**KIRCHOFF’S LAWS (ĐO I U R)**

1. Choose 5 different resistors

or

2. Construct the circuit

3. Remember how to measure

: Parallel; : Series;: No battery

(2 leads connect 2 hands: Parallel) (break 1 hand: Series)

4. Measure

Draw the current direction into the circuit diagram

5. List out all the measurement data to the table

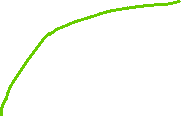
6. Check KCL & KVL

# **RC CIRCUIT**

**Theory (LEARN BY HEART)**

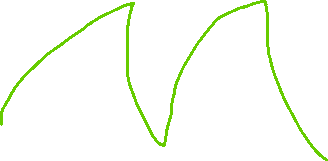
**Exp** (Needs 01 voltage sensor)

1. Charge (DC voltage)



1. Setup circuit à get a graph => PICTURE
2. Get à à

1. Discharge (Positive Square Wave)



1. Calculate
2. Run à Get the graph à PICTURE
3. Get and à à

# **LR CIRCUIT**

**Theory**

**Exp** (Needs 02 voltage sensors)

1. Set up circuit à get a graph (3 small graphs) à PICTURE
2. Choose R graph -> choose discharge process
3. Get à à à
4. %error

# **LRC CIRCUIT**

1. **LC Oscillations**

**Theory**

, T: period

NO VOLTAGE SENSOR

**Exp**

1. Set up circuit à Run

Transfer à GRAPH

1. Time at peak/next peak

Current graph

Notice:

1. **Phase diff of R, L, C Circuit (R=10)**
2. Set up circuit à RUN data studio à PICTURE

(Sin wave) à T of AC voltage (V & I graphs)

1. Time at peak voltage & current

à Time diff à

1. Compare with theory: ;

%error

(cont.)

1. **LRC circuit**

1. Make a current vs f graph

à f to get Max current à f resonance

# **MAGNETIC FIELDS**

**Exp:**

1. Set up circuit

- Single coil

- Double coil

+ d > R

+ d = R

+ d < R

- Solenoid

Turn off power à TARE à ON

1. Run data studio à graph PICTURE
2. Shift graph to center
3. Fit à User define fit

à TYPE Equation

à Input initial guess

1. TAKE a PICTURE