Answer to Question #52305 – Physics – Electromagnetism

Question

A galvanometer with coil resistance
12.0Ω
shows full scale deflection for a current of 2.5mA. How would you convert it into a voltmeter of range 0 to 10.0V?

Solution

According omhs law

$\Delta V = I(R + G), G\ is\ galvanometer\ resistance;$

$R = \frac{\Delta V}{I} - G = \frac{10}{2.5 \cdot 10^{-3}} - 12 = 388\Omega;$

Answer: 388 Ω;