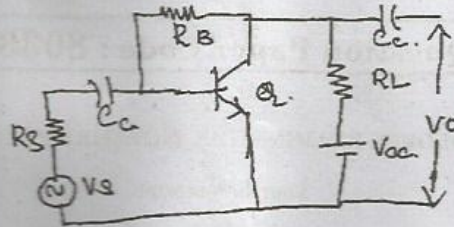


- (b) Identify the feed back topology for the network shown below, which have $R_s = 600\Omega$, $h_{ie} = 5\text{ k}\Omega$, $h_{fe} = 80$, $R_L = 2\text{ k}\Omega$ and $R_B = 40\text{ k}\Omega$. Calculate A_v , R_{if} , A_{vf} , R_{of} and R'_{of} .



12. (a) Derive the general form for frequency of oscillation for LC oscillator with suitable diagram.

Or

- (b) Enumerate the following :

- (i) Franklin oscillator
- (ii) Armstrong oscillator.

13. (a) Discuss the effect of cascading single tuned amplifier on bandwidth.

Or

- (b) (i) Briefly describe about hazeltine neutralization method with suitable diagram. (8)
- (ii) Derive the efficiency of class 'c' tuned amplifier. (8)

14. (a) Design a saturated collector coupled multivibrator for the following specification. Output voltage 12 V peak. Output to be positive pulse, the duration is $10\ \mu\text{s}$. The time between pulses to be $20\ \mu\text{s}$, for the BJT $h_{fe} = 100$, $I_{CBO} = 0$, $I_{C(OFF)} = 1\text{ mA}$, assume $V_{CE(\text{sat})} = 0.2\text{ V}$.

Or

- (b) Explain the operation and working principle of monostable multivibrator with necessary diagram.

15. (a) Briefly describe about the working of UJT for relaxation oscillator with the help of suitable circuit diagram and derive its frequency of oscillation.

Or

- (b) Analyze free running blocking oscillator with base timing using necessary circuit diagram and waveform.