(2) Base Modulator

→ Low-level AM modulation technique.

→ The carrier and the modulating signal are applied to the base region of the BJT, hence it is called base modulator.

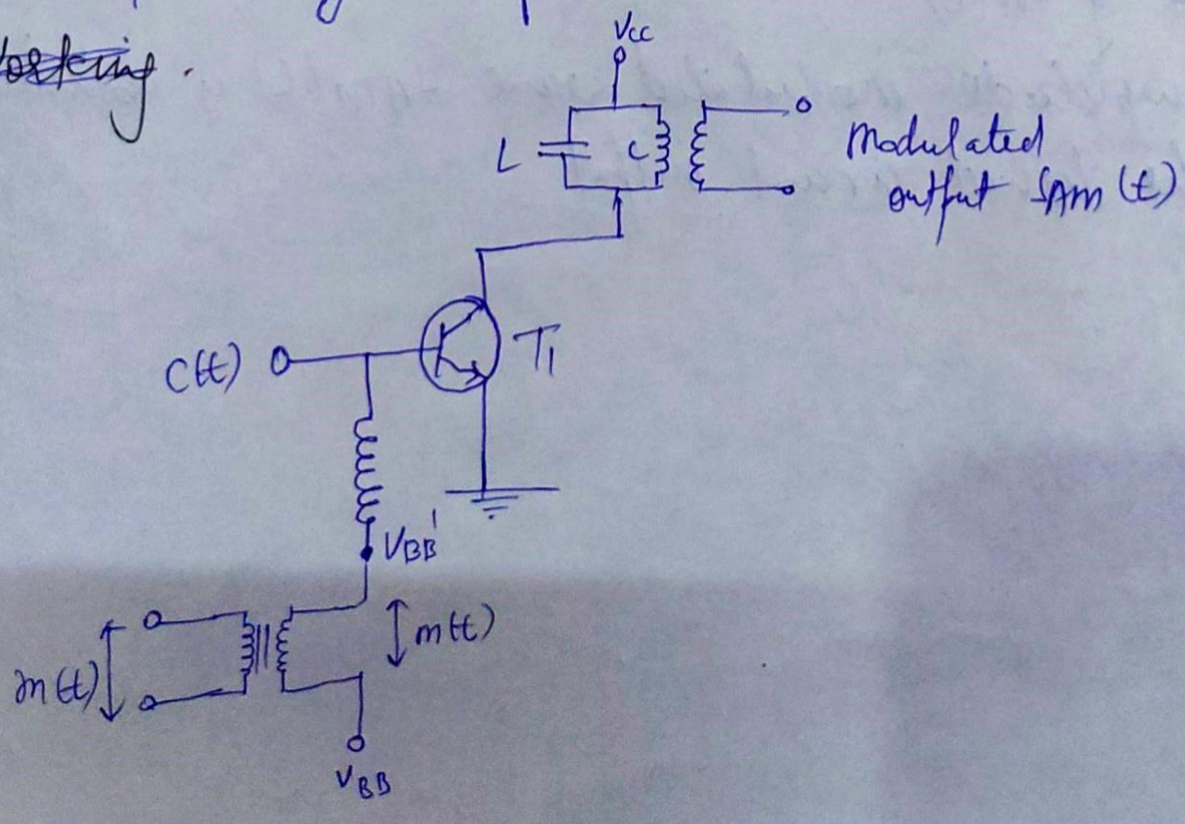
→ Carrier is applied to the base of the transistor T_1.

→ Modulating signal is applied in series to the base-biasing voltage (V_{BB})

→ The collector terminal of the transistor is connected to a tuned LC circuit, to select the frequency of the output.

→ Radio frequency coil (RFC) is used to stop the high frequency carrier signal from reaching to the audio-frequency transformer.

→ Working.



Working.

→ Message signal is amplified using the audio-frequency transformer, and appears at the secondary winding of the transformer.

→ V_{BB} and $m(t)$ appear in series and so they get added or subtracted depending upon the amplitude, (added if AM is +ve, subtracted if AM is −ve)

→ ~~The supply current at T1~~

→ The ~~bias~~ base-bias voltage $V_{BB}' = V_{BB} + m(t)$. and thus the amplitude of the ~~V_{BB}~~ base-bias voltage will vary according to the amplitude of $m(t)$.

→ Due to this, the output at the collector of the BJT will also start changing according to the amplitude of $m(t)$.

→ The amplitude modulated wave $s_{AM}(t)$ is obtained at the tuned circuit output.