

Table 1*Testing of the Automated Hydroponics System in regulating water level*

No. of Trials	Actual Reading	Prototype Reading	Reading Difference	Expected Action	Actual Action
1	6.5	6.5	0	OPEN	OPEN
2	16.1	16	0.1	OPEN	OPEN
3	18.2	18.2	0	CLOSE	CLOSE
4	19.1	19	0.1	CLOSE	CLOSE
5	7	7	0	OPEN	OPEN
6	17.9	17.9	0	CLOSE	CLOSE
7	5	5	0	OPEN	OPEN
8	18.8	18.8	0	CLOSE	CLOSE
9	2.1	2	0.1	OPEN	OPEN
10	17.6	17.5	0.1	CLOSE	CLOSE

Table 2*Functionality of the Automated Hydroponics System in regulating water level*

Attribute Observed	No. of Successful Observations		Functionality
	Below 17 cm	Above 17 cm	
Water Level	n = 5	n = 5	100%
	5 (100%)	5 (100%)	

Note. Below 17 cm – Valve Function Open

Above 17 cm – Valve Function Close

n – number of trials done

Table 3*Testing of the Automated Hydroponics System in regulating pH level*

No. of Trials	Substance	Actual Reading	Prototype Reading	Reading Difference	Expected Action	Actual Action
1	Coca Cola	2.50	2.06	0.44	PH UP ON	PH UP ON
2	Diluted Dishwashing Liquid	7.5	7.2	0.3	OFF	OFF
3	Hand Soap	10	10	0	PH DOWN ON	PH DOWN ON
4	Coffee	5.67	5.60	0.07	PH UP ON	PH UP ON
5	Bubble Man Dishwashing Liquid	8-9	8.1	(-0.1)-(-0.9)	PH DOWN ON	PH DOWN ON
6	Tap Water	6.5-8.5	7.1	(-0.6)-(-1.4)	OFF	OFF
7	Sprite	3.12	3.3	-0.18	PH UP ON	PH UP ON
8	Distilled Water	7	6.8	0.2	OFF	OFF
9	Alkaline Water	8-9	9.8	(-1.8)-(-0.8)	PH DOWN ON	PH DOWN ON

Note. Actual Reading – Measurements based on sources online

Table 4*Functionality of the Automated Hydroponics System in regulating pH level*

Attribute Observed	No. of Successful Observations			Functionality
	Below 6.2	6.2 – 7.3	Above 7.3	
pH Level	n = 3	n = 3	n = 3	100%
	3 (100%)	3 (100%)	3 (100%)	

Note. Below 6.2 – Pump Function pH Up On

Between 6.2 and 7.3 – Pump Function Off

Above 7.3 – Pump Function pH Down On

n – number of trials done

Table 5*Testing of the Automated Hydroponics System in regulating TDS value*

No. of Trials	Substance	Prototype Reading	Expected Action	Actual Action
1	Distilled Water	18.6	ON	ON
2	Tap Water	281	OFF	OFF
3	Distilled Water	16.6	ON	ON
4	Diluted Dishwashing Liquid	589	ON	ON
5	Distilled Water	18.6	OFF	OFF
6	Pure Nutrient Solution	599	OFF	OFF

Table 6*Functionality of the Automated Hydroponics System in regulating TDS value*

Attribute Observed	No. of Successful Observations		Functionality
	Below 50 ppm	Above 150 ppm	
TDS Value	n = 3	n = 3	100%
	3 (100%)	3 (100%)	

Note. Below 50 ppm – TDS Pump On

Above 150 ppm – TDS Pump Off

n – number of trials done