

# EE100MIDSEM MOODLE

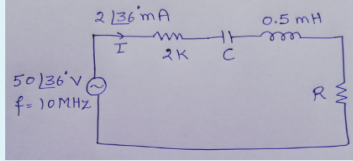
## Question 1

Complete

Mark 0.00 out of 2.00

Flag question

Find the value of resistor  $R$  (in  $K\Omega$ ) in the circuit shown below.



Answer: .025

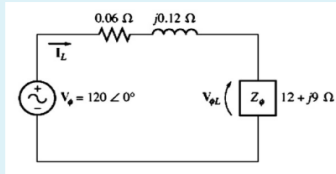
## Question 2

Complete

Mark 2.00 out of 2.00

Flag question

For a given ac circuit



The magnitude of line current  $I_L$  is

- ☐ 8.94 A
- ☐ 8.84 A
- ☒ 7.94 A
- ☐ 7.84 A

## Question 3

Complete

Mark 2.00 out of 2.00

Flag question

The leakage flux in a transformer

- ☒ links the winding but not the core
- ☐ none of the choices
- ☐ neither links the winding nor the core
- ☐ links the core and the winding

## Question 4

Complete

Mark 2.00 out of 2.00

Flag question

The core of a transformer is laminated to reduce the

- ☒ Eddy Current Loss
- ☐ Copper Loss
- ☐ Hysteresis Loss
- ☐ Size and Weight

## Question 5

Complete

Mark 0.00 out of 2.00

Flag question

The turn ratio of the transformer is 10. If the secondary side winding resistance of 0.1 ohm and leakage reactance of 0.8 ohm is referred to the primary side, then what would be the values of resistance and reactance respectively

- ☐ 10 ohms and 80 ohms
- ☐ 0.1 ohm and 0.8 ohm
- ☒ 1 ohm and 8 ohms
- ☐ 0.01 ohm and 0.08 ohm

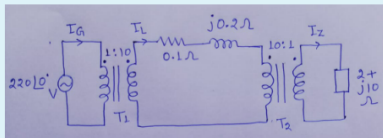
## Question 6

Complete

Mark 0.00 out of 2.00

Flag question

Find the efficiency (in %) of the power system shown in the circuit below. Assume the transformers ( $T_1$  and  $T_2$ ) are ideal.



Answer: 67

Question **7**  
Complete  
Mark 2.00 out of 2.00  
Flag question

The voltage regulation in a transformer is found to be negative. This indicates that the load is

- ☒ Capacitive
- ☐ Inductive
- ☐ Resistive
- ☐ Any combination of Resistor, Capacitor and Inductor

Question **8**  
Complete  
Mark 2.00 out of 2.00  
Flag question

The full load copper loss in a transformer is 160 watts. What will be the copper loss at 75% of the full load?

- ☒ 90 watts
- ☐ 120 watts
- ☐ 0 watts
- ☐ 160 watts

Question **9**  
Complete  
Mark 2.00 out of 2.00  
Flag question

Three equal impedances are first connected in star across a balanced 3-phase supply. If the same impedances are reconnected in delta across the same supply

- ☐ line current will be one third.
- ☐ phase current will be doubled.
- ☒ power consumed will be increased by three-fold.
- ☐ phase current will be tripled.

Question **10**  
Complete  
Mark 2.00 out of 2.00  
Flag question

Efficiency of a transformer is maximum when

- ☐ None of the choices
- ☒ Copper Loss is equal to that of Iron Loss
- ☐ Iron Loss is half that of Copper Loss
- ☐ Copper Loss is half that of Iron Loss

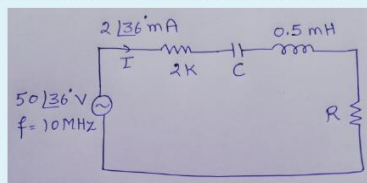
Question **11**  
Complete  
Mark 2.00 out of 2.00  
Flag question

The core flux in a transformer with frequency constant depends upon the

- ☐ Current drawn from the supply
- ☒ Voltage applied to the primary winding
- ☐ None of the choices
- ☐ Reluctance of the magnetic circuits

Question **12**  
Complete  
Mark 0.00 out of 2.00  
Flag question

Find the magnitude of total reactive power (in mVAR) in the circuit shown below.



Answer:

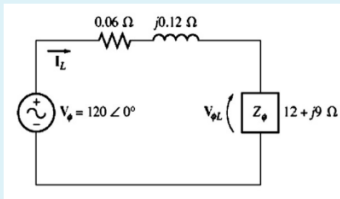
Question **13**  
Complete  
Mark 0.00 out of 2.00  
Flag question

In a transformer, the primary and secondary volt-ampere ratings are same to satisfy

- ☐ Faraday's law of electromagnetic induction
- ☒ Lenz's law
- ☐ Law of conservation of energy
- ☐ Both Faraday's and Lenz's Law

Question 14  
Complete  
Mark 2.00 out of 2.00  
Flag question

For a given ac circuit

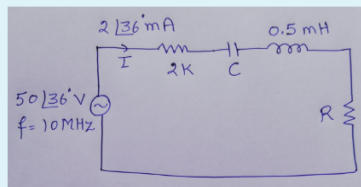


The real, reactive, and apparent powers supplied by the generator

- ☒ 2281 W; 1725 VAR; 2860 VA
- ☐ 2860 VA; 1725 VAR; 2281 W
- ☐ 1725 VAR; 2281 W; 2860 VA
- ☐ None of the choices

Question 15  
Complete  
Mark 0.00 out of 2.00  
Flag question

Find the phase angle (in degree) of the voltage across 0.5 mH inductor in the circuit shown below.



Answer: 86.3

Question 16  
Complete  
Mark 2.00 out of 2.00  
Flag question

Electric power is almost exclusively, generated, transmitted and distributed by three-phase system because

- ☒ all the choices.
- ☐ uses less materials for a given capacity.
- ☐ costs less than single-phase system.
- ☐ it is more efficient.

Question 17  
Complete  
Mark 2.00 out of 2.00  
Flag question

Transformer ratings are usually expressed as

- ☒ KVA
- ☐ HP
- ☐ KVAR
- ☐ KW

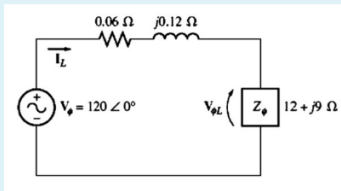
Question 18  
Complete  
Mark 2.00 out of 2.00  
Flag question

In a balanced 3-phase power supply, the current through the neutral wire is

- ☐ Product of Phase Currents
- ☐ Sum of Phase Currents
- ☒ Zero
- ☐  $\sqrt{3}$  Phase Current

Question **19**  
Complete  
Mark 2.00 out of 2.00  
Flag question

For a given ac circuit



The generator's power factor

- ☒ 0.798 lagging
- ☐ 0.8 lagging
- ☐ 0.798 leading
- ☐ 0.8 leading

Question **20**  
Complete  
Mark 2.00 out of 2.00  
Flag question

In a short circuit test of a transformer, the wattmeter reads the copper loss not the iron loss because

- ☒ Voltage applied is small
- ☐ None of the choices
- ☐ Current flowing in the winding is very high
- ☐ Frequency of the supply is constant