Paper 1, TDC Part-1
Chapter– 1, Introduction to Passive Elements
Lumped and Distributed Element

By:

Mayank Mausam

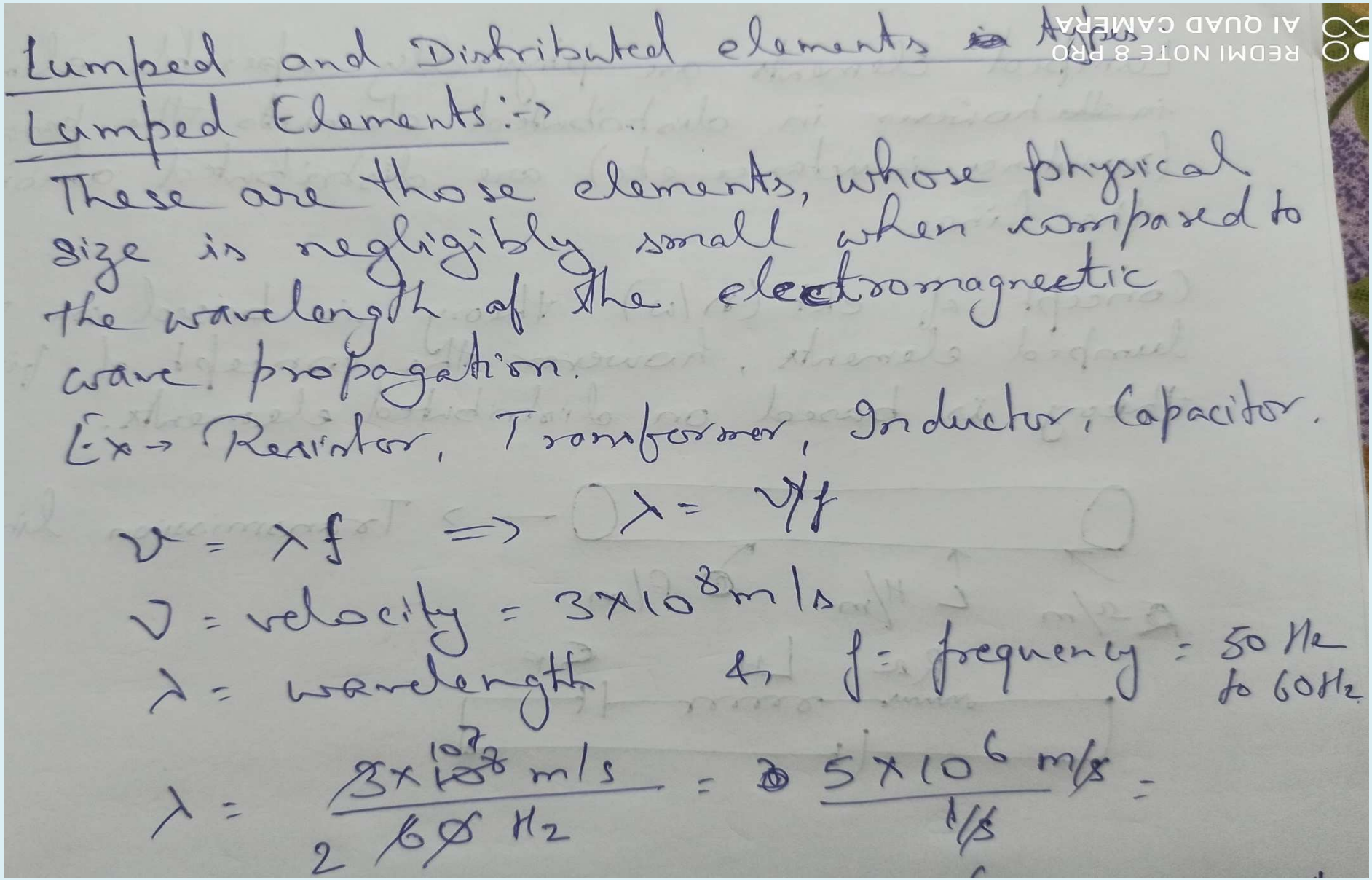
Assistant Professor (Guest Faculty)

Department of Electronics

L.S. College, BRA Bihar University,

Muzaffarpur, Bihar

Introduction to Passive Elements- Lumped & Distributed Element



Introduction to Passive Elements- Lumped & Distributed Element

$$\lambda = \frac{3\times10^8 \text{ m/s}}{60 \text{ Hz}} = \frac{5\times10^6 \text{ m/s}}{1/s} =$$

$$= 5\times10^6 \text{ m} = 5000 \text{ km}$$

$$\lambda = \frac{3\times10^8 \text{ m/s}}{50 \text{ Hz}} = 6\times10^6 \text{ m} = 5000 \text{ km}$$

* **Distributed Elements :->**

Those elements whose physical size is ~~Dec~~ comparable to the wavelength of the electromagnetic wave propagation.

Example :-> Transmission line

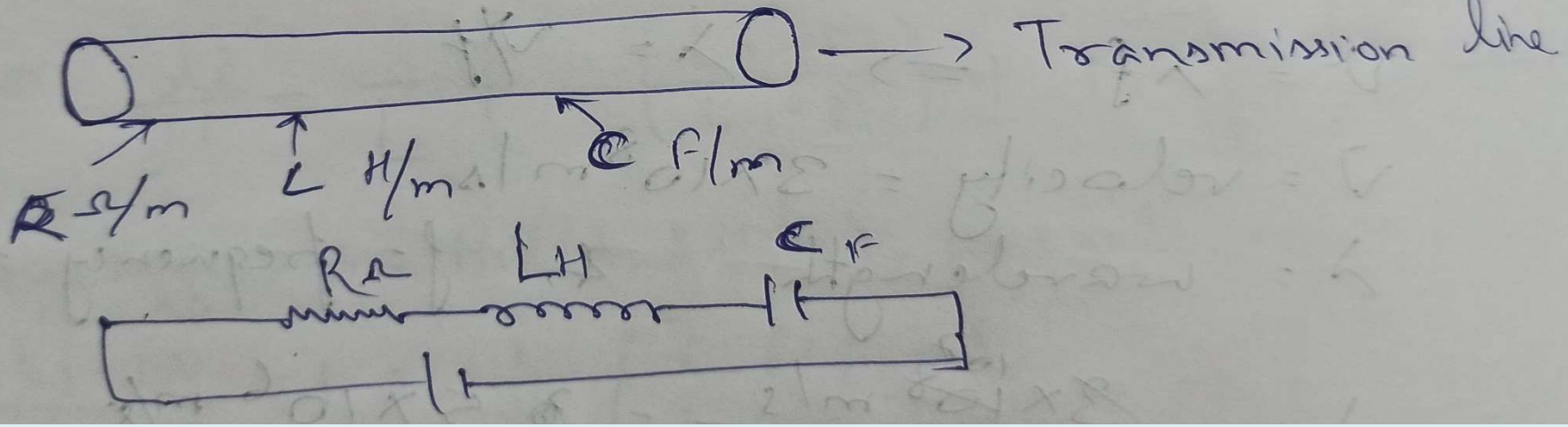
50 km, 100 km, 500 km, 1000 km,

We can apply KCL & KVL for lumped elements.
These can't be applied for distributed elements.

Introduction to Passive Elements- Lumped & Distributed Element

Lumped Elements are physically seperable elements however in distributed elements the parameters (resistance, inductance etc) are distributed among the line.

Concept of ckt (n/w) theory is based on the lumped elements, however the concept of field theory is based on distributed elements.



Introduction to Passive Elements- Lumped & Distributed Element

For any query contact- 9771474020

Thank You

To be Contd..