# Solution to Problem 10 of the 2001 Physics GRE 

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The equivalent capacitance of two capacitors in series is given by

$$
\frac{1}{C_{e q}}=\frac{1}{C_{1}}+\frac{1}{C_{2}}
$$

If we let $C_{1}=3 \mu \mathrm{~F}$ and $C_{2}=6 \mu \mathrm{~F}$, then

$$
C_{e q}=2 \mu \mathrm{~F}
$$

The energy stored in a capacitor is

$$
\frac{1}{2} C V^{2}
$$

So, if we let $C=C_{e q}=2 \mu \mathrm{~F}$ and $V=300 \mathrm{~V}$, then we find that 0.09 J is stored in the capacitor. Therefore, answer (A) is correct.

