38. (a) We use Eq. 26-14:

$$C = 2\pi\varepsilon_0\kappa\frac{L}{\ln(b/a)} = \frac{(4.7)(0.15\,\text{m})}{2\left(8.99\times10^9\,\frac{\text{N}\cdot\text{m}^2}{\text{C}^2}\right)\ln(3.8\,\text{cm}/3.6\,\text{cm})} = 0.73\ \text{nF}\ .$$

(b) The breakdown potential is $(14\,\text{kV/mm})(3.8\,\text{cm} - 3.6\,\text{cm}) = 28\,\text{kV}$.