

Quiz 04 - Reactive Components

Due Dec 14 at 11:59pm **Points** 75 **Questions** 15**Available** Aug 24 at 12:35pm - Dec 14 at 11:59pm 4 months **Time Limit** None**Allowed Attempts** 2

Instructions

Covers lecture and lab topics from classes 12, 13 and 15

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Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	17 minutes	70 out of 75

⚠️ Answers will be shown after your last attempt

Score for this attempt: **70** out of 75

Submitted Nov 26 at 8:19pm

This attempt took 17 minutes.

Question 1

5 / 5 pts

Reactive components do not cause a phase shift between current and voltage.

☐ True☒ False

Question 2

5 / 5 pts

Capacitance is

- ☐ The ability to store electric current
- ☐ The ability to store electric phase angles
- ☐ The ability to store electric voltage
- ☒ The ability to store electric charge

Question 3**5 / 5 pts**

Select three correct answers.

Capacitance is directly related to

- ☐ The polarity of the voltage
- ☒ Capacitor plate area
- ☒ The dielectric material between plates
- ☐ Plate separation distance
- ☒ Coulombs charge
- ☐ Voltage

Question 4**5 / 5 pts**

Select two correct answers.

Capacitance is indirectly related to

- ☒ Plate separation distance
- ☒ Voltage
- ☐ Capacitor plate area
- ☐ Coulombs charge
- ☐ The dielectric material between plates
- ☐ The polarity of the voltage

Question 5**5 / 5 pts**

A circuit has a voltage of 48 VDC and stores 1/2 coulomb of charge. Find the circuit capacitance in milli-farads.

Question 6**5 / 5 pts**

The acronym ICE reminds us that voltage (E) leads current (I) in a capacitive (C) circuit.

- ☐ True
- ☒ False

Incorrect**Question 7****0 / 5 pts**

Series capacitance is calculated using the same mathematical methods as

- ☐ Series resistance
- ☐ Parallel resistance
- ☐ Series inductance
- ☒ Parallel inductance

Question 8

5 / 5 pts

A circuit has three 43 milli-farad capacitors in series. Find the total circuit capacitance in milli-farads.

14.3

Question 9

5 / 5 pts

Five RC time constants is the required to charge or a capacitive circuit to full source or to no .

Answer 1:

time

Answer 2:

discharge

Answer 3:

voltage

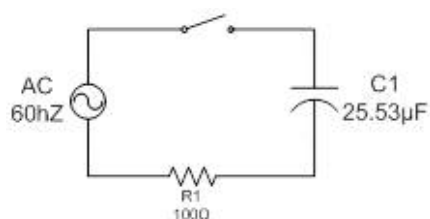
Answer 4:

voltage

Question 10**5 / 5 pts**

Select two correct answers.

Capacitive reactance is inversely proportional to

☐ Voltage☒ Frequency☐ Resistance☐ Inductance☒ Capacitance☐ Farads**Question 11****5 / 5 pts**Calculate X_C in ohms

103.9

Question 12**5 / 5 pts**

The total impedance in an capacitive AC circuit is equal to the resistance plus the capacitive reactance.

☐ True

☒ False

Resistance and capacitance are out of phase and are not additive. Vector addition is required. Must use the Pythagorean Theorem to find impedance.

Question 13**5 / 5 pts**

Inductive reactance is

☐ An inductors opposition to changes their work schedules

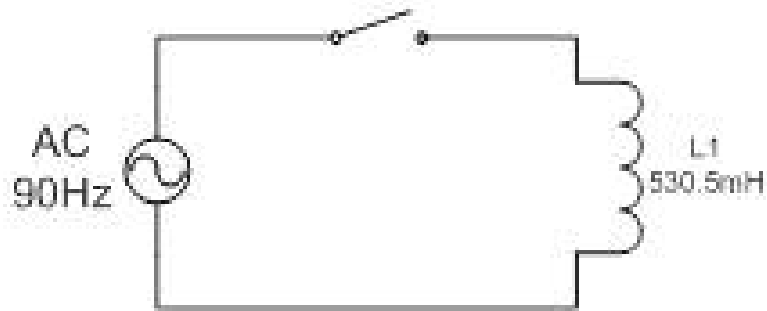
☒ An inductors opposition to changes in current

☐ An inductors opposition to changes in voltage

☐ An inductors opposition to changes in resistance

Question 14**5 / 5 pts**

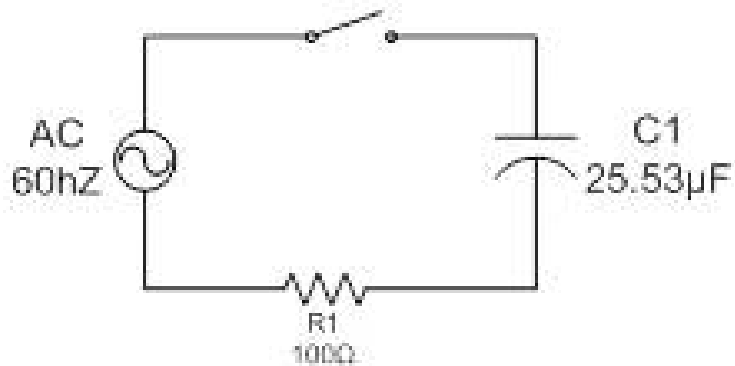
Calculate the inductive reactance for this circuit in ohms.



Question 15

5 / 5 pts

Calculate the total impedance in ohms for this circuit



Quiz Score: **70** out of 75