

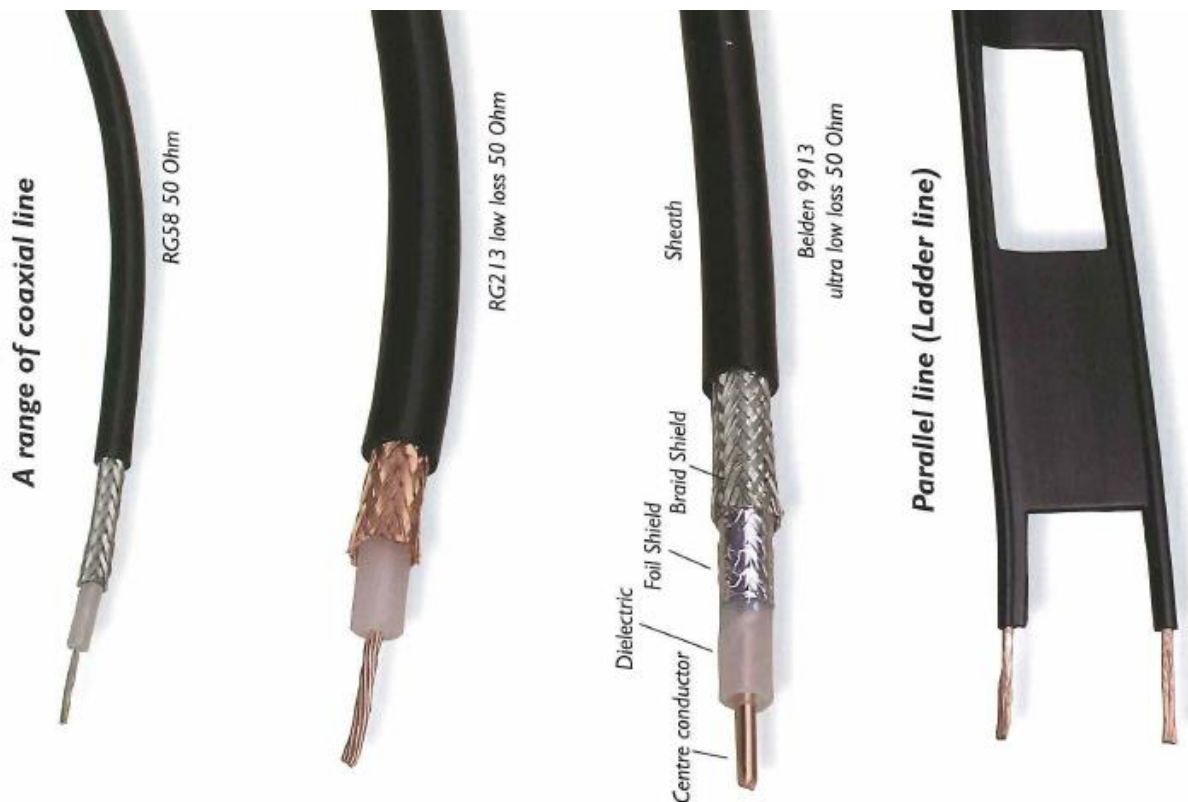
# Section 1

## Types of transmission lines.

Revise Transmission lines Chapter 5-1 of Foundation theory [HERE](#)

### Identification of common transmission line types

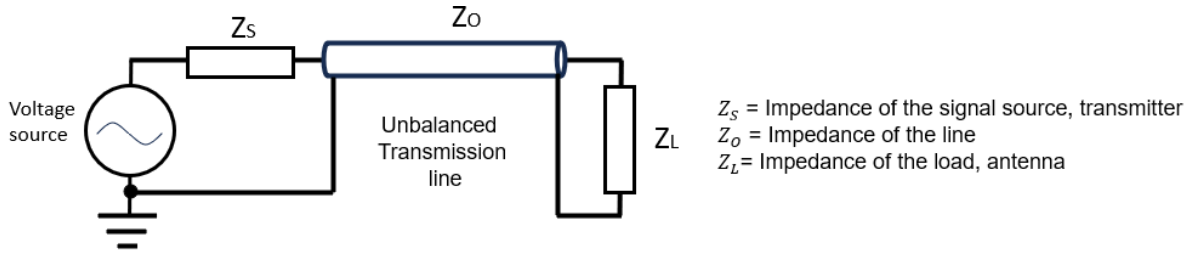
**Task.** Using physical examples or photographs or diagrams of common coaxial and parallel transmission lines provided to candidate. Correctly identify three types of transmission lines as coaxial or parallel line. Codes [e.g. RG58] are not required.



### Identify balanced and unbalanced transmission line.

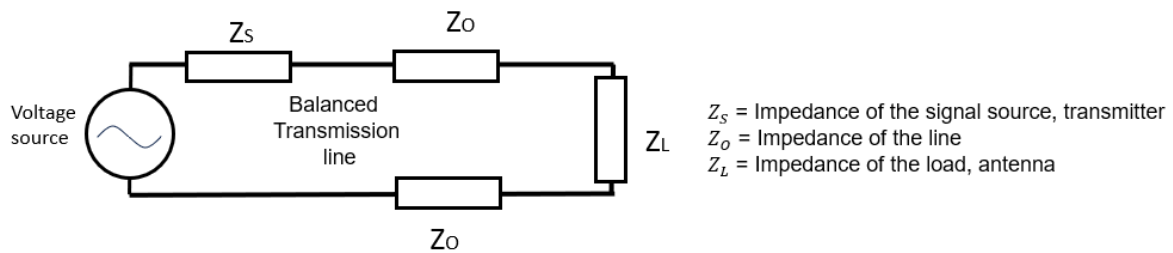
**Task** Using physical examples or photographs or diagrams of common coaxial and parallel transmission lines provided to candidate. At least one type of transmission line must be balanced and the other unbalanced. Identify the types of transmission line as balanced or unbalanced.

The difference between ideally operating 'Balanced' and 'Unbalanced' RF Feedlines lies in the system voltages, rather than currents. "Balance is referenced to voltage, not current, in an ideal system."



50-Ohm and 75-Ohm Coaxial Cable are '**Unbalanced**' RF Feed Lines and they have significantly different voltage from each conductor to ground.

300-Ohm Twin-Lead Ribbon Cable, 450-Ohm Ladder Line and 600-Ohm Open Wire Line are '**Balanced**' RF Feed Lines and if "perfectly" operating they have equal and opposite voltages.



### Action:

1. Know which is coax and which is ladder or parallel line.
2. Know which lines are balanced and which are unbalanced.
3. Be aware that not all feeder lines have the same impedance.

*Have fun and stay safe.*