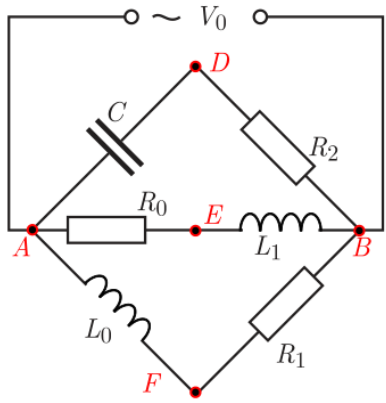
7. LCR-circuit (5 points) — *Jaan Kalda.* Consider the circuit shown in the figure.



i) *(2 points)* Draw a phasor diagram for this circuit showing the voltage vectors between the following nodes: V_{AD}, V_{DB}, V_{AB}, V_{AE}, V_{EB}, V_{AF}, and V_{FB}.

ii) *(3 points)* The voltages between the nodes D, E, and F are know to have the following values: $V_{DE} = 7\,\mathrm{V}$, $V_{DF} = 15\,\mathrm{V}$, and $V_{EF} = 20\,\mathrm{V}$; what is the value of the input voltage V_0?