**Section 6 Questions**

1. What device is used to complete or break the connection of an electrical circuit?
   1. LED
   2. Resistor
   3. Transistor
   4. Switch
   5. Multimeter
   6. Arduino
2. A \_\_\_\_\_\_\_\_\_\_\_ is used to complete or break the connection of an electrical circuit.
   1. LED
   2. Resistor
   3. Transistor
   4. Switch
   5. Multimeter
   6. Arduino
3. Switches are used to complete or break the connection of an electrical circuit.
   1. True
   2. False
4. Resistors are used to complete or break the connection of an electrical circuit
   1. True
   2. False
5. There is only one type of switch.
   1. True
   2. False
6. A \_\_\_\_\_\_\_\_ switch contains a basic on/off function which holds the state that the switch is set to.
   1. Momentary
   2. Maintained
   3. McCarthy
   4. Monotonous
   5. Micro
   6. Mixed
7. What kind of switch contains a basic on/off function which holds the state that the switch is set to?
   1. Momentary
   2. Maintained
   3. McCarthy
   4. Monotonous
   5. Micro
   6. Mixed
8. What type of switch is a light switch?
   1. Momentary
   2. Maintained
   3. McCarthy
   4. Monotonous
   5. Micro
   6. Mixed
9. A \_\_\_\_\_\_\_\_\_\_ switch is used for intermittent user-input and is only in an “on” state when activated.
   1. Momentary
   2. Maintained
   3. McCarthy
   4. Monotonous
   5. Micro
   6. Mixed
10. What kind of switch is used for intermittent user-input and is only in an “on” state when activated?
    1. Momentary
    2. Maintained
    3. McCarthy
    4. Monotonous
    5. Micro
    6. Mixed
11. Push buttons are an example of what type of switch?
    1. Momentary
    2. Maintained
    3. McCarthy
    4. Monotonous
    5. Micro
    6. Mixed
12. A doorbell is an example of a momentary switch.
    1. True
    2. False
13. A doorbell is an example of a maintained switch.
    1. True
    2. False
14. A light switch is an example of a maintained switch.
    1. True
    2. False
15. A light switch is an example of a momentary switch.
    1. True
    2. False
16. \_\_\_\_\_\_\_\_\_ describes the set up for the slider switch to make it turn on and off a single circuit.
    1. SPST
    2. DPST
    3. SPDT
    4. DPDT
    5. All of the above
    6. None of the above
17. The other terminal on the slider switch allows you to change the position of the switch which will activate another part of the circuit. This is called:
    1. SPST
    2. DPST
    3. SPDT
    4. DPDT
    5. All of the above
    6. None of the above
18. What is the definition of pole?
    1. Number of separate circuits the switch can control
    2. Number of digital pins on the Arduino
    3. Number of analog pins on the Arduino
    4. Number of separate positions the switch can be in
    5. All of the above
    6. None of the above

1. What is the definition of throw?
   1. Number of separate circuits the switch can control
   2. Number of digital pins on the Arduino
   3. Number of analog pins on the Arduino
   4. Number of positions each of the switch’s poles can be connected to
   5. All of the above
   6. None of the above

1. The image is an example of what type of switch?



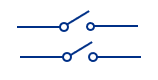
1. SPST
2. DPST
3. SPDT
4. DPDT
5. All of the above
6. None of the above

21. What type of switch is pictured below?



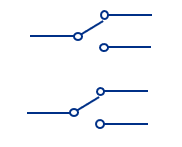
1. SPST
2. DPST
3. SPDT
4. DPDT
5. All of the above
6. None of the above

22. What type of switch is pictured below?



1. SPST
2. DPST
3. SPDT
4. DPDT
5. All of the above
6. None of the above

23. What type of switch is pictured below?



1. SPST
2. DPST
3. SPDT
4. DPDT
5. All of the above
6. None of the above

24. An analogy for poles and throws can be:

1. Train Tracks
2. The water cycle
3. A washing machine
4. A salad
5. Congress
6. A marching band
7. How many terminals are on the push buttons in your kit?
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5
   6. 6
8. Continuity tells you what is connected and what is not.
   1. True
   2. False
9. When testing continuity what will the multimeter do to notify you that your components are connected?

Beep

1. When testing continuity what will the multimeter do to notify you that your components are connected?
   1. Vibrate
   2. Display “Con”
   3. Display ‘1’
   4. Display ‘0’
   5. Beep
   6. None of the above
2. Your multimeter will beep if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
3. Your multimeter will stop beeping if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
4. Your multimeter will vibrate if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
5. Your multimeter will display “Con” if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
6. Your multimeter will display ‘1’ if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
7. Your multimeter will display ‘0’ if your components are connected correctly, when the continuity setting is being used.
   1. True
   2. False
8. What are the two main orientations for switches?
   1. NO
   2. Open
   3. Closed
   4. NC
   5. Clutch
   6. release
9. Normally Open and Normally Closed are the two main orientations for switches.
   1. True
   2. False
10. Normally released and Normally held are the two main orientations for switches.
    1. True
    2. False
11. This is the schematic for normally open for a push button.
    1. True
    2. False
12. This is the schematic for normally open for a push button.
    1. True
    2. False
13. This is the schematic for normally closed for a push button.
    1. True 
    2. False
14. This is the schematic for normally closed for a push button.
    1. True
    2. False
15. The Arduino will have to read \_\_\_\_\_\_\_\_ from the switch and produce \_\_\_\_\_\_\_\_\_ based on what is read.
    1. Input; Input
    2. Output; Output
    3. Input; Output
    4. Output: Input
    5. None of the above
16. If you want the LED to come on only when you are physically pressing the switch, what type of switch do you need?
17. Momentary
18. Maintained
19. McCarthy
20. Monotonous
21. Micro
22. Mixed

1. If your want the LED to come on and stay on once the switch has been activated, what type of switch do you need?
2. Momentary
3. Maintained
4. McCarthy
5. Monotonous
6. Micro
7. Mixed

1. Physically moving the position of a switch can cause components to touch repeatedly as they settle into place and can cause feedback issues. This is referred to as:
2. Switch bouncing
3. Short circuiting
4. Switch collision
5. Cross circuiting
6. Doping
7. Tinning
8. \_\_\_\_\_\_\_\_\_\_ store electric charge and can be used to overcome the issues with switch bouncing.
9. Transistors
10. Resistors
11. Capacitors
12. Potentiometers
13. Arduinos
14. LEDs
15. Capacitors store electric charge and can be used to overcome the issues with switch bouncing.
16. True
17. False
18. Resistors store electric charge and can be used to overcome the issues with switch bouncing.
19. True
20. False

49. Capacitors have units of \_\_\_\_\_\_\_\_\_.

1. Kelvin
2. Hertz
3. Joules
4. Coulombs
5. Volts
6. Farads
7. To see what the input value is through the Arduino, what do we need to include in the sketch?
8. Serial.begin(1000);
9. Serial.begin(1023);
10. Serial.begin(5500);
11. Serial.begin(9600);
12. Serial.begin(10000);
13. Serial,begin(15000);
14. What command did you use in the setup function to prepare the pin for the outputs of voltage?
15. pinMode(pin number, OUTPUT);
16. pinMode(pin number, INPUT);
17. pinMode(OUTPUT, pin number);
18. pinMode(INPUT, pin number);
19. Serial.Print(pin number, OUTPUT);
20. Serial.Print(pin number, INPUT);

52. When you set the output value of the pin, what do you write in the loop function?

1. digitalWrite(pin number, LOW);
2. digitalWrite(pin number, HIGH);
3. digitalWrite(pin number, OUTPUT);
4. digitalWrite(pin number, INPUT);
5. pinMode(pin number, HIGH);
6. pinMode(pin number, LOW);
7. Defining your variable at the beginning of your sketch before the setup function will set it to be a \_\_\_\_\_\_\_\_\_\_\_\_ variable.
8. Independent
9. Dependent
10. Control
11. Global
12. Local
13. None of the above
14. If you define int inside the loop function, it is a \_\_\_\_\_\_\_\_ variable and can only be referenced locally in that function.
15. Independent
16. Dependent
17. Control
18. Global
19. Local
20. None of the above

55. A conditional statement:

1. Declares the pins as inputs or outputs
2. Tells the Arduino to print to the serial monitor
3. Is the question being asked before executing lines of code
4. Differentiates between digital and analog
5. Names the variables
6. Does none of these things