

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA KAKINADA-533003, Andhra Pradesh, India

R-19 Syllabus for ECE - JNTUK

I Year – II SEMESTER	L	T	P	C
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ELECTRONIC WORKSHOP (ES1215)

Prerequisite Course: Basic knowledge on electrical circuits.

Course Learning Objectives:

Course Outcomes:

СО	Course Outcomes	POs
1	Identification of components of Electronic components	3
2	Understand various Laboratory equipment	2
3	Appreciate Soldering	2
4	Discuss PCB Layout	2
5	Appreciate CRO & Testing of Components	3

Syllabus:

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

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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 regulators types.
- Testing of above components using Multi metros.

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.)
- F) Soldering practice

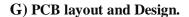
Tools kit including soldering iron Tools Kit:

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



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Materials required, centimeter graph sheets, marker.

H) Testing of Components.

Active and Passive Components

I) CRO

Acquaintance with CRO Measurements on CRO