



**PRACTICAL**

**Section 1 and 2 – Answers**

1. Describe the difference between coaxial and ladder/parallel transmission lines.

**Coaxial is round and has a centre wire surrounded by a shield. Ladder line has two conductors separated by an insulator.**

2. What is the nominal impedance of coaxial line used by amateur radio operators?

**50 ohms**

3. Describe the difference between balanced and unbalanced transmission lines.

**A balanced line is a two-conductor circuit in which both conductors have the same impedance. In an unbalanced line, one of the conductors is connected to ground.**

4. Coaxial transmission lines are available in 50 and 75-ohm impedance? True / False

**True**

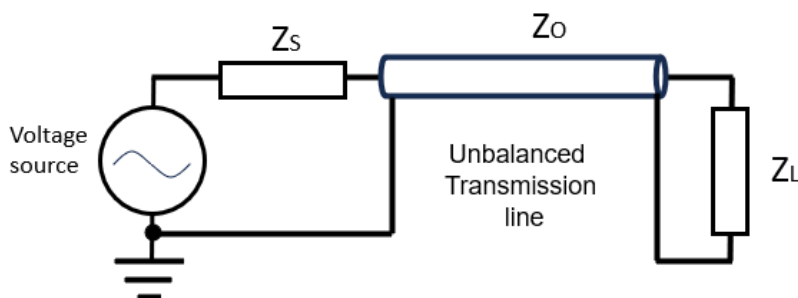
5. Do all parallel or ladder lines have the same impedance? Yes / No

**No**

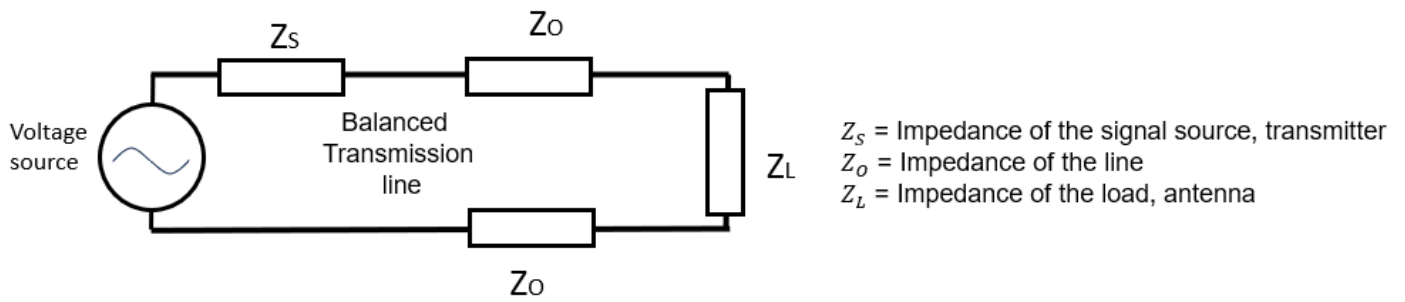
6. If in question 5, they are different, list some examples of different impedances.

**300, 450 and 600 ohms.**

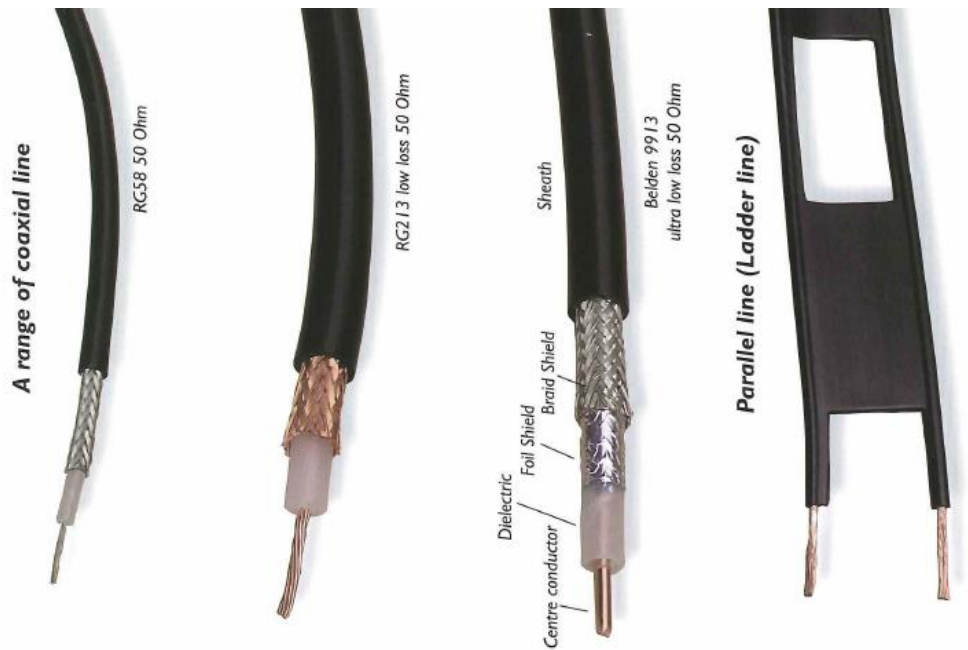
7. Identify the balanced and unbalanced line in the drawings below.



$Z_s$  = Impedance of the signal source, transmitter  
 $Z_o$  = Impedance of the line  
 $Z_L$  = Impedance of the load, antenna



8. Identify the balanced and unbalanced line in the pictures below.



**Unbalanced**

**Balanced**

