

DC Circuits

Self test

Section B: Circuits and Kirchoffs Law

Multiple-choice exercise

1/5

1 What determines if resistor connections are in series, parallel, or series-parallel?

the voltage source

the power source

resistance

current flow

2 If a series-parallel circuit has all 30 ohm resistors, what is the total resistance when R1 is in series with a parallel circuit consisting of R2 and R3?

10 ohms

20 ohms

45 ohms

90 ohms

3 In a circuit with 24 V applied, what is the voltage of R1 when series resistors R1 (1 k Ω) and R2 (2 k Ω) are in parallel with R3 (3 k Ω)?

24 V

16 V

12 V

8 V

4 The closer a voltage source is to an ideal source, the lower will be its internal

resistance

voltage

current

Power

5 When a circuit consists of series resistor R1 with a parallel combination of R2, R3, and R4, P1, the power loss of R1, is equal to:

$P_T - (P_{R2} + P_{R3} + P_{R4})$

$P_{R2} + P_{R3} + P_{R4}$

$P_T + (P_{R2} + P_{R3} + P_{R4})$

P_T