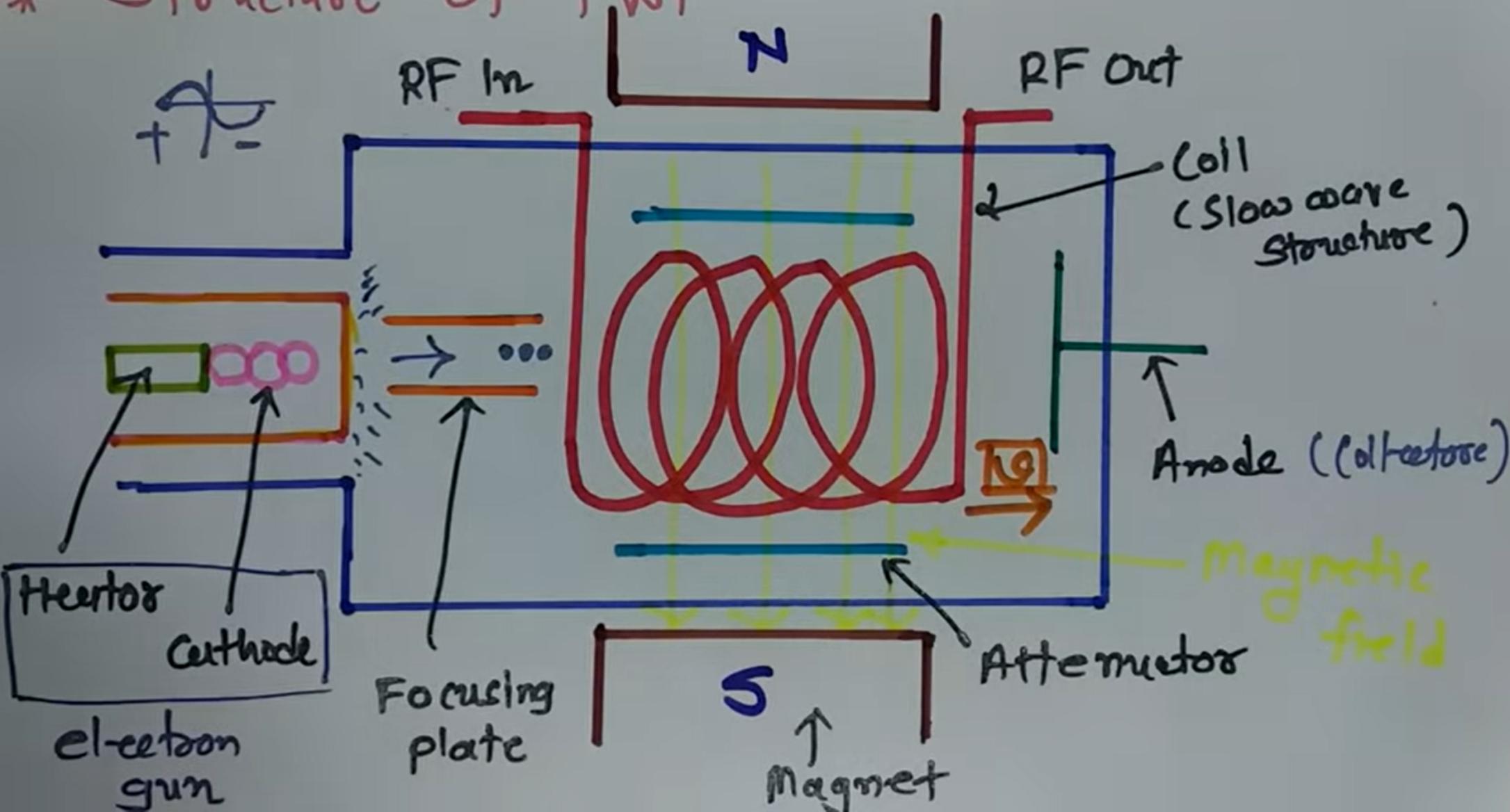
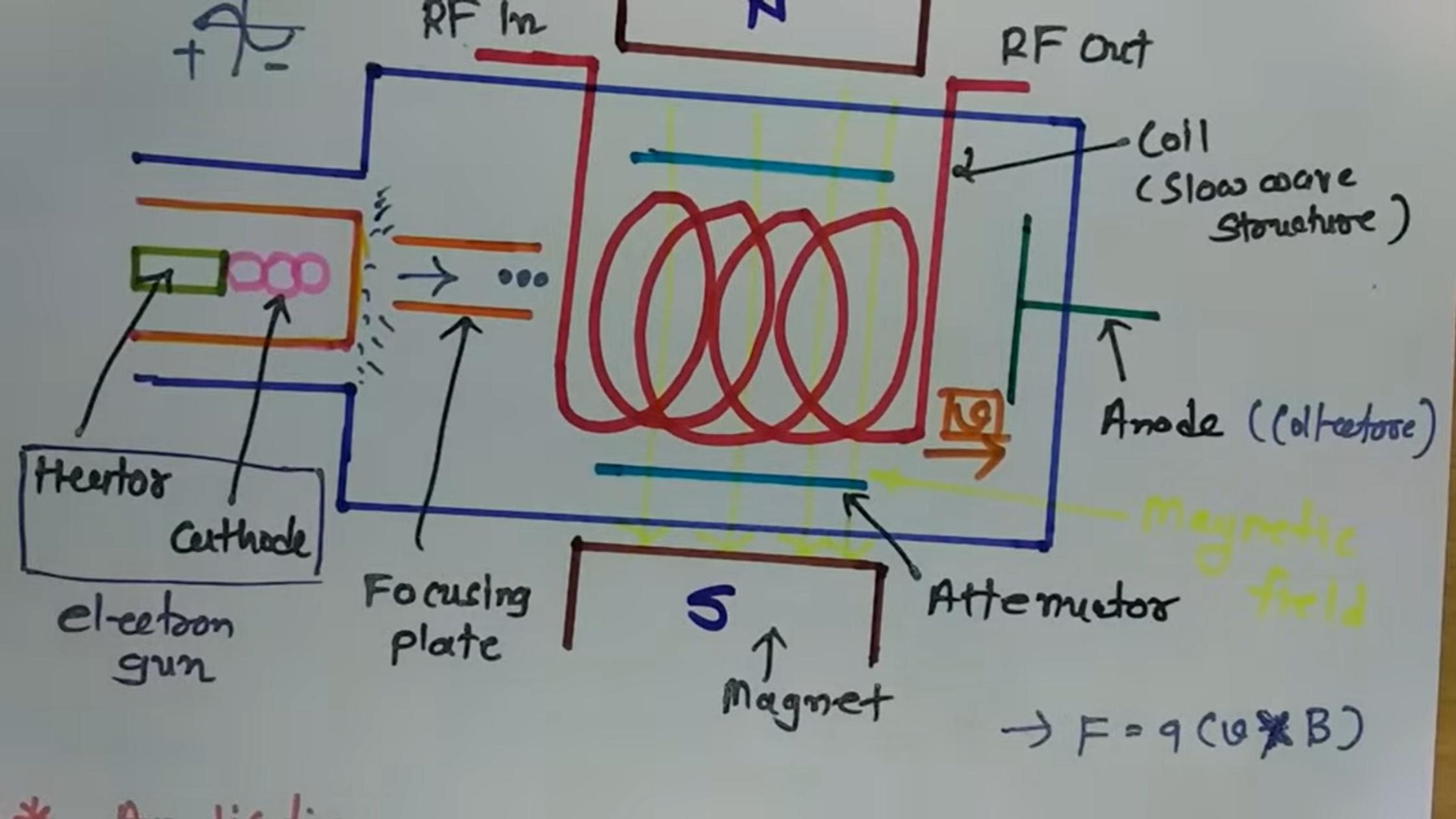
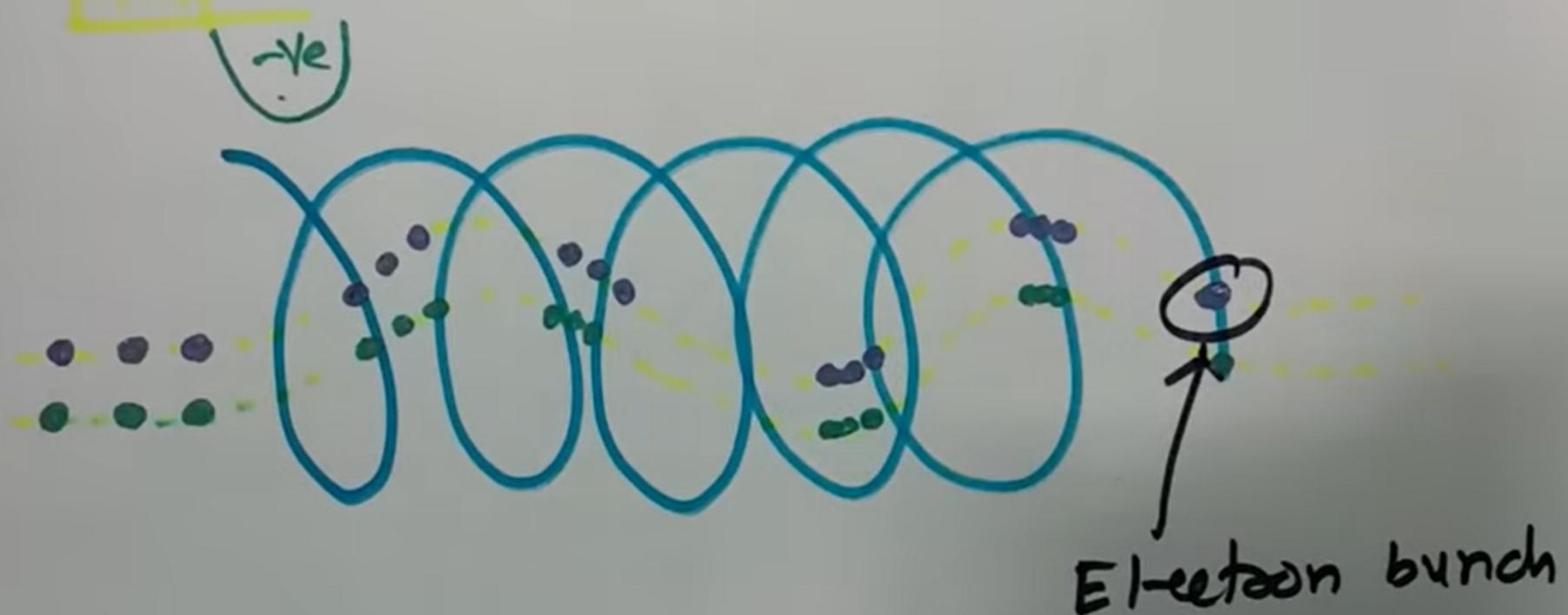


* Structure of TWT







↑
16 electrons

↑
8 electrons
8 electrons

- * The Traveling Wave Tube (TWT) is a high gain, low noise, wide bandwidth microwave amplifier.
- * It is capable of gains greater than 40 dB with Bandwidth exceeding an octave. (A bandwidth of one octave is one in which the upper cutoff frequency is twice the lower cutoff frequency). $f_L < f_h \Rightarrow f_h = 2f_L$.



- * Traveling wave tubes have been designed for frequencies as slow as 300 MHz and as high as 50 GHz.
(300 MHz - 50 GHz)
- * The TWT is primarily a voltage amplifier. The wide-bandwidth and low noise characteristics make the TWT ideal for use as an RF amplifier in microwave equipment.

- * Traveling wave tube amplifiers and they are typically capable of developing power of up to 2.5 kW, for narrowband RF amplifier applications. It is possible to use coupled cavity TWTs and these can deliver power levels of upto 15 kW. Efficiency of TWT is 20-40% which is poor.
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