CS 20 Laboratory 1: Introduction to Electric Circuits

1. Resistor Color Bands

|  |  |  |
| --- | --- | --- |
| **Label** | **Resistor Color Bands** | **Computed Resistance** |
| R1 | Brown, Orange, Brown, Gold | 130 Ω, 5% |
| R2 | Red, Red, Brown, Gold | 220 Ω, 5% |
| R3 | Green, Blue, Brown, Gold | 560 Ω, 5% |
| R4 | Brown, Red, Red, Gold | 1200 Ω, 5% |

1. **Series Circuits**
2. Since the circuit is in series,

Graphical user interface, application

Description automatically generated

1. In the previous item, the resistance is given by and voltage is 5 V.

For :

Graphical user interface, application

Description automatically generated

For :

Graphical user interface

Description automatically generated

For :

Graphical user interface, application

Description automatically generated

1. To compute for the theoretical current through the circuit, use Ohm’s Law:

Graphical user interface, application

Description automatically generated

1. **Parallel Circuits**
2. Since the circuit is in parallel,

Graphical user interface

Description automatically generated with medium confidence

1. In the previous item, the resistance is given by and voltage is 5V.

To solve the theoretical current of each resistor, compute first for the current through the entire network:

Using Ohm’s Law,

For :

Graphical user interface

Description automatically generated

For :

Graphical user interface

Description automatically generated

For :

Graphical user interface

Description automatically generated with medium confidence

1. To compute for the theoretical voltage through the circuit, use Ohm’s Law:

Graphical user interface

Description automatically generated with medium confidence