

ELECTRONIC DEVICES LAB

Course Code: 22EC1102

L	T	P	C
0	0	3	1.5

Course Outcomes: At the end of the course the student will be able to

CO1: determine the static and dynamic resistances of various Semiconductor diodes (L3)

CO2: understand the performance of rectifiers with and without filters (L2)

CO3: determine the characteristics of BJT (L3)

CO4: determine the characteristics FETs and compute amplification factor and verify theoretically (L3)

CO5: understand the concept of negative resistance in semiconductors (L2)

List of Experiments:

(Any TWELVE of the experiments shall be conducted)

1. PN Junction Diode Characteristics - Cut-in voltage, static resistance, dynamic resistance calculations.
2. Zener Diode Characteristics & Voltage Regulator using Zener Diode - Breakdown voltage, % regulation calculations.
3. Half wave Rectifier without Filters - ripple factor, % regulation and load regulation calculations.
4. Full wave Rectifier without Filters - ripple factor, % regulation, load regulation calculations.
5. Half wave Rectifier and Full wave Rectifier with Filter - ripple factor, % load regulation calculations.
6. Bipolar Junction Transistor- CB Characteristics - current gain calculation.
7. Bipolar Junction Transistor - CE Characteristics - current gain calculation.
8. Transistor as a switch - Turn ON or OFF a load (LED) placed in the Collector branch, identify the saturation region of the BJT characteristic curve.
9. JFET Characteristics - Transfer and Drain characteristics & determine r_d , g_m , I_{DSS} , V_P and amplification gain.
10. MOSFET Characteristics - Transfer and drain characteristics & determine trans-conductance parameters.
11. Application of BJT and MOSFET (Student Design Experiment)
12. SCR Characteristics - V-I characteristics and find the break over voltage and holding current.
13. UJT characteristics - Negative resistance curve & determine its intrinsic standoff Ratio
14. Study the working principle of Radio System
