**4.Experimental Data**

Table 6.1: Charging and Discharging of an RC circuit.

Maximum potential difference, Vm =2.011 Volts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time  (seconds) | **Charging capacitor** | | **Discharging capacitor** | |
| V(t)  (Volts) |  | V(t)  (Volts) |  |
| 0 | 0 | 0 | 2.011 | 0 |
| 20 | 1.187 | -0.8922 | 1.826 | -0.0965 |
| 40 | 1.45 | -1.2767 | 1.650 | -0.1978 |
| 60 | 1.582 | -1.5449 | 1.500 | -0.2931 |
| 80 | 1.648 | -1.7119 | 1.466 | -0.3160 |
| 100 | 1.691 | -1.8381 | 1.236 | -0.4867 |
| 120 | 1.726 | -1.9538 | 1.123 | -0.5826 |
| 140 | 1.758 | -2.0729 | 1.023 | -0.6759 |
| 160 | 1.787 | -2.1947 | 0.943 | -0.7573 |
| 180 | 1.812 | -2.3130 | 0.847 | -0.8646 |
| 200 | 1.835 | -2.4359 | 0.773 | -0.9561 |
| 220 | 1.856 | -2.5629 | 0.703 | -1.051 |
| 240 | 1.882 | -2.7465 | 0.643 | -1.1402 |
| 260 | 1.902 | -2.9150 | 0.585 | -1.2347 |
| 280 | 1.920 | -3.0955 | 0.535 | -1.3241 |
| 300 | 1.936 | -3.2888 | 0.491 | -1.4099 |
| 320 | 1.950 | -3.4955 | 0.380 | -1.6662 |
| 340 | 1.967 | -3.8222 | 0.312 | -1.8633 |
| 360 | 1.980 | -4.1724 | 0.287 | -1.9469 |
| 380 | 1.992 | -4.6619 | 0.219 | -2.2173 |
| 400 | 2.003 | -5.5269 | 0.173 | -2.4530 |
| 420 | 2.011 | ∞ | 0.007 | -5.6604 |

**2.Apparatus**

* Power supply
* Circuit board
* Resistor
* Capacitor
* Multi meter
* Stop watch and
* Connecting wires