Report 5 Template (The report must be completely hand written following this template)

# Negative impedance convertor

[Draw a circuit diagram of a negative capacitor here]

…….

Observation table

| Frequency (vary from 100 Hz to 10k Hz) | Applied voltage magnitude (V) | Current magnitude (A) | Phase of current w.r.t the voltage (degree leading or lagging) | Calculated complex impedance (Ω) |
|---|---|---|---|---|
| | | | | |

Plot on a graph paper: (a) how the magnitude of the impedance varies with frequency, (b) how the angle of the impedance varies with frequency

Comment whether you can create an inductor using a capacitor (or vice-versa) using this negative impedance convertor



Full Signature with Pen _____

# Gyrator

[Draw a gyrator here]

…….

From the two-port network representation of a gyrator, derive how an inductor can be simulated using a capacitor

Observation table

| Frequency (vary from 100 Hz to 10k Hz) | Applied voltage magnitude (V) | Current magnitude (A) | Phase of current w.r.t the voltage (degree leading or lagging) | Calculated complex impedance (Ω) |
|---|---|---|---|---|
| | | | | |

Plot on a graph paper: (a) how the magnitude of the impedance varies with frequency, (b) how the angle of the impedance varies with frequency



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