

1. Demonstrate how to transmit an analog signal from one point and receive it at the other point by ground wave propagation.
2. Demonstrate how a message signal is recovered from a modulated signal by placing a receiving antenna in line of sight with respect to transmitting antenna.
3. Design a circuit to produce a output voltage of +5V and -5V.
4. Construct a circuit to produce a regulated voltage of +12V and unregulated voltage of 18V.
5. Construct a regulated power supply to replace a 1.5V battery.
6. Design an instrumentation amplifier and find its gain. Tabulate the value for different resistor values.
7. Design a DC instrumentation amplifier and find the output at all the Opamps and also find its gain. Let  $R_1 = 1K$  and  $R_2 = 100K$
8. Design a DC voltage regulator using SCR and draw the necessary output graph.
9. Verify the 3 input AND, OR, NOR, NAND gates using PLC trainer kit.
10. Demonstrate how an electrical appliance can be controlled using PLC.
11. Demonstrate how a voltage is regulated without using any regulator IC's. and Plot the graph for different voltages(+5V, -5V, +12V, -12V).
12. Simulate the circuit given below
13. Draw a circuit for DC instrumentation amplifier and simulate the circuit using Pspice. Plot the output graph and note down the different voltages at the output of each operational amplifier.
14. Design a PCB Layout for the given circuit
15. Draw the circuit for a linear regulated power supply and design the PCB Layout for the same.
16. Draw a circuit for DC instrumentation amplifier and design the PCB Layout for it using Eagle software.
17. Demonstrate how a digital data is transmitted using modulator and demodulator circuit.
18. Design a PCB Layout for the given circuit