



II Year-II Semester		L	T	P	C
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ELECTRONIC DEVICES & CIRCUITS LAB (R1622028)					

Note: The students are required to perform the experiment to obtain the V-I characteristics and to determine the relevant parameters from the obtained graphs.

Course Outcomes:

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1	An ability to verify the working of different diodes, transistors, CRO probes and measuring instruments. Identifying the procedure of doing the experiment.	5
2	An ability to design the circuits with basic semiconductor devices (active & passive elements), measuring instruments & power supplies that serves many practical purposes.	5
3	An ability to construct, analyze and troubleshoot the designed circuits.	5
4	. Ability to measure and record the experimental data, analyze the results, and prepare a formal laboratory report.	5

Syllabus:

Electronic Workshop Practice

1. Identification, Specifications, Testing of R, L, C Components (Color Codes), Potentiometers, Coils, Gang Condensers, Relays, Bread Boards.
2. Identification, Specifications and Testing of active devices, Diodes, BJTs, JFETs, LEDs, LCDs, SCR, UJT.
3. Soldering Practice- Simple circuits using active and passive components.
4. Study and operation of Ammeters, Voltmeters, Transformers, Analog and Digital Multimeter, Function Generator, Regulated Power Supply and CRO. .

List of Experiments: (Minimum of Ten Experiments has to be performed)

1. P-N Junction Diode Characteristics
Part A: Germanium Diode (Forward bias& Reverse bias)
Part B: Silicon Diode (Forward Bias only)
2. Zener Diode Characteristics
Part A: V-I Characteristics
Part B: Zener Diode as Voltage Regulator
3. Rectifiers (without and with c-filter)
Part A: Half-wave Rectifier

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R-16 Syllabus for EEE.JNTUK

Part B: Full-wave Rectifier

4. BJT Characteristics (CE Configuration)

Part A: Input Characteristics

Part B: Output Characteristics

5. FET Characteristics (CS Configuration)

Part A: Drain Characteristics

Part B: Transfer Characteristics

6. SCR Characteristics

7. UJT Characteristics

8. Transistor Biasing

9. CRO Operation and its Measurements

10. BJT-CE Amplifier

11. Emitter Follower-CC Amplifier

12. FET-CS Amplifier

Equipment required:

1. Regulated Power supplies
2. Analog/Digital Storage Oscilloscopes
3. Analog/Digital Function Generators
4. Digital Multimeters
5. Decade Résistance Boxes/Rheostats
6. Decade Capacitance Boxes
7. Ammeters (Analog or Digital)
8. Voltmeters (Analog or Digital)
9. Active & Passive Electronic Components