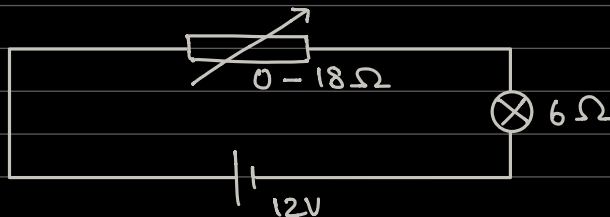


VARIABLE RESISTOR vs POTENTIAL DIVIDER

Rheostat

Potentiometer

VARIABLE RESISTANCE CIRCUIT :



i) Calculate minimum current in the bulb

Set variable resistance to highest value (18Ω)

$$I = \frac{12}{18 + 6} = 0.5A \rightarrow \underline{A_{\min}}$$

ii) Calculate maximum current in the bulb

Set variable resistance to minimum (0Ω)

$$I = \frac{12}{6} = 2A \rightarrow \underline{A_{\max}}$$

\therefore the range of current that the bulb can have
is $0.5A < I < 2A$