

3 Lecture - PHY301

Important Mcqs

10 mcqs for 'Inductance in Parallel' with a solution and multiple options

In a parallel inductance circuit, how does the total inductance change as more inductors are added?

- a) Increases
- b) Decreases
- c) Remains the same

Answer: b) Decreases

What is the formula for calculating the total inductance of inductors in parallel?

- a) $L_{total} = L1 + L2$
- b) $L_{total} = L1 \times L2$
- c) $L_{total} = L1 / L2$

Answer: a) $L_{total} = L1 + L2$

How does the current divide between inductors in a parallel inductance circuit?

- a) Equally
- b) According to their individual impedances
- c) Inversely proportional to their inductances

Answer: b) According to their individual impedances

In a parallel inductance circuit, what is the phase difference between the current and voltage across an inductor?

- a) 0 degrees
- b) 45 degrees
- c) 90 degrees

Answer: c) 90 degrees

How does the addition of a capacitor affect the impedance in a parallel inductance circuit?

- a) Increases the impedance
- b) Decreases the impedance
- c) Does not affect the impedance

Answer: b) Decreases the impedance

Can the total inductance of inductors in parallel ever be greater than the value of the individual inductors?

- a) Yes
- b) No

Answer: b) No

How does the inductance in a parallel circuit change as the frequency increases?

- a) Increases
- b) Decreases
- c) Remains the same

Answer: b) Decreases

What is the formula for calculating the equivalent impedance of inductors in parallel?

- a) $Z = Z1 + Z2$
- b) $Z = Z1 \times Z2$
- c) $Z = 1/(1/Z1 + 1/Z2)$

Answer: c) $Z = 1/(1/Z1 + 1/Z2)$

What is the advantage of using inductors in parallel in a circuit?

- a) Increases the overall inductance
- b) Decreases the current handling capacity
- c) Increases the current handling capacity while decreasing the overall inductance

Answer: c) Increases the current handling capacity while decreasing the overall inductance

In a parallel inductance circuit, what is the relationship between the impedance and the frequency?

- a) Impedance increases as frequency increases
- b) Impedance decreases as frequency increases
- c) Impedance remains the same as frequency increases

Answer: b) Impedance decreases as frequency increases