

DAFTAR ISI

	Halaman
LEABAR PERSETUJUAN	Error! Bookmark not defined.
LEMBAR PENGESAHAN TUGAS AKHIR	Error! Bookmark not defined.
LEMBAR PERNYATAAN	Error! Bookmark not defined.
KATA PENGANTAR	Error! Bookmark not defined.
ABSTRAK	Error! Bookmark not defined.
ABSTRACT	Error! Bookmark not defined.
DAFTAR ISI	i
DAFTAR GAMBAR	iii
DAFTAR TABEL	iv
BAB I PENDAHULUAN	Error! Bookmark not defined.
1.1 Latar Belakang	Error! Bookmark not defined.
1.2 Rumusan Masalah	Error! Bookmark not defined.
1.3 Tujuan Penelitian	Error! Bookmark not defined.
1.4 Manfaat	Error! Bookmark not defined.
1.5 Batasan Masalah	Error! Bookmark not defined.
BAB II TINJAUAN PUSTAKA	Error! Bookmark not defined.
2.1 Sensor Suhu Dan Kelembaban DHT 11 dan DHT 22	Error! Bookmark not defined.
2.2 Sensor Ph probe	Error! Bookmark not defined.
2.3 DFRduino Ethernet Shield	Error! Bookmark not defined.
2.4 Arduino uno	Error! Bookmark not defined.
2.5 pH Air	Error! Bookmark not defined.
2.6 Buzzer	Error! Bookmark not defined.
2.7 Mikrokontroler	Error! Bookmark not defined.
2.8 LCD (Liquid Cristal Display)	Error! Bookmark not defined.
2.9 Switch	Error! Bookmark not defined.
2.10 Internet of Things	Error! Bookmark not defined.
2.11 Kabel Jumper	Error! Bookmark not defined.
2.12 Relay	Error! Bookmark not defined.
2.13 Tabel Penelitian Terkait	Error! Bookmark not defined.
BAB III METODE PENELITIAN	Error! Bookmark not defined.

<u>3.1</u>	<u>Flowchart penelitian</u>	.....	Error! Bookmark not defined.
<u>3.2</u>	<u>Peralatan Penelitian Hardware dan Software</u>	.....	Error! Bookmark not defined.
<u>3.2.1</u>	<u>Peralatan Hardware</u>	.....	Error! Bookmark not defined.
<u>3.2.2</u>	<u>Peralatan Software</u>	.....	Error! Bookmark not defined.
<u>3.3</u>	<u>Lokasi Penelitian dan Waktu Penelitian</u>	.....	Error! Bookmark not defined.
<u>3.3.1</u>	<u>Lokasi Penelitian</u>	.....	Error! Bookmark not defined.
<u>3.3.2</u>	<u>Waktu Penelitian</u>	.....	Error! Bookmark not defined.
<u>3.4</u>	<u>Prosedur Percobaan</u>	.....	Error! Bookmark not defined.
<u>3.5</u>	<u>Analisa Data</u>	.....	Error! Bookmark not defined.
<u>BAB IV</u>	<u>HASIL DAN PEMBAHASAN</u>	.....	Error! Bookmark not defined.
<u>4.1</u>	<u>Perancangan Perangkat Keras</u>	.....	Error! Bookmark not defined.
<u>4.2</u>	<u>Rangkaian alat</u>	.....	Error! Bookmark not defined.
<u>4.3</u>	<u>Kalibrasi pH Probe</u>	.....	Error! Bookmark not defined.
<u>4.4</u>	<u>Perancangan web</u>	.....	Error! Bookmark not defined.
<u>4.5</u>	<u>Database</u>	.....	Error! Bookmark not defined.
<u>4.6</u>	<u>Program Arduino dan Web</u>	.....	Error! Bookmark not defined.
<u>4.7</u>	<u>Hasil pengujian alat</u>	.....	Error! Bookmark not defined.
<u>BAB V</u>	<u>KESIMPULAN</u>	.....	Error! Bookmark not defined.
<u>5.1</u>	<u>Kesimpulan</u>	.....	Error! Bookmark not defined.
<u>5.2</u>	<u>Saran</u>	.....	Error! Bookmark not defined.
<u>DAFTAR PUSTAKA</u>	.....	.....	Error! Bookmark not defined.
<u>LAMPIRAN</u>	.....	.....	Error! Bookmark not defined.
<u>RIWAYAT PENULIS</u>	.....	.....	Error! Bookmark not defined.

DAFTAR GAMBAR

Gambar 2.1 Sensor Suhu DHT 11 dan DHT 22	5
Gambar 2.2 Sensor pH probe.....	6
Gambar 2.3 <i>Ethernet Shield</i> dengan Arduino	7
Gambar 2.4 Arduino uno	8
Gambar 2.5 Skala Ph.....	9
Gambar 2.6 <i>Buzzer</i>	10
Gambar 2.7 LCD 16x2.....	11
Gambar 2.8 Kabel <i>Jumper</i>	12
Gambar 2.9 <i>Relay</i>	13
Gambar 3.1 <i>flowchart</i> penelitian.....	17
Gambar 3.2 <i>Flowchart</i> sistem.....	21
Gambar 3.3 Skema Perancangan	22
Gambar 4.1 Rangkaian perangkat keras	24
Gambar 4.2 Rangkaian Arduino dan ethernet shield	25
Gambar 4.3 Rangkaian pH probe	25
Gambar 4.4 Rangkaian Sensor DHT 22.....	26
Gambar 4.5 Rangkaian <i>Buzzer</i>	27
Gambar 4.6 Rangkaian LCD	27
Gambar 4.7 Rangkaian Relay	28
Gambar 4.8 Kalibrasi pH probe	29
Gambar 4.9 Tampilan <i>web</i>	30
Gambar 4.10 Penyimpanan Data Base	31
Gambar 4.11 Gambar <i>library</i>	32
Gambar 4.12 Gambar program sensor Ph	32
Gambar 4.13 program Output	33
Gambar 4.14 Gambar pengujian sensor DHT 22	38
Gambar 4.15 Gambar pengujian alat	42

DAFTAR TABEL

Tabel 2.1 Standar pH air	9
Tabel 2.2 Tabel Penelitian Terkait.....	14
Tabel 3.1 Peralatan Hardware.....	18
Table 3.2 Waktu Penelitian.....	20
Tabel 3.3 Standar suhu, <i>humidity</i> dan pH air	23
Tabel 3.4 Sampel Analisa data pengujian suhu, <i>humidity</i> dan pH air	23
Tabel 4.1 Pin module pH	25
Table 4.2 Tabel pin DHT 22	26
Tabel 4.3 Hasil pengujian sensor DHT 22	39
Tabel 4.4 Tabel perbandingan sensor DHT22	40
Tabel 4.5 Tabel pengujian pH probe.....	41



