Chapter-8

(Understand the construction & working principle of Frequency Meter)

Lecture-2

Construction of Frequency Meter:

- The construction and internal connections are shown in Figure. The two coils A and B are so fitted that their magnetic axes are perpendicular to each other. At their centers, a long and thin soft-iron pointer is pivoted, which aligns itself along the resultant magnetic field of the two coils. No controlling torque is provided in this instrument.
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- It will be noted that the various circuit elements constitute a Wheatstone bridge which becomes balanced at the supply frequency. Coil A has a resistance RA in series with it and a coil LA in parallel. Similarly, RB is in series with coil B and LB is in parallel.
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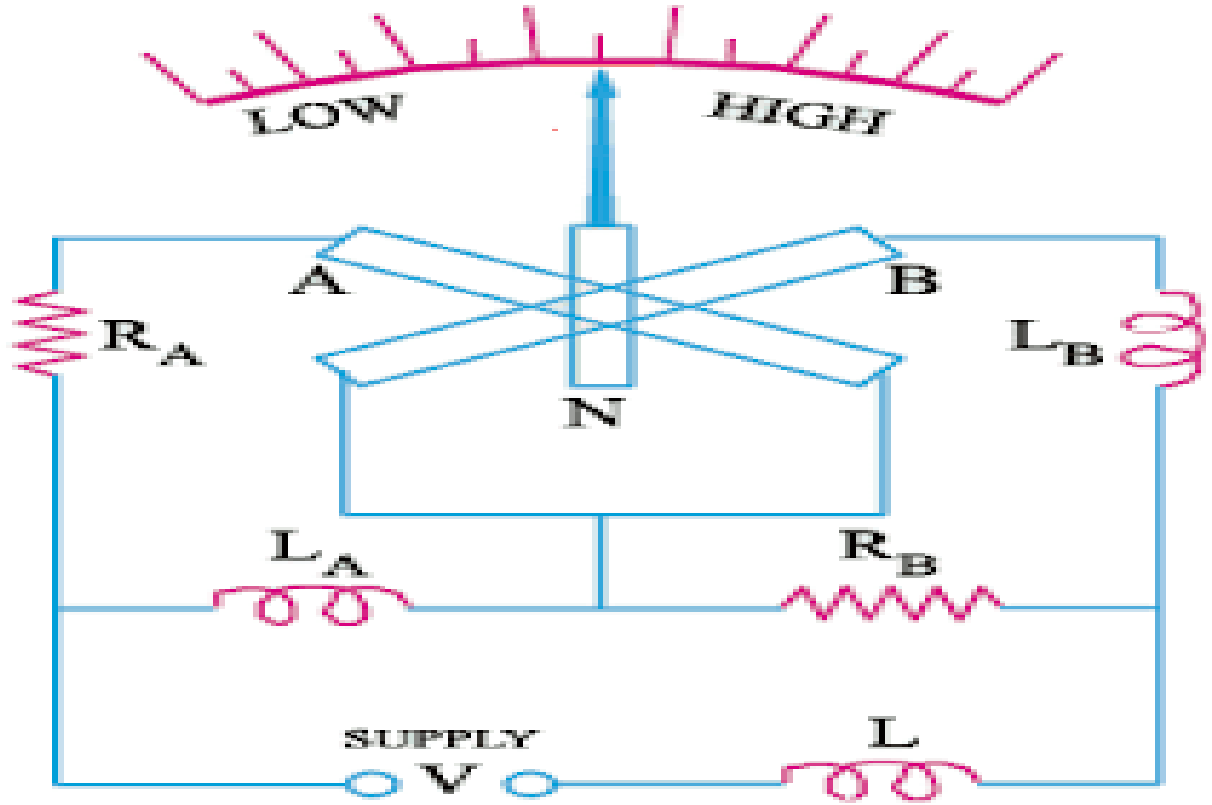
- The series inductance L helps to suppress higher harmonics in the current waveform and hence, tends to minimize the waveform errors in the indication of the instrument.


LOW
HIGH
A
B
R_A
L_B
N
L_A
R_B
SUPPLY
V
L

Type of Frequency Meter:

- 1 Mechanical Resonance Frequency Meter
- 2 Electrical Resonance Frequency Meter
- 3 Electro-Dynamo Frequency Meter
- 4 Weston Frequency Meter
- 5 Ratio Frequency Meter
- 6 Saturable-core Frequency Meter