MULTIMETER DIFFERENT MODES AND WHOLE FUNCTIONALITY

It is basically a device which is capable of measuring various values of Current, Voltage and Resistance. It is of great use for troubleshooting in circuits.

The basic parts of a Multimeter are:

1. Display:

Here is where the values of the measured values with/without the units (depending on the multimeter) are displayed.

Sometimes the display shows negative values this means that the probes has be reversed while measuring the values.

1. Turning (range selection) knob:

This is the knob which is used to select between DC and AC and also to measure values in different ranges such as mΩ or KΩ(also for current and voltage).

1. Probes and its different types:

Two probes are plugged into two of the ports on the front of the unit. COM stands for common and is almost always connected to Ground or ‘-’ of a circuit.

The COM probe is conventionally black but there is no difference between the red probe and black probe other than color.

10A is the special port used when measuring large currents (greater than 200mA). mAVΩ is the port that the red probe is conventionally plugged in to. This port allows the measurement of current (up to 200mA), voltage (V), and resistance (Ω).

**Banana to Alligator Clips:** These are great cables for connecting to large wires or pins on a breadboard. Good for performing longer term tests where you don’t have to have to hold the probes in place while you manipulate a circuit.

**Banana to IC Hook:** IC hooks work well on smaller ICs and legs of ICs.

**Banana to Tweezers:** Tweezers are handy if you are needing to test SMD components.

**Banana to Test Probes:** Easier to use and are cheap.

**CONTINUITY TESTING:**

Continuity testing is the testing the resistance between two points. If there is very low resistance (less than a few Ωs), the two points are connected electrically, and a tone is emitted. If there is more than a few Ωs of resistance, than the circuit is open, and no tone is emitted. This test helps insure that connections are made correctly between two points. This test also helps us detect if two points are connected that should not be.