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| **Ref.** | **Unit 3 Concepts & Definitions** | **Terms, Notation, Formulas, Diagrams** |
|  | In circuits, sources and loads are connected in: Series, |  |
|  | Parallel, or |  |
|  | Series and Parallel combinations. |  |
|  | Series Resistance Formula: |  |
|  | Parallel Resistance Formula: |  |
|  | Kirchhoff’s Voltage Law states that the algebraic sum of voltages around any closed loop in a circuit is zero. |  |
|  | Kirchhoff’s Current law state that the current entering a junction point, or node, equals the sum of currents leaving a node.  |  |
|  | Type of switch with a basic on/off function that holds the state that the switch is set to. |  |
|  | Type of switch that is only in “on” state when activated. Used for intermittent user-input. |  |
|  | Number of separate circuits the switch can control. |  |
|  | Number of positions each of the switch’s poles can be connected to. |  |
|  | Single Pole Single Throw | SPST  |
|  | Single Pole Double Throw | SPDT  |
|  | Double Pole Single Throw | DPST  |
|  | Double Pole Double Throw | DPDT  |
|  | Normally Open (NO) Switch: contacts on switch are open and will close when the switch is activated. |   |
|  | Normally Closed (NC) Switch: contacts on switch are closed and will open when the switch is activated. |   |
|  | \_\_\_\_\_\_\_\_\_\_\_ store electric charge and can be used to overcome the issues with switch bouncing. |  |
|  | Capacitance is measured in \_\_\_\_\_\_\_\_\_\_\_. |  |
|  | A \_\_\_\_\_\_\_\_\_\_\_\_\_\_, connected between a switched input and ground, gives current a safe path to take and ensures either a LOW (0) or HIGH (1) pin state. |  |
|  | A \_\_\_\_\_\_\_\_\_\_\_\_\_\_, connected between a switched input and power, gives current a safe path to take and ensures either a LOW (0) or HIGH (1) pin state. |  |
|  | Defining your variable at the beginning of your sketch before the setup function will set a \_\_\_\_\_\_\_, defined for the whole sketch. |  |
|  | Defining a variable inside the loop function, will make it a \_\_\_\_\_\_\_\_\_, which can only be referenced locally in that function. |  |
|  | To perform a function based on a specific condition, you can use an \_\_\_\_\_\_\_\_\_\_.  |  |
|  | To test multiple conditions in one if statement, you can use a \_\_\_\_\_\_\_\_\_\_\_\_\_. |  |