Repartido 4 – Capacitores

Resultados

1. $Q = 3.25\,C$

2. **a)** $C = 14.34\ pF$ **b)** $Q = 1.664 \times 10^{-9}\,V$

3. $C = 3.099\,mF$

4. $V = 32\,V$, $V = 160\,V$.

5. a) $V_{AB} = \dfrac{C_1C_4 - C_2C_3}{(C_1 + C_3)(C_2 + C_4)}V$ **b)** $C_1C_4 = C_2C_3$ **c)** $C_4 = 2.5\mu F$

6. $C = \dfrac{\varepsilon_0 A}{a - d}$

7. a) $E_1 = \dfrac{\sigma}{3\varepsilon_0}$, $E_2 = \dfrac{\sigma}{4\varepsilon_0}$ **b)** $D = K\varepsilon_0 E = \dfrac{\sigma}{\varepsilon_0}$

8. a) $A_{\min} = \dfrac{V_{Max}C}{k\varepsilon_0 R} = 0.6264\,m^2$

10. a) $V_f = \dfrac{C_1}{C_1 + C_2}V_0$ **b)** $U_i = \dfrac{1}{2}C_1V_0^2$ $U_f = \dfrac{1}{2}\dfrac{C_1^2}{C_1 + C_2}V_0^2$

11. a) $V' = 2V$ **b)** $U_i = \dfrac{1}{2}\dfrac{\varepsilon_0 A}{d}V^2$ $U_f = \dfrac{\varepsilon_0 A}{d}V^2$ **c)** $W = \dfrac{1}{2}\dfrac{\varepsilon_0 A}{d}V^2$

13. $u = 0.02832\ J/m^3$