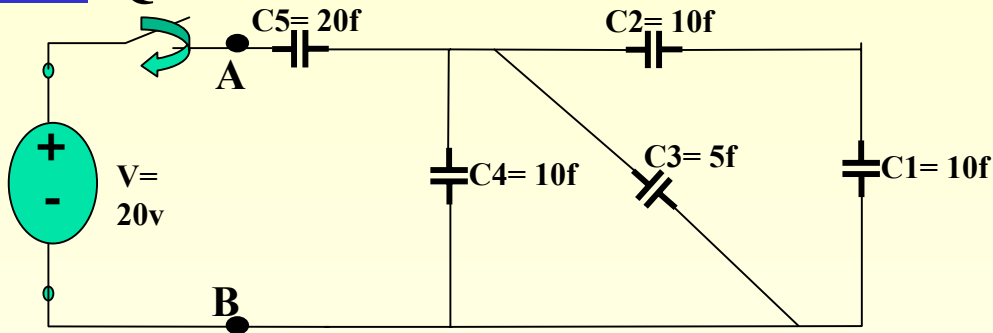


Quiz 3

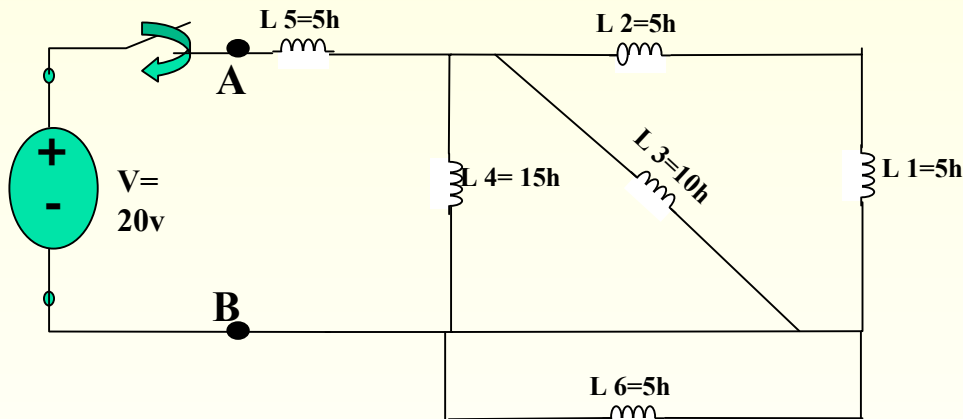
Question 1



Calculate:

- The equivalent capacitor between nodes A & B.
- If the switch is closed at $t = 0+$ find the voltage and current at node A at $t = 0+$.
- Final voltage and current

Question 2



Calculate:

- The equivalent inductance between nodes A & B.
- If the switch is closed at $t = 0+$ find the voltage and current at node A at $t = 0+$.
- Final voltage and current

Answer to Quiz 3

- 1) 10f at $t=0$ $I(0)$ is infinite and $V(0)$ is zero , final current is zero and voltage is V .
- 2) 8.75h , at $t=0$ $I=0$ and $v(0)$ is infinite , final current is infinite and voltage zero.
- 3) 10nh in parallel
- 4) 10amps , final current is zero



Quiz 3

- **Question 3:**
 - **Inductance of the bond wire of a memory chip is 10nh. This induces a noise voltage of 5v. How much inductance you will add to reduce the noise voltage to 2.5v? Will this be in series or parallel?**

- **Question 4:**
 - **If it takes 10 seconds for the power supply to ramp up to the final voltage of 10v , what is the peak current the power supply has to supply , assuming the capacitance of the laptop is 10 farads. What is the final current?**