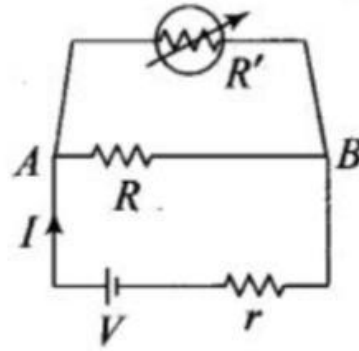


**Q. 01** Consider a simple circuit shown in figure stands for a variable resistance  $R'$ .  $R'$  can vary from  $R_0$  to infinity,  $r$  is internal resistance of the battery ( $r \ll R \ll R'$ ).

- (a) Potential drop across AB is nearly constant as  $R'$  is varied.
- (b) Current through  $R'$  is nearly a constant as  $R'$  is varied.
- (c) Current  $I$  depends sensitively on  $R'$
- (d)  $I \geq V/r + R$  always;



**Solution:** (a, d)

**Important point:** In parallel combination of resistances, the equivalent resistance is smaller than smallest resistance present in combination.