



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

| I Year - II Semester | | L | T | P | C |
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| ELECTRONIC WORKSHOP LAB | | | | | |

- I. Identification of components
- II. Laboratory equipment
- III. Soldering practice
- IV. PCB Layout
- V. Testing of Components
- VI. CRO

I. Identification of components:

- Resistors:- Types of Resistors, Value of Resistance using color code, DRBS.
- Capacitors:- Types of capacitors, value of capacitance using color code, DCBS.
- Inductors:- Types of Inductors, DLB
- Rheostats:- Types of Rheostats, Types of potentiometers, Relays.
- Switches:- Types of Switches.
- Cables: Types of Cables.
- Types of Instruments used.

Identification of active elements.

(Two Terminal, Three Terminal Devices)

- (SC diode, Zener diode, D.AC)
- Three Terminal Devices: BJT, UJT, SCR, FET, MOSFET, TRIAC.
- Digital and Analog ICs. (TO and Flat packages) IC regulator types.
- Testing of above components using Multimeter.

II. Laboratory Equipment:

A) Meters:-

- Types of Voltmeters, Types of Ammeters both Analog and Digital.
- Types of Multi meters (Analog & Digital)
- AVO Meters.
- FET input Voltmeter.

B) Laboratory Function Generators and Audio Oscillators.

C) Power Supplies.

D) RF generators.

E) Different Types of Transformers. (Power, AF, RF, etc.)



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III. *Soldering practice*

Tools kit including soldering iron

Tools Kit:

- Insulated nose plier
- Insulated cutting plier
- Screw driver kit
- Electrical tester
- Soldering iron, Lead, Flex

IV. *PCB layout and Design.*

Materials required, centimeter graph sheets, marker.

V. *Testing of Components.*

Active and Passive Components

VI. *CRO*

Acquaintance with CRO

Measurements on CRO