



North East University Bangladesh

Department of Computer Science Engineering

Lab Report

Experiment Name: Diode Circuit Analysis

Experiment No: 02

Submitted to

Shahadat Hussain Pervez
Lecturer of CSE Dept.
North East University Bangladesh

Submitted by

Md. Abdul Mutalib
ID: 190303020001
Semester: 8th
Session: Fall-19

Table of Contents

Contents

1	Objective	2
2	Theory	2
2.1	Apparatus Needed	2
2.2	Circuits	2
2.3	Procedure	3
3	Report	4

List of Figures

1	<i>Circuit for diode analysis</i>	3
2	<i>Positive Logic OR Gate</i>	3
3	<i>Positive Logic AND Gate</i>	3

List of Tables

1	<i>Data for circuit 1</i>	4
2	<i>Data for circuit 2</i>	4
3	<i>Data for circuit 3</i>	4

1 Objective

The objective of this experiment is to analyse simple diode circuits and to build logic circuits using diodes and resistors.

2 Theory

Theory needed for this lab should be read from lecture 3 of theory course.

2.1 Apparatus Needed

- Trainer Board (Bread board)
- Diodes
- Resistor
- DC Voltmeter
- DC Ammeter
- DC power supply
- Function Generator
- Oscilloscope
- Connecting wires

2.2 Circuits

For analysis of diode circuit. Here, I have shown three figures (1,2,3) circuit for diode analysis.

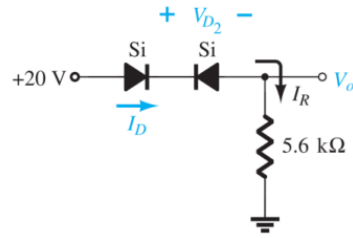


Figure 1: *Circuit for diode analysis*

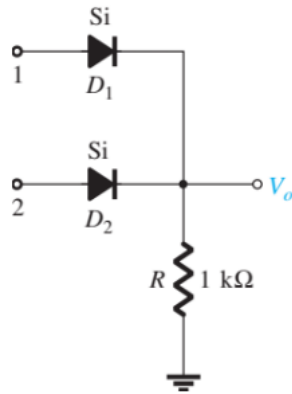


Figure 2: *Positive Logic OR Gate*

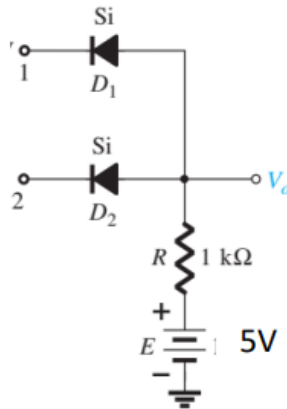


Figure 3: *Positive Logic AND Gate*

2.3 Procedure

1. Analytically find I_D , V_{D2} and V_0 for the circuit in figure 1 and record the result in table 1.
2. Implement the circuit in figure 1.
3. Find I_D , V_{D2} and V_0 circuit and record the result in table table 1.
4. Implement the circuit in figure 2 and apply inputs according to the table 2 and note the output voltages in table 2 to check if OR gate is properly implemented or not.

- Implement the circuit in figure 3 and apply inputs according to the table 3 and note the output voltages in table 3 to check if AND gate is properly implemented or not.

Table 1: *Data for circuit 1*

Measurement	Theoretical value (Step 1)	Practical value (Step 2)
I_D		
V_{D2}		
V_0		

Table 2: *Data for circuit 2*

Input 1 Voltage	Input 2 Voltage	Output Voltage	Output logic level
0 V	0 V		
0 V	5 V		
0 V	5 V		
5 V	5 V		

Table 3: *Data for circuit 3*

Input 1 Voltage	Input 2 Voltage	Output Voltage	Output logic level
0 V	0 V		
0 V	5 V		
0 V	5 V		
5 V	5 V		

3 Report

- Carefully Fill all the data for table table 1, 2, 3.
- Comment on the learning's from this LAB.