# SNS COLLEGE OF TECHNOLOGY

**(An Autonomous Institution)**
**COIMBATORE-35**
**Accredited by NBA-AICTE and Accredited by NAAC – UGC with A++ Grade**
**Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

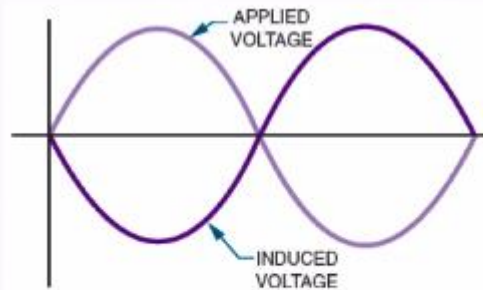# 19EET103 / ELECTRIC CIRCUITS AND ELECTRON DEVICES
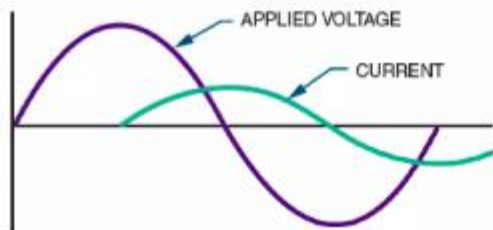# AC CIRCUITS

# INDUCTIVE ELEMENTS

# Inductive AC circuit



The applied voltage and the induced voltage are 180 degrees out of phase with each other in an inductive circuit.



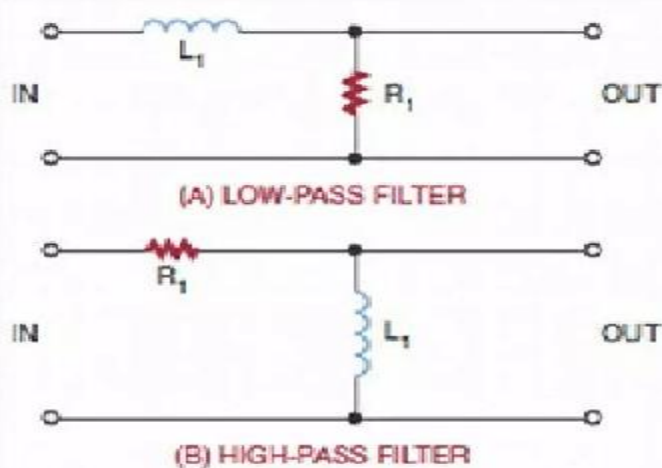The current lags the applied voltage in an AC inductive circuit.

- Inductive reactance
  - Opposition to current flow offered by an inductor in an AC circuit
  - Expressed by the symbol $X_L$
  - Measured in ohms

# Applications of Inductive Circuits



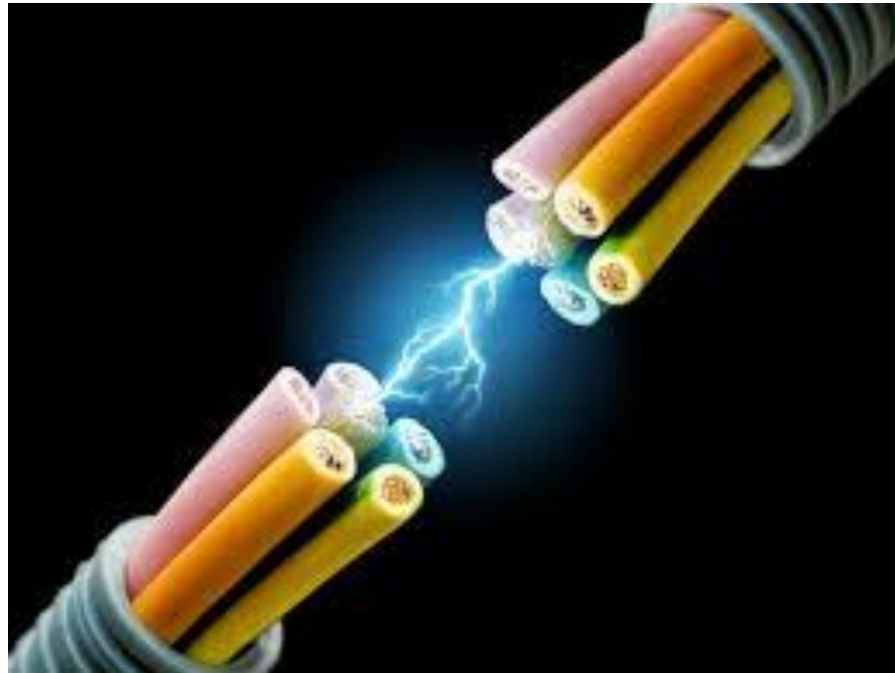(A) LOW-PASS FILTER

(B) HIGH-PASS FILTER

## Summary

- In a pure inductive circuit, the current lags the applied voltage by 90 degrees
- Inductive reactance is the opposition to current flow offered by an inductor in an AC circuit
- Inductive reactance can be calculated by the formula:

$$X_L = 2\pi fL$$

# RECAP....



# ...THANK YOU