

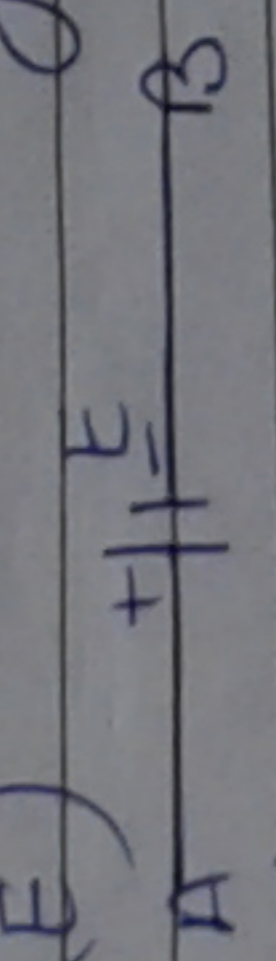
Trnd (KVL)

In a closed loop, the algebraic sum of all the emf plus the algebraic sum of all the voltage drops is zero.

$$\sum E + \sum V = 0$$

Rise in potential as +ve,
fall in potential as -ve.

Consider a Branch AB containing only one source of emf (E)

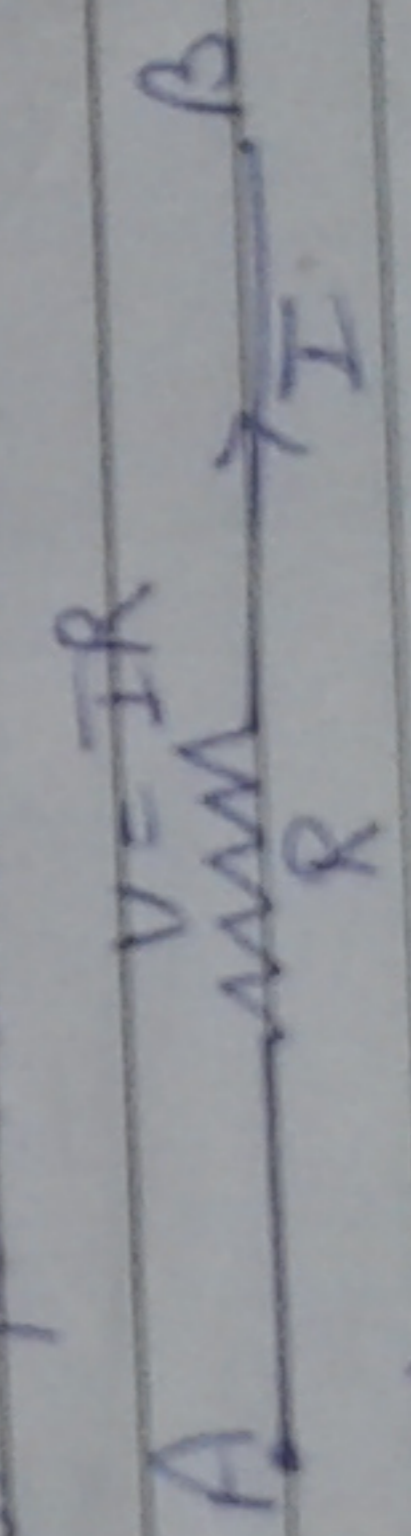


if we trace it from A to B, there is fall in potential therefore E is negative.

if we trace it from B to A, there is rise in potential therefore E is positive.

Note \rightarrow Direction of flow of current has no effect.

To determine the sign for the voltage drop ($V = IR$) consider a branch containing resistor of resistance R in which current I flows from A to B. A is higher potential w.r.t terminal B.



Tracing Branch from A to B, V is negative. It is fall in potential & vice-versa.

Note \rightarrow only the direction of flow of current determine the sign of V.