**Electrotechnology Lab 1 Write Up**

**Results:**

**Vin = 5V**

**Q2**

1. **V across LED =** 3.57 V
2. **V across Resistor (220Ω) =** 1.4 V
3. **Current through Resistor (220Ω) =** 0.2 A

**Current through LED =** 6.2 mA, 0.0062 A

1. **Resistance of LED ( R = V/I ) =** 575.81 Ω

**Q3.1** **(50Ω)**

1. **V across LED =** 0.91 V
2. **V across R1 (220Ω) =** 4.04 V

**V across R2 (50Ω) =** 0.91 V

1. **Current through R1 (220Ω) =** 0.2 A

**Current through R2  (50Ω) =** 17.5 mA, 0.0175 A

**Current through LED =** 18.1 mA, 0.0181 A

1. **Resistance of LED ( R= V/I ) =** 50.28 Ω

**Q3.2 (100Ω)**

1. **V across LED =** 1.52 V
2. **V across R1 (220Ω) =** 3.44 V

**V across R2 (100Ω) =** 1.52 V

1. **Current through R1 (220Ω) =** 0.2 A

**Current through R2  (100Ω) =** 17.5 mA, 0.0175 A

**Current through LED =** 15.5 mA, 0.0155 A

1. **Resistance of LED ( R= V/I ) =** 98.06 Ω

**Q3.3 (220Ω)**

1. **V across LED =** 2.29 V
2. **V across R1 (220Ω) =** 2.63 V

**V across R2 (220Ω) =** 2.28 V

1. **Current through R1 (220Ω) =** 0.2A

**Current through R2  (220Ω) =** 10.1 mA, 0.0101 A

**Current through LED =** 1.6 mA, 0.0016 A

1. **Resistance of LED ( R= V/I ) =** 1431.25 Ω