1). What is the transformer output voltage, for the given input voltage and the number of turns on the primary and secondary coils.

a. =

b. =

c. =

d. =

answer: a- For the given input voltage and the number of turns on the primary and secondary coils, then the transformer output voltage is

= .

2). What is the efficiency of the transformer?

a. Transformer efficiency = output current /input current \* turns ratio

b. Transformer efficiency = output voltage /input voltage \* turns ratio

c. Transformer efficiency = input voltage /output voltage \* turns ratio

d. Transformer efficiency = input current /output current \* turns ratio

answer: b- Transform efficiency = output voltage/input voltage \* turns ratio.

3). If the number of primary and secondary windings is 90 and 120 respectively and the secondary voltage is given by 310V, then what will be the primary voltage?

a. 220 V

b. 230V

c. 225V

d. 232V

answer: d

Solution:

Given,

Np = 90, Ns= 120, Vs = 310V

By using the transformer formula,

we get: Vp/Vs=Np/Ns

Vp = Np/Ns x VS

VP= 90/120  x 310

Vp = 232.5 volts.

Parameters,

Vp = Primary voltage

Vs= Secondary voltage

Np = number of turns in the primary winding

Ns = number of turns in the secondary winidng

4). The number of primary and secondary windings is 110 and 240, respectively. The primary voltage is given by 300V, what is the secondary voltage?

a. 600V

b. 650 V

c. 700 V

d. 750 V

answer: c

Solution:

Given,

Np = 110, Ns= 240, Vp = 300V

By using the transformer formula,

we get: Vp/Vs=Np/Ns

Vp = Np/Ns x VS

Vs = Ns/Np x Vp

Vs = 654.5 volts.

Parameters,

Vp = Primary voltage

Vs= Secondary voltage

Np = number of turns in the primary winding

Ns = number of turns in the secondary winding

5). What is the transformer ratio formula for voltage is?

a. K = V1 \* V2

b. K=V2/V1

c. K = V1/V2

d. K = I2/I1

answer: c:- The transformer ratio formula for voltage is K = V1 /V2.

Where, V1 = Primary voltage, V2 = Secondary voltage.

6. What is the transformer ratio formula for current is?

a. K = I1 \* I2

b. K= I2/I1

c. K = I1/I2

d. K = I1

answer: c:- The transformer ratio formula for voltage is K = V1 /V2.

Where, I1 = Primary current, I2 = Secondary current.

7). What is the representation of efficiency of transformer?

a. η

b.

c. µ

d. π

answer: a- Efficiency of a transformer is represented as η.

8). Find **the primary current drawn in the transformer when the efficiency of the transformer is 75% and which works on 100 V, 5 kVA and the secondary voltage is 200V.**

a. 150 A

b. 100 A

c. 50A

d. 200 A

answer: c-

*Given that, The kVA rating of transformer= 5 kVA*

*Primary voltage, V*p*= 100 V*

*Secondary voltage, V*s*= 200 V*

*Therefore, the Primary current Ip is given by,*

*Ip= S / V*s

*= 5 kVA / 100*

**= 50 A.**

9). What is the value of 1kVA?

**a. 2,500 volt-amperes**

**b. 2,000 volt-amperes**

**c. 1,500 volt-amperes**

**d. 1,000 volt-amperes**

**answer: d- 1kVA = 1,000 volt-ampers.**

**Where kVA is kilovolt-amperes.**

10). What is the formula of step-up transformer?

a. Vs = Np/Ns x Vp

b. Vs = Ns/Np x Vp

c. Vp = Ns/Np x Vs

d. Vs = Ns/Np

answer: b- The step-up transformer formula is Vs = Ns/Np x Vp.

Vp = Primary voltage

Vs= Secondary voltage

Np = number of turns in the primary winding

Ns = number of turns in the secondary winding

11).