**Transformation Ratio of Transformer**

This is the EMF equation of transformer.
If E1 & E2 are primary and secondary emfs and T1 & T2 are primary and secondary turns then, **voltage ratio** or **turns ratio of transformer** is,



This constant is called **transformation ratio of transformer,** if T2>T1, K > 1, then the transformer is step up transformer. If T2 < T1, K < 1, then the transformer is step down transformer.

### Voltage Ratio of Transformer

This above stated ratio is also known as **voltage ratio of transformer** if it is expressed as ratio of the primary and secondary voltages of transformer.

### Turns Ratio of Transformer

As the voltage in primary and secondary of transformer is directly proportional to the number of turns in the respective winding, the transformation ratio of transformer is sometime expressed in ratio of turns and referred as **turns ratio of transformer.**