Transformer

1. A transformer has 1500 primary turns and 3000 secondary turns. If the primary voltage is 240V, determine the secondary voltage, assuming an ideal transformer.

A. -250V B. 50V C. 1440V D. 480V
Ans:D

2. An ideal transformer with a turns ratio of N1:N2=1:7 is fed from a 100 V supply. Determine its output voltage.

A. 840V B. 50V C. 700V D. 52V
Ans:C

3. An ideal transformer has a turns ratio of N1:N2=4:1 and the primary current is 3 A when it is supplied at 240 V. Calculate the secondary voltage and current.

A. 60V,12A B. 50V,5A C. 140V,24A D. 30V, 24A
Ans:A

4. A 10 kVA single-phase ideal transformer has a turns ratio of N1:N2=4:1 and is fed from a 2.5 kV supply. Neglecting losses, determine the full load secondary current.

A. 20A B. 0.625A C. 16A D. 30A
Ans:C

5. A transformer takes a current of 1A when its primary is connected to a 240 volt, 50 Hz supply, the secondary being on open circuit. If the power absorbed is 72 watts, determine (i) the iron loss current, (ii) the power factor on no-load, and (iii) the magnetizing current.

A. 0.3A, 0.375, 0.74A B. 0.3A, 0.3, 0.95A C. 0.3A, 0.375, 74A
D. 0.3A,1.5, 0.74A
Ans: B

6. An ideal transformer is one which has

(a) no losses and magnetic leakage
(b) interleaved primary and secondary windings
(c) no losses in its primary and secondary windings
(d) core of stainless steel and winding of pure copper metal

Ans:A, B

7. If the supply frequency to the transformer is increased the iron loss will

(a) not change
(b) increase
(c) decrease
(d) any of the above.

Ans:B

8. In an ideal Transformer, the primary flux is always _____ the secondary (flux).

A. Same as that of
B. Smaller then
C. Equal

D. Equal in both step up and Step down Transformer

Ans:A, C, D

10. The rating of transformer may be expressed in _____.

A. kVA
B. kW
C. kVAR
D. Horse power.

Ans:A

11. What will happen if the primary of a transformer is connected to D.C supply?

A. Transformer will operate with low efficiency
B. Transformer will operate with high efficiency
C. Transformer may start to smoke and burn
D. No effect

Ans:C

12. A transformer has 300 primary turns and 150 secondary turns. The primary and secondary resistances are 2.5Ωand 0.01Ω respectively and the corresponding leakage reactances are 10.0Ω and 0.04Ω respectively.

A.the equivalent resistance referred to the secondary winding is 15.7525ohm
B. the equivalent reactance referred to the secondary winding is 0.629ohm
C. the equivalent resistance referred to the secondary winding is 0.0.635ohm
D. the equivalent impedance referred to the secondary winding is 0.157525+j0.629ohm
Ans:C