EXPERIMENT NO. 1

OBJECTIVE: To determine the V-I Characteristics of a given silicon controlled rectifier (SCR) device.

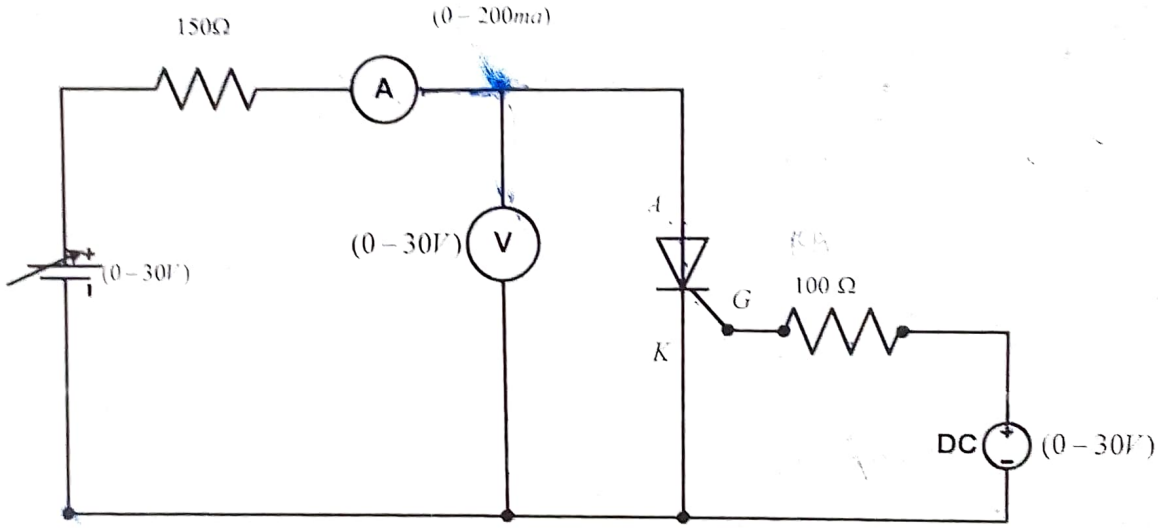
EQUIPMENT: 1) Variable voltage DC power supply (0 to 30V)

2) Millimeter (0 to 200 ma)

3) Voltmeter (0 to 30 V)

4) SCR and connecting links

CIRCUIT DIAGRAM:

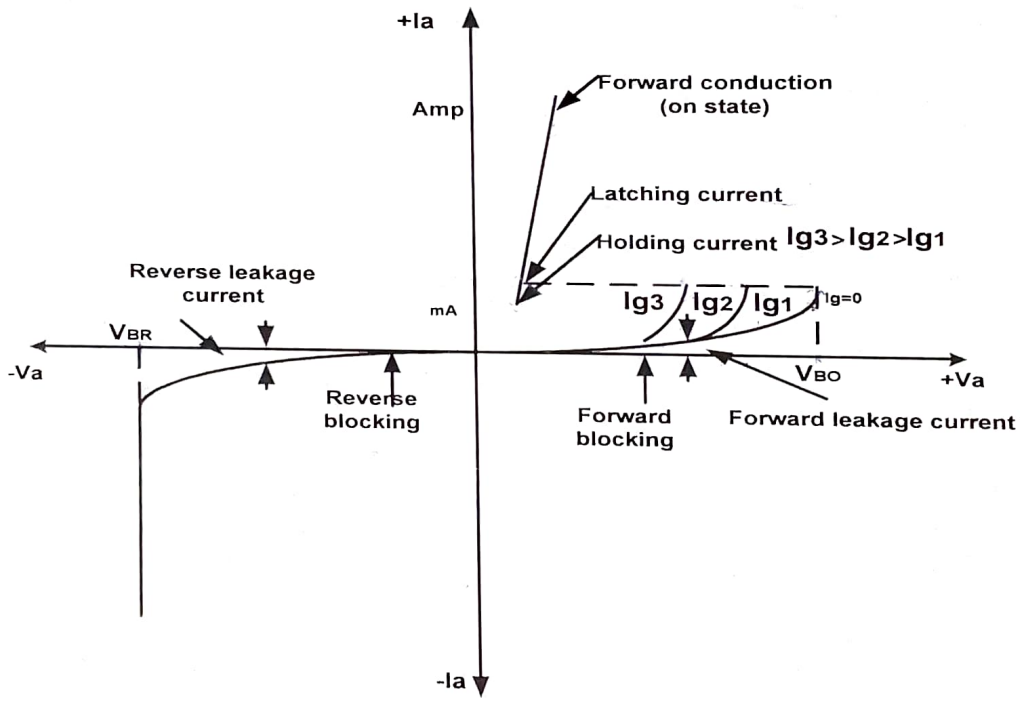


PROCEDURE:

1. Connect the circuit as shown as figure.
2. Switch on the supply P_1 while P_2 is off. Increase supply voltage gradually and not down ammeter reading. At low voltage SCR exhibit a high impedance and a very small current (order of micro) flows through device. Now decreases the voltage of P_1 (appox. 10 to 12) and then switch on P_2 (gate voltage) and increased gradually to 3 to 4 volt. At one value of gate voltage the SCR will trigger. The lamp load will dimly light. Note the value of anode current.
3. Repeat step 2 for different value of DC supply between anode and cathode.

4. Increases the P_1 supply voltage gradually to the value such that maximum current flows through SCR. Now reduce the supply voltage in steps and note down the reading of ammeter and voltmeter. The value of current at which again SCR goes to off (ammeter reading is zero) is called holding current.
5. Switch off the supply and disconnect.

MODEL GRAPH:



OBSERVATION TABLE:

S.No	Anode voltage	Gate voltage	Anode current

RESULT: Draw curve between anode voltage and anode current for different values of gate voltages.