KING MONGKUT'S INSTITUTE OF TECHNOLOGY LATKRABANG
SCHOOL OF ENGINEERING
ENGINEERING GROUP OF RAI (Group no.)

01006702 – PHYSICS - I LABORATORY

(LAB TITLE HERE)

INSTRUCTED BY: SUPUN DISSANAYAKA

Name: (PUT ONLY FIRST NAME HERE)
Group No: (Group no.)
Date of Session: 00/00/0000
Date of Submission: 00/00/0000

1. Purpose

Objective of your experiment: Write in point form (Please refer to the example)

2. Summary of Theory

Summarize the Physics concepts (Henderson, n.d.) you have used in the lab – Write in point form

3. Pre-Lab Exercises

Complete the Pre-Lab exercises if you are given any in the lab sheet

The questions and answers below are just examples of how to write in latex

1. What is Newton's Second Law of Motion?

   Newton's Second Law states that the net force acting on an object is equal to the mass of the object multiplied by its acceleration:

   $$F = ma$$

2. Define the term "free fall".

   Free fall is the motion of an object solely under the influence of gravity, assuming no air resistance.

3. Calculate the acceleration of an object in free fall.

   Since air resistance is neglected, the acceleration is due to gravity:

   $$a = g = 9.81\,\text{m/s}^2$$

4. What is the difference between mass and weight?

   Mass is the amount of matter in an object, measured in kilograms. Weight is the gravitational force acting on the mass:

   $$W = mg$$

3.1. Exercises

Complete the Exercises if you are given any in the lab sheet

The latex format be the same as the one in 3. Pre-Lab Exercises

4. Procedure

Write your procedure

5. Observations

Write your Observations of the experiment in point form. Refer the example Lab

5.1. Results

Show the Results of your Experiment

Trial No.	Mass (kg)	Acceleration (m/s^2)	Force (N)
1	2.0	3.5	7.0
2	3.0	2.8	8.4
3	4.0	2.5	10.0
4	5.0	2.0	10.0
5	6.0	1.8	10.8

Table 1: Example experimental results of force versus acceleration for different masses.

As shown in Table 1, force varies linearly with acceleration for different masses.

Measurement	Measurement	Measurement Value				Uncertainty	Final Measurement	Precision	Accuracy
Acrylic Disk	Diameter	VC	49.92	49.98	49.9	0.04	49.93	0.08%	0.14%
		MM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		HG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Thickness	VC	9.82	9.8	9.82	0.01	9.81	0.10%	1.87%
		MM	10.46	10.46	10.36	0.05	10.43	0.48%	4.30%
		HG	9.96	9.91	9.85	0.06	9.91	0.61%	0.90%
Metal Sphere	Diameter	VC	15.9	15.9	15.92	0.01	15.91	0.06%	0.58%
		MM	16.48	16.49	16.49	0.005	16.487	0.03%	3.04%
		HG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wooden Block	Length	VC	67.66	67.7	67.72	0.03	67.69	0.04%	N/A
		MM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		HG	67.75	67.73	67.73	0.01	67.74	0.01%	N/A
	Width	VC	22.2	22.1	22.2	0.05	22.17	0.23%	N/A
		MM	22.26	22.34	22.24	0.05	22.28	0.22%	N/A
		HG	22.17	22.1	22.11	0.04	22.13	0.18%	N/A
	Thickness	VC	14.82	14.84	14.92	0.05	14.86	0.34%	N/A
		MM	14.87	14.87	14.96	0.05	14.90	0.34%	N/A
		HG	14.93	14.9	14.92	0.01	14.92	0.07%	N/A
PVC Pipe	Inner Diameter	VC	17.98	18.06	18.04	0.04	18.03	0.22%	0.17%
		MM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		HG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Outer Diameter	VC	21.92	21.96	21.94	0.02	21.94	0.09%	0.27%
		MM	22.4	22.41	22.47	0.04	22.43	0.18%	1.95%
		HG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Thickness	VC	2.06	1.96	1.98	0.05	2.00	2.50%	0.00%
		MM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		HG	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2: Example table from lab 1

5.2. Calculations

Example Calculation if any

The calculations below are just examples of how to write in latex

- Calculate the force acting on a 10 kg mass accelerating at 2 m/s^2.

$$
\begin{aligned}
F &= ma \\
&= 10 \times 2 \\
&= 20 \text{ N}
\end{aligned}
$$

- Determine the work done by a force of 15 N moving an object 3 m in the direction of the force.

$$
\begin{aligned}
W &= F \times d \\
&= 15 \times 3 \\
&= 45 \text{ J}
\end{aligned}
$$

- Find the kinetic energy of an object with mass 5 kg moving at 4 m/s.

$$
\begin{aligned}
KE &= \frac{1}{2}mv^2 \\
&= \frac{1}{2} \times 5 \times 4^2 \\
&= 40 \text{ J}
\end{aligned}
$$

6. Conclusion

Conclude your lab experiment using the results

7. Discussion

Write a point form discussion base on your observations, facts from theory and Recommendations for the lab experiment

References

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