

19 Capacitance – Part 1 —Answers

Answers

Work through these after trying the questions yourself.

19.1 Electric charge.

19.2 $C = Q/V$.

19.3 The farad (F).

19.4 $Q = CV = (100 \times 10^{-6})(12) = 1.2 \times 10^{-3} \text{ C}$.

19.5 $C = Q/V = (6.0 \times 10^{-4})/20 = 3.0 \times 10^{-5} \text{ F} = 30 \text{ } \mu\text{F}$.

19.6 $Q = CV$, so doubling V doubles the charge Q . The capacitance C stays the same—it is a fixed property of the capacitor.

19.7 One farad would store one coulomb for every volt—an enormous amount of charge. Ordinary capacitors store far less, so their values come out as tiny fractions of a farad, which are easier to write as μF or nF .