

EC-108 : BASIC ELECTRONICS LAB

Course Title:	Basic Electronics lab	Course Code :	EC-108
Semester:	I Year	Course Group :	Practical
Teaching Scheme in Periods(L:T:P):	1:0:2	Credits :	2.0
Methodology :	Lecture+Practical	Total Contact Periods:	90 Periods
CIE :	60 Marks	SEE :	40 Marks

Pre requisites

This course requires the basic knowledge of electrical engineering and semiconductor devices

Course Outcomes

On completion of this course, the student should be able to:

CO1	Identify and test the various electronic components
CO2	Plot the characteristics of semiconductor devices
CO3	Analyze the different packages and types of semiconductor devices and components.

Course Content and Blue Print of Marks for SEE

Unit No	Unit Name	Periods	Questions to be set for SEE		
			R	U	A
1	Identify the various electronic Components and test them.	18			
2	Plot the characteristics of Semiconductor devices	54			
3	Analyze the different packages and types of semiconductor Devices and components.	18			
Total		90			

Suggested E-learning references

1. <http://nptel.ac.in>
2. <https://www.youtube.com>

Suggested Learning Outcomes

Upon completion of the course, the student shall be able to

1. Identify and test different types of active and passive components.
2. Study and observe the front panel controls of CRO.
3. Study and observe the front panel controls of RF signal generator.
4. Test the given transformer and find the turns ratio.
5. Measure the value of colour coded resistors and verify theoretically.
6. Determine the equivalent resistance in series connection and verify theoretically.
7. Determine the equivalent resistance in parallel connection and verify theoretically.
8. Connect a series, parallel circuit, measure the voltage and current, verify theoretically.
9. Identify the terminals of PN diode, Zener diode and BJT with a multimeter.
10. Test the given p-n diode and BJT.
 11. Obtain the forward bias characteristics of PN diode and calculate its forward resistance from graph.
 12. Obtain the reverse bias characteristics of PN diode and calculate its reverse resistance from graph.
13. Plot the characteristics of Zener diode.
14. Plot the input characteristics of BJT in CE configuration.
15. Plot the output characteristics of BJT in CE configuration.
16. Draw the output waveforms of HWR without filter.
17. Draw the output waveforms of FWR without filter.
18. Plot the drain characteristics of FET.
19. Plot the characteristics of IGFET.
20. Determine the ripple factor of HWR.
21. Determine the ripple factor of FWR.

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	LinkedPO
CO1	3	1	2	1		1	3	1,3,4,6,7
CO2	3	1	2	1		3	3	1,3,4,6,7
CO3	3	1	2	1		1	3	1,3,4,6,7

QUESTION PAPER PATTERN FOR SEMESTER END EXAM

Sl.No	Description	Level	No of Questions	Marksfor each question	Choice	Total Marks
01	Part-A	Remembering(R) and Understanding(U)	4	4	Nil	16 Marks
02	Part-B	Application(A)	2	24	1	24 Marks
TotalMarks						40 Marks