# 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) Ltotal = L1 + L2
- b)  $Ltotal = L1 \times L2$
- c) Ltotal = L1 / L2
- Answer: a) Ltotal = 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

# 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