Assignment 4

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

Due on 2019-02-27, 23:59 IST.

1) Among the followings, which one is an example of a logical indicator?  
   - litmus solution  
   - barometer  
   - screw gage  
   - pyrometer  

   No, the answer is incorrect. 
   Score: 0 
   Accepted Answers: litmus solution

2) The opposition to the flow of magnetic flux within a magnetic material is known as  
   - resistance  
   - reactance  
   - reluctance  
   - impedance

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

3) An impedance bridge circuit is shown here. If it is subjected to an AC voltage input of frequency, which of the following statement is true? 

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4) From the associated picture, identify the filter.  

- low-pass filter  
- high-pass filter  
- band-pass filter  
- band-stop filter  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
high-pass filter  

5) Which of the following definition is true about the gain (in dB) of a power amplifier?  

- \(20 \log_{10} \left( \frac{V_{out}}{V_{in}} \right)\)  
- \(20 \log_{10} \left( \frac{I_{out}}{I_{in}} \right)\)  
- \(20 \log_{10} \left( \frac{P_{out}}{P_{in}} \right)\)  
- \(10 \log_{10} \left( \frac{P_{out}}{P_{in}} \right)\)  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
\(10 \log_{10} \left( \frac{P_{out}}{P_{in}} \right)\)  

6) A voltage dividing circuit comprises of a 50-V DC voltage source and two resistances in series, having magnitude of 100 \(\Omega\) and 400 \(\Omega\). If the potential drop across the larger resistance is measured using a DC voltmeter of 1 k\(\Omega\) internal resistance, the amount of percentage error incurred during measurement (correct to 2 decimal places) is 

\[
\frac{10 \log_{10} \left( \frac{V_{out}}{V_{in}} \right)}{V_{in}}
\]

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
\(\text{Range} 7.0, 8.0\)  

7)
8) A digital voltmeter is indicating a reading of 40 dB across a 1.5 kΩ load. If the meter employs a 10 kΩ reference resistor, the correct voltage (correct to 2 decimal places) is ________ dB.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 0.77, 0.82

9) A low-pass filter is designed with a resistance of 500 Ω and a capacitance of 7 μF. The cut-off frequency of this filter (correct to 2 decimal places) is __________ Hz.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 47.0, 48.5

10) A galvanometer with 25 Ω internal resistance is to be used as a voltmeter by connecting it in series with a large resistor. It is desirable to have a full-scale deflection of 10 V, with a current sensitivity of 1 mA. Then the required value of the series resistor is ______ kΩ.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 9.98, 10.02