

- 6.53** Compute the equivalent capacitance of the network in Fig. P6.53 if all the capacitors are $4\ \mu\text{F}$.

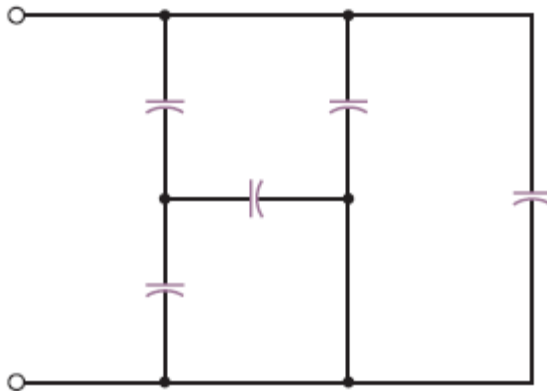
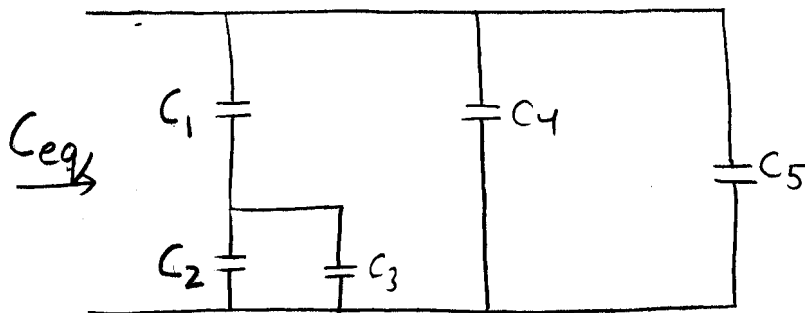


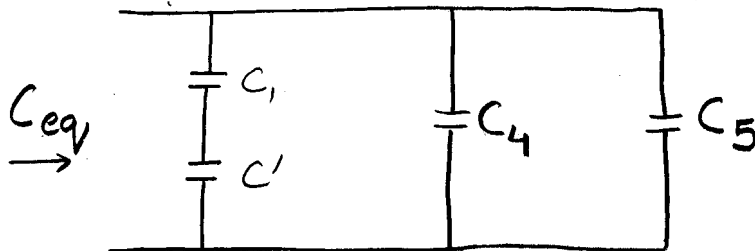
Figure P6.53

SOLUTION:



$$C_1 = C_2 = C_3 = C_4 = C_5 = 4\ \mu\text{F}$$

$$C' = C_2 + C_3 = 8\ \mu\text{F}$$



$$C'' = \frac{C_1 C'}{C_1 + C'} = 2.67\ \mu\text{F}$$

$$C_{eq} = C'' + C_4 + C_5$$

$$C_{eq} = 10.67 \mu F$$