1. What is a characteristic parameter used to describe the relationship between voltage and current in a two-port network?

a) Resistance
b) Inductance
c) Admittance
d) Impedance

Answer: d) Impedance
Explanation: Impedance is a characteristic parameter that describes the relationship between voltage and current in a two-port network. It encompasses both resistance and reactance.

2. Which type of network has identical characteristic parameters for both input and output ports?

a) Symmetrical
b) Asymmetrical
c) Reactive
d) Lattice

Answer: a) Symmetrical
Explanation: In symmetrical networks, the characteristic parameters for both input and output ports are identical, leading to balanced operation.

3. What is the parameter that represents the ratio of output voltage to input voltage for a symmetrical two-port network?

a) Propagation coefficient

b) Image impedance
c) Iterative impedance
d) Characteristic impedance

Answer: a) Propagation coefficient
Explanation: The propagation coefficient represents the ratio of output voltage to input voltage in a symmetrical two-port network, indicating the signal propagation characteristics.

4. Which type of network exhibits different characteristic parameters for input and output ports?

a) Bridged T
b) Lattice
c) Reactive matching
d) Asymmetrical

Answer: d) Asymmetrical
Explanation: Asymmetrical networks have different characteristic parameters for input and output ports, leading to unbalanced operation.

5. What is the purpose of a reactive matching network?

a) To amplify signals
b) To filter out noise
c) To match impedance
d) To balance voltages

Answer: c) To match impedance

Explanation: Reactive matching networks are used to match the impedance of a load to that of a source, maximizing power transfer.

6. Which parameter describes the loss of signal power as it passes through a network?

a) Propagation coefficient
b) Insertion loss
c) Image transfer coefficient
d) Iterative transfer coefficient

Answer: b) Insertion loss
Explanation: Insertion loss represents the loss of signal power as it passes through a network, typically measured in decibels (dB).

7. In which type of attenuator are the attenuation levels equal for both forward and reverse directions?

a) Symmetrical
b) Asymmetrical
c) Bridged T
d) Lattice

Answer: a) Symmetrical
Explanation: Symmetrical attenuators provide equal attenuation levels for both forward and reverse directions, maintaining signal symmetry.

8. Which parameter describes the transfer of signals from input to output without reflection in a two-port network?

a) Image transfer coefficient
b) Propagation coefficient
c) Iterative impedance
d) Characteristic impedance

Answer: b) Propagation coefficient
Explanation: Propagation coefficient describes the transfer of signals from input to output without reflection, indicating the efficiency of signal propagation.

9. What type of network is commonly used for impedance matching applications?

a) Lattice
b) Bridged T
c) Asymmetrical
d) Reactive

Answer: b) Bridged T
Explanation: Bridged T networks are commonly used for impedance matching applications due to their versatility and effectiveness in balancing impedance.

10. Which parameter describes the ratio of output current to input current in a two-port network?

a) Image impedance
b) Iterative transfer coefficient
c) Propagation coefficient
d) Image transfer coefficient

Answer: d) Image transfer coefficient
Explanation: Image transfer coefficient represents the ratio of output current to input current in a two-port network, reflecting the current transfer characteristics.