Assignment 6

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

Note: If you have any doubts/queries regarding this quiz, please ask it in the forum well before the submission deadline. We will be happy to answer your queries.

1) The secondary of a current transformer...

   a) Should never be short circuited
   b) Should never be open circuited
   c) Both (a) and (b)

   • a)
   • b)
   • c)

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: b)

2) The secondary of a potential transformer...

   a) Should never be short circuited
   b) Should never be open circuited
   c) Both (a) and (b)

   • a)
   • b)
   • c)

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: a)
3) Consider the equivalent circuit of a transformer given below

For a current transformer $R_0$ and $X_m$ should be

a) Very low
b) Very high
c) Should match the impedance connected across the secondary

No, the answer is incorrect.
Score: 0
Accepted Answers:
b)

4) For a potential transformer $R_1, R_2$ and $X_1, X_2$ should be

a) Very low
b) Very high
c) Should match the impedance connected across the secondary

No, the answer is incorrect.
Score: 0
Accepted Answers:
a)

5) It is necessary to reduce the phase angle error of a CT or PT when they are used to measure

a) Voltage
b) Current
c) Power
d) Energy

No, the answer is incorrect.
Score: 0
Accepted Answers:
c)
d)
6) **COMMON DATA for Q.6 and Q.7**

We want to measure an AC current which can go up to 1 kA. We have an ammeter of range 0 – 10 A and internal resistance 10 Ω. We will use a suitable CT to change the range of our ammeter.

How much power (in W) will be consumed by our CT and ammeter arrangement while measuring 1 kA current? Assume the CT to be ideal.

[Please enter only the numeric value without any unit.]

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 950,1050

7) **What is the equivalent resistance (in Ω) of our CT and ammeter arrangement (i.e., as seen from the primary of the CT)?**

[Please enter only the numeric value without any unit.]

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 0.0005,0.0015

8) **COMMON DATA for Q.8 and Q.9**

We want to measure an AC voltage which can go up to 10 kV. We have a voltmeter which can measure up to 10 V and has an internal resistance 1 kΩ. We will use a suitable PT to change the range.

How much power (in W) will be consumed by our PT and voltmeter arrangement while measuring 10 kV voltage? Assume the PT to be ideal.

[Please enter only the numeric value without any unit.]

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 0.05,0.15

9) **What is the equivalent resistance (in kΩ) of our PT and voltmeter arrangement (i.e., as seen from the primary of the PT)?**

[Please enter only the numeric value without any unit.]

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 100000,10000000
10) The cross-sectional area of the magnetic toroid is 2 cm². Number of turns of the search coil (coil connected to the Galvanometer side) is 500 and total resistance of the Galvanometer and the search coil circuit is 5 kΩ. If the key K is suddenly opened, it produces a ballistic throw of 20 degree. The galvanometer sensitivity is 10 degree/μC. Estimate the flux density in the core (in Wb/m²) when the key K was closed.

*Please enter only the numeric value without any unit.*

![Diagram](image)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 0.05, 0.15

11) If this is a NAND gate based implementation of SR Flip-Flop, then we should call

a) Input 1 as SET and Input 2 as RESET
b) Input 1 as RESET and Input 2 as SET

![Diagram](image)

No, the answer is incorrect.
Score: 0
Accepted Answers:
a)

12) This circuit is of a

a) Positive Edge triggered D Flip Flop
b) Negative Edge triggered D Flip Flop

![Diagram](image)

No, the answer is incorrect.
Score: 0
Accepted Answers:
b)
13) **COMMON DATA for Q.13 and Q.14**

Given below is an SR Flip Flop

If the frequency of the clock is 32 MHz. Then at what frequency Q3 will oscillate (in MHz)?

*Please enter only the numeric value without any unit.*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 3.5, 4.5

2 points

14) **What is the maximum value (decimal) to which this counter can count?**

*Please enter only the numeric value without any unit.*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 15

2 points