

# **AURORA'S ENGINEERING COLLEGE**

BHONGIR, NALGONDA DIST. – 508116.



*lab manual of*

## **ELECTRICAL AND ELECTRONICS LAB**

**B. Tech 2<sup>nd</sup> Year MECH**

**DEPARTMENT OF  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**2014-15**

## PREFACE

In Electronic Devices and Circuit laboratory students will be exposed to different circuits using solid state devices for the purposes of amplification and oscillation. The characteristics of the basic solid state devices like BJT, JFET are verified by the students practically which will help them to understand the working of different circuits that they encounter in future in their study.

It is essential for every student to know the fundamental circuit that comprising of basic solid state devices that enable him/her to design circuits with more complexity. In present day, every electronic gadget consists of combination of different electronic circuits. The applications of the devices are plenty in number. These devices form the basic and fundamental blocks in every electronic circuit.

In order to make student familiar with the measuring instruments for the measurement of different electrical quantities, the student is given a thorough training in handling of meters like voltmeter, ammeter, and equipment like CRO, function generators and DC power supplies, in the beginning of lab sessions. This preliminary training for three to four weeks makes the student comfortable with the instruments and equipment that he/she is going to use in regular lab experiments .

## **LAB CODE**

1. Students should report to the concerned labs as per the time table schedule.
2. Students who turn up late to the labs will in no case be permitted to perform the experiment scheduled for the day.
3. After completion of the experiment, certification of the concerned staff in-charge in the observation book is necessary.
4. Students should bring a note book of about 100 pages and should enter the readings/observations into the note book while performing the experiment.
5. The record of observations along with the detailed experimental procedure of the experiment performed in the immediate last session should be submitted and certified by the staff member in-charge.
6. Not more than three students in a group are permitted to perform the experiment on a setup.
7. The group-wise division made in the beginning should be adhered to, and no mix up of student among different groups will be permitted later.
8. The components required pertaining to the experiment should be collected from stores in-charge after duly filling in the requisition form.
9. When the experiment is completed, students should disconnect the setup made by them, and should return all the components/instruments taken for the purpose.
10. Any damage of the equipment or burn-out of components will be viewed seriously either by putting penalty or by dismissing the total group of students from the lab for the semester/year.
11. Students should be present in the labs for the total scheduled duration.
12. Students are required to prepare thoroughly to perform the experiment before coming to Laboratory.
13. Procedure sheets/data sheets provided to the students' groups should be maintained neatly and to be returned after the experiment.

## INDEX

SI NO.	Name of the Experiment	Page No.
<b>PART B</b>		
1	Identification, Specifications and Testing of R, L, C Components (color codes) and bread board	
2	PN JUNCTION DIODE CHARACTERISTICS A. FORWARD BIAS      B. REVERSE BIAS	
3	ZENER DIODE CHARACTERISTICS	
4	CHARACTERISTICS OF BJT IN CE CONFIGURATION	
5	RECTIFIER WITHOUT FILTERS (FULL WAVE & HALF WAVE)	
6	RECTIFIER WITH FILTERS (FULL WAVE & HALF WAVE)	
7	Class A Power Amplifier	