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1. Which of the following parameters is not a primary parameter?
a) Resistance
b) Attenuation constant
c) Capacitance
d) Conductance
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Answer: b
Explanation: The primary parameters of a transmission line are the resistance, inductance, capacitance and conductance. The attenuation, phase and propagation constant are secondary parameters. Thus the odd one out is the attenuation constant.

2. The networks in which the R, L, C parameters are individually concentrated or lumped at discrete points in the circuit are called
a) Lumped
b) Distributed
c) Parallel
d) Paired
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Answer: a
Explanation: The networks in which the R, L, C parameters are individually concentrated or lumped at discrete points in the circuit are called lumped networks. These networks can be identified definitely as representing a particular parameter. An example is the filters.

3. The lines having R, L, C distributed along the circuit are called
a) Lumped
b) Distributed
c) Parallel
d) Paired
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Answer: b
Explanation: In distributed lines, the primary parameters are distributed along the circuit with each elemental length having its own values and the concentration of the individual parameters is not possible. An example is the transmission of power.

4. Which primary parameter is uniformly distributed along the length of the conductor?
a) G
b) C
c) L
d) R
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Answer: d
Explanation: The resistance is a primary parameter that is uniformly distributed along the length of the conductor. It depends on the cross section area and the length of the conductor.

5. The primary parameter that is associated with the magnetic flux linkage is
a) R
b) L
c) C
d) G
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Answer: b
Explanation: When the conductors carry current, the conductor will be surrounded and linked by magnetic flux. The flux linkages per ampere of current gives rise to the effect of inductance. It is denoted by L.

6. The primary parameter that is associated with the electric charges is
a) G
b) R
c) C
d) L
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Answer: c
Explanation: Conductors separated by insulating dielectrics in order to store electric charges, gives rise to the capacitance effect. The capacitance is distributed in the whole conductor length.

7. The leakage current in the transmission lines is referred to as the
a) Resistance
b) Radiation
c) Conductance
d) Polarisation
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Answer: c
Explanation: The dielectrics or insulators of the open wire line may not be perfect and a leakage current will flow. This leakage conductance exists between the conductors.

8. Find the receiving impedance of a transmission line having a voltage of 24V and a conduction current of 1.2A is
a) 25.2
b) 22.8
c) 28.8
d) 20
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Answer: d
Explanation: By Ohm's law, the impedance is the ratio of the voltage to the current. On substituting for V = 24 and I = 1.2, we get Z = V/I = 24/1.2 = 20 units.

9. The characteristic impedance of a transmission line with impedance and admittance of 16 and 9 respectively is
a) 25

b) 1.33
c) 7
d) 0.75
View Answer

Answer: b
Explanation: The characteristic impedance is given by Zo = √(Z/Y), where Z is the impedance and Y is the admittance. On substituting for Z = 16 and Y = 9, we get the characteristic impedance as √(16/9) = 1.33 units.

10. The propagation constant of a transmission line with impedance and admittance of 9 and 16 respectively is
a) 25
b) 144
c) 12
d) 7
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Answer: c
Explanation: The propagation constant is given by γ = √(ZY), where Z is given by 9 and Y is 16. On substituting the given values, the propagation constant will be γ = √(ZY) = √(9 x 16) = 12 units.