

Experiment



A3-1

English (Official)

pH Titration using Yamada indicator (6 Marks)

3.1 (1.5 pt)

Observation Table 1

Sr.		Titration	Titration	Titration
		I	II	III
1	Initial burette reading, mL	0.0	0.0	0.0
2	Final burette reading, mL	20.3	20.3	20.3
3	Difference in burette readings, mL	20.3	20.3	20.3

3.2 (0.5 pt)

Molarity of $\text{NaOH} = 0.01 \dots \dots \dots \text{M}$

0.0099
0.011

5% deviation 19.3 - 21.3 (1.5 marks)
10% deviation 18.3 - 22.3 (1 mark)
11-15% deviation 17.3 - 23.3 (0.5 mark)

Experiment

LOOK AT THE
GRAPH FIRST.

A3-2

English (Official)

If the graphs look good
give the full mark

3.3 (2.5 pt)

Observation Table 2

Volume of diluted <i>NaOH</i> added in mL	Colour of solution	pH	Δ pH	Δ V	Δ pH / Δ V
0.0	pink	2	-	-	-
0.5	pink	2	-	-	-
1.0	pink	2	-	-	-
1.5	pink	2	-	-	-
2.0	orange	3	-	-	-
2.5	orange	3	-	-	-
3.0	orange	3	-	-	-
3.5	orange	3	-	-	-
4.0	orange	3	-	-	-
4.5	orange	3	-	-	-

Observation Table 2 continued on the next page.

If the graphs are not OK

→ If only the 1st 3 columns
are given, give 1 ~~mark~~ mark

Experiment

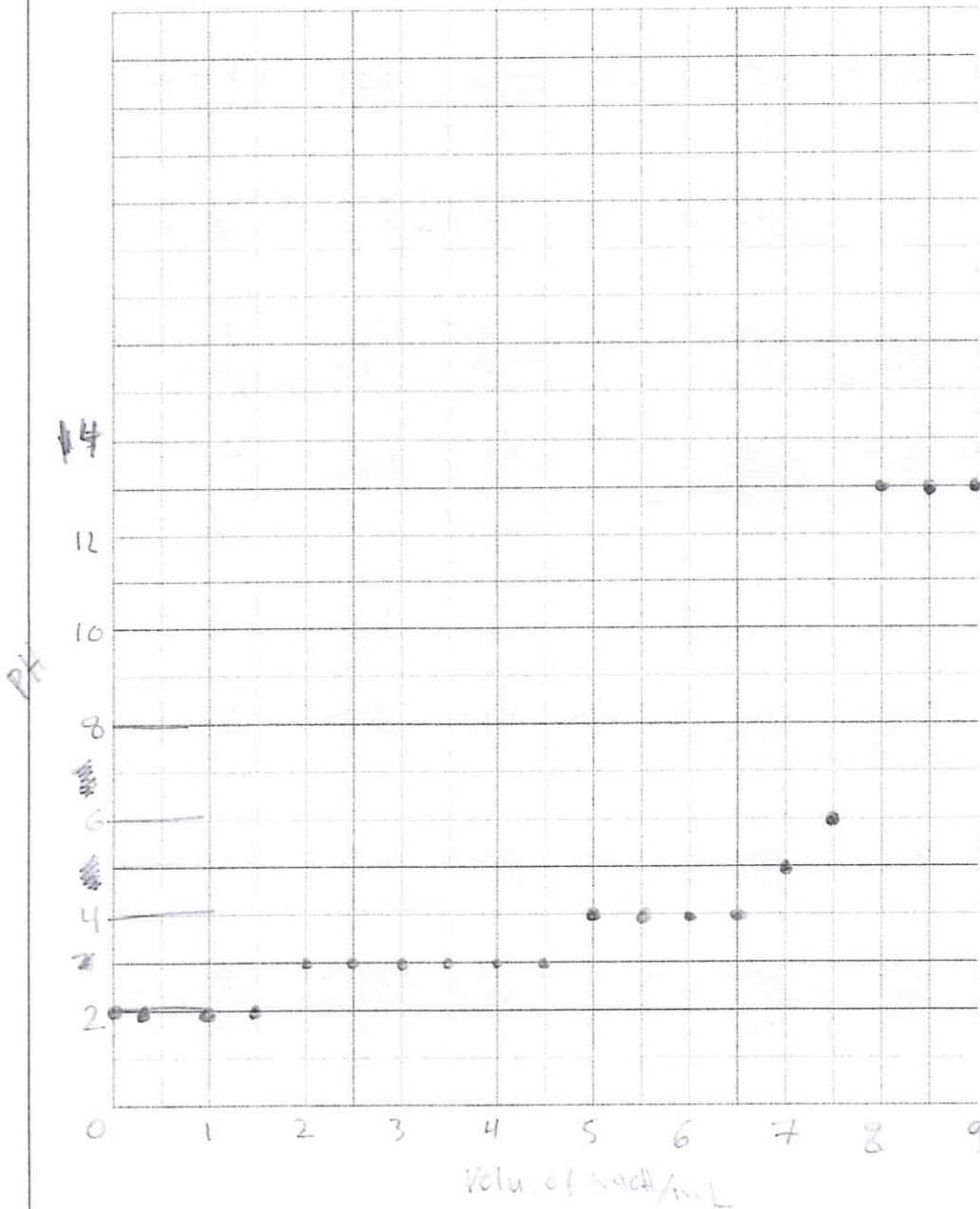
3.3 (cont.)

Volume of Diluted <i>NaOH</i> added in mL	Colour of solution	pH	Δ pH	Δ V	Δ pH / Δ V
5.0	orange-yellow	4	-	-	-
5.5	orange-yellow	4	0.5	0	0
6.0	orange-yellow	4	0.5	0	0
6.5	orange-yellow	4	0.5	0	0
7.0	orange-yellow	5	0.5	1	2
7.5	Yellow	6	0.5	1	2
8.0	light green	13	0.5	7	14
8.5	purple	13	0.5	0	0
9.0	purple	13	0.5	0	0
9.5	purple	13	0.5	0	0
10.0	purple	13	0.5	0	0

Experiment

Look at the
graph overall

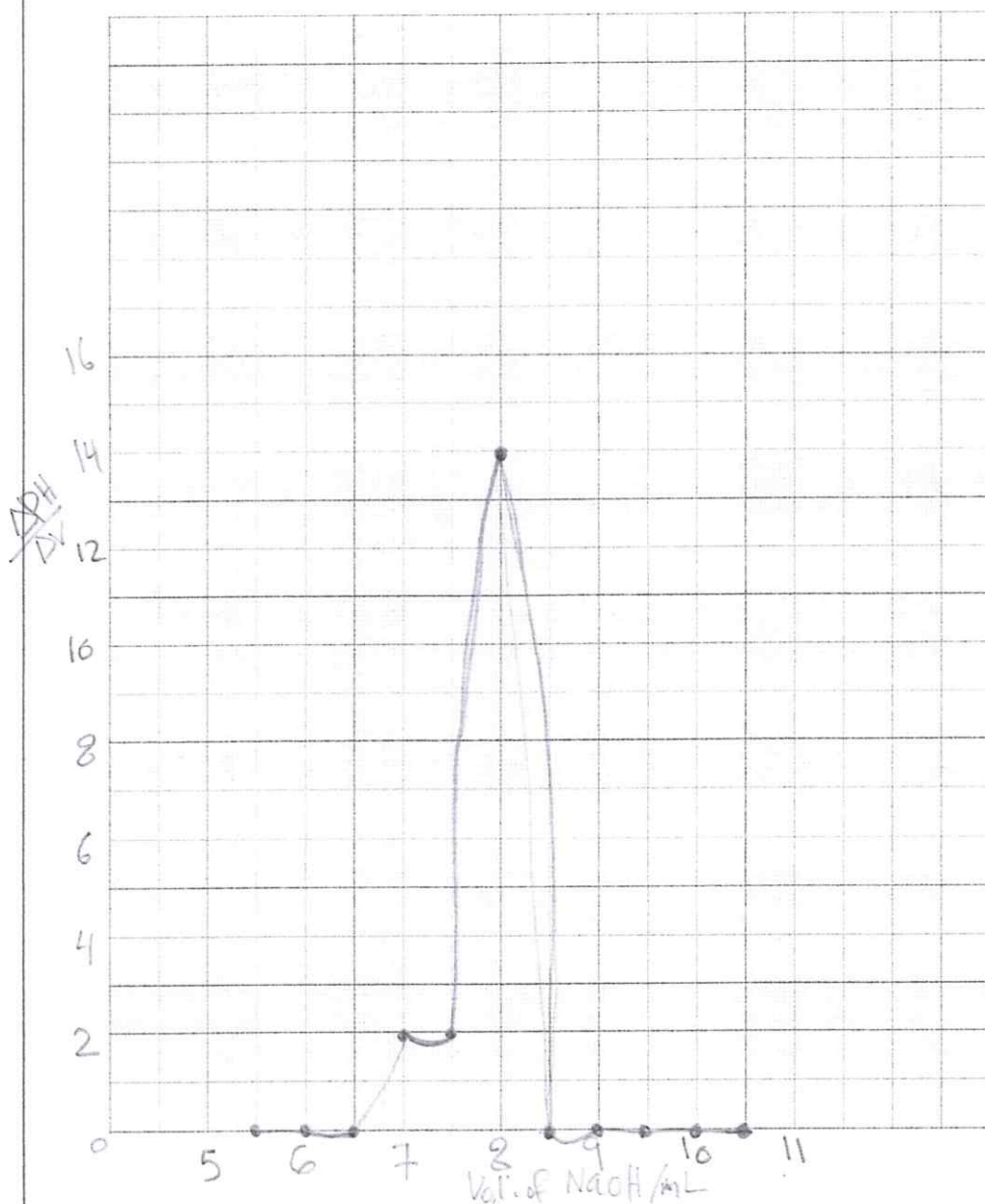
3.4 (0.5 pt)
Graph of pH vs. volume of NaOH added



Experiment

3.5 (0.5 pt)

Graph of $\Delta pH/\Delta V$ vs volume of $NaOH$ added



look at
the graph
it is like
hand
full mark

Experiment



A3-6

English (Official)

3.6 (0.5 pt)
Equivalence point = 8.0 mL

≈ 8 - 11 mL ↙