EXPERIMENT NUMBER –1.3

NAME – RAJDEEP JAISWAL	DOF- 1ST MARCH
SECTION- 26(B)	BRANCH- CSE(B.TECH)
UID-20BCS2761	SEMESTER-2ND

AIM OF THE EXPERIMENT –

To draw the static current- voltage characteristics of a zener diode.

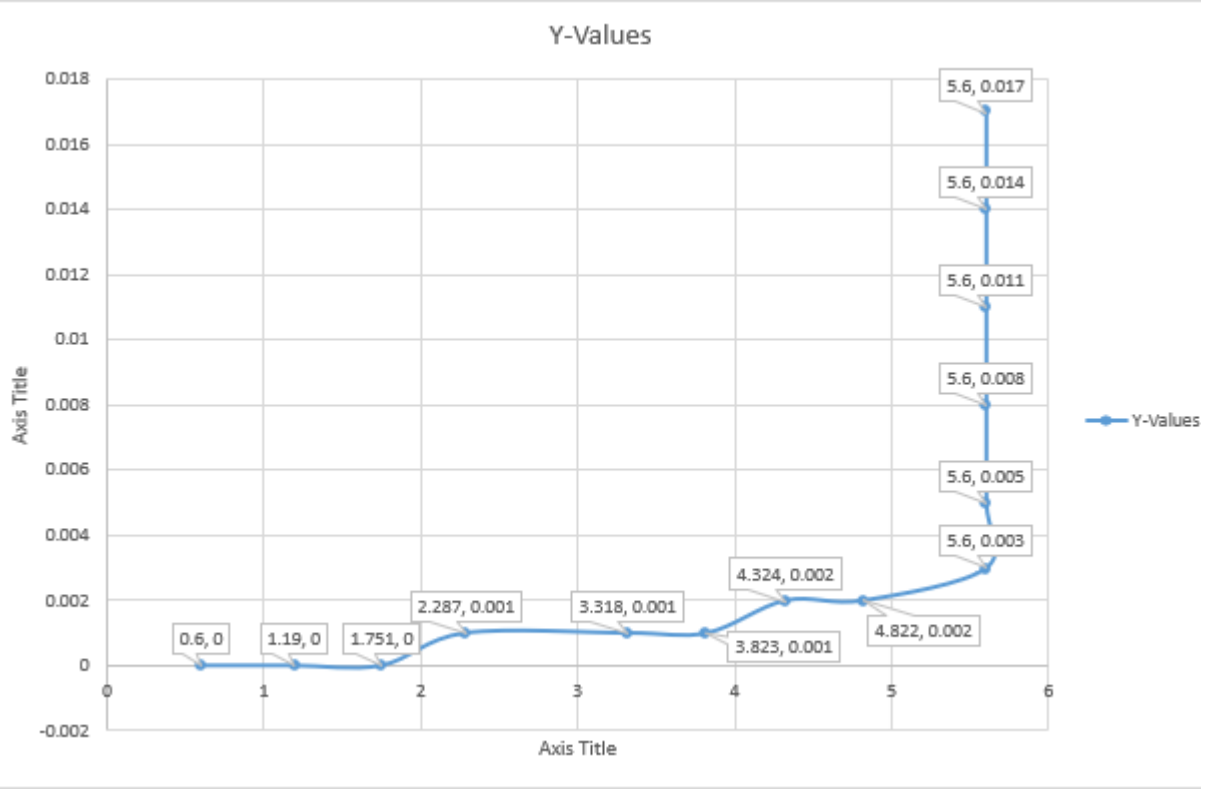
APPARATUS-

Sr.No	Equipments	Range	Quantity
1	Regulated Power Supply	0-30V	1
2	Zener diode	5V/7V/10V	3
3	Voltmeter	0-30V	2
4	Ammeter	100mA	1
5	Connecting wires	NA	13
6	Resistance	1Kohm	2
7	Rheostat	1Kohm	1

OBSERVATIONS-

SNO.	RHEOSTAT RESIISRTANCE (OHM)	REVERSE VOLTAGE ACROSS THE DIODE(VOLTS)	REVERSE CURRENT THROUGH THE DIODE (mA)
1.	5	0.600	0.000
2.	10	1.190	0.000
3.	15	1.751	0.000
4.	20	2.287	0.001
5.	25	2.807	0.001
6.	30	3.318	0.001
7.	35	3.823	0.002
8.	40	4.324	0.002
9.	45	4.822	0.003
10.	50	5.600	0.002
11.	55	5.600	0.005
12.	60	5.600	0.008
13.	65	5.600	0.011
14.	70	5.600	0.014
20.	75	5.600	0.017

GRAPH (ATTACH IF ANY)-



RESULTS AND DISCUSSION-

The value of breakdown voltage from graph is 5.600 VOLTS.

The Zener diode, with its accurate and specific reverse breakdown voltage, allows for a simple, inexpensive voltage regulator. Combined with the right resistor, fine control over both the voltage and the supply current can be attained. However, the low power ratings of standard
Zener diodes and resistors make this solution impractical for high power devices.

LEARNING OUTCOMES

- It will provide the modest experience that allows students to develop and improve their experimental skills and develop ability to analyze data.
- Ability to demonstrate the practical skill on measurements and instrumentation techniques of some Physics experiments. Students will develop the ability to use appropriate physical concepts to obtain quantitative solutions to problems in physics.
- Students will demonstrate basic experimental skills by setting up laboratory equipment safely and efficiently, plan and carry out experimental procedures, and report verbally and in written language the results of the experiment.
- Students will develop skills by the practice of setting up and conducting an experiment with due regard to minimizing measurement error.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet completion including writing learning objectives/Outcomes. (To be submitted at the end of the day)	10	
2.	Post Lab Quiz Result.	5	
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.	5	
4.	Total Marks	20	
5.	Teacher's Signature (with date)		