

GREENLAWNS HIGH SCHOOL
FINAL EXAMINATION YEAR 2018

SUBJECT : PHYSICS PRACTICAL
TIME : 1 HOUR

CLASS : IX
MARKS : 20

Note: - You will not be allowed to write during the first ten minutes. This time has to be spent in reading this paper & checking the apparatus kept on your table. The one hour at the end of these ten minutes have to be spent to perform your practical. You have to perform two experiments.

Write your name, roll no., std., div., on each paper.

Use a white paper for performing first experiment and attach it to your answer sheet.

Write Aim, observation and conclusion on answer sheet for both experiments.

Practical 1 – Verification of laws of reflection (10)

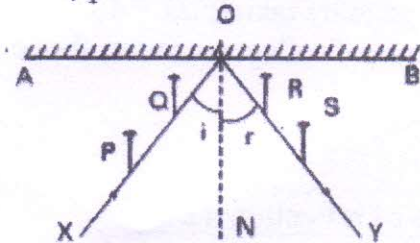
Practical 2 – Simple Pendulum (6)

Journal (4)

Expt. No. 1. – Verification of the laws of reflection of light by using a plane mirror.

Aim – To verify the laws of reflection of light by using a plane mirror.

Apparatus – A plane mirror, drawing sheet, drawing board, drawing pins, protractor, scale, pencil etc.



P, Q, R, S – Pins

P, Q – Object pins

R, S – Image pins

ON = Normal

XO = Incident Ray

OY = Reflected Ray

$\angle i$ = Angle of incidence

$\angle r$ = Angles of reflection

Procedure –

- i) Fix the white sheet of paper on the drawing board with the help of drawing pins.
- ii) Divide the sheet into two equal parts.
- iii) Draw a line AB in each of these parts as shown.
- iv) At the centre of this line draw a normal (perpendicular) Mark this as ON.
- v) With respect to this normal, mark an angle of 35°
- vi) Draw a line XO such that $\angle XON = 35^\circ$. This is the angle of incidence called $\angle i$.
- vii) Place an all purpose pin Q (as object) on this line XO close to point O.
- viii) Place another pin P on the same line at a distance of 5 cm from object pin Q.
- ix) Put the plane mirror in its holder on AB.
- x) Look (with one eye closed) for the image of object pins P & Q on the other side of the normal.
- xi) Move your eye so that you see only one image of the pins. (image of one pin goes behind the other see only the bottom of the pins)
- xii) Place a 3rd pin R (termed as image pin Q) on this point. Place another pin i.e. 4th pin S (termed as image pin P) at a distance of 5 cm from image pin R such that all four pins are in the same line. i.e. only one pin (4th pin S) is visible.
- xiii) Encircle the positions of all pins & then take out them.
- xiv) Draw a line OY joining the positions of image pins.
- xv) Measure $\angle YON$. This is the angle of reflection $\angle r$.
- xvi) Repeat the procedure on the second half of the page by taking $\angle i = 40^\circ$
- xvii) Compare the values of angle of incidence & angle of reflection in the above cases.

Observation- (Copy the table in your answer sheet)

Sr. No.	Angle of incidence ($\angle i$)	Angle of reflection ($\angle r$)
1	35°	
2	40°	

Write your **conclusion**.

Expt. No. 2 – Simple Pendulum

AIM : To study the oscillations of a simple pendulum & to determine its time period & observe the variations in its time period with the length of the pendulum.

Apparatus – A simple pendulum, a stand, metre scale, stop watch.

Procedure – **By changing the length of a pendulum.**

- 1) Arrange the simple pendulum in its mean position using a stand.
- 2) Adjust the length of the pendulum i.e. from the point of suspension to the centre of the spherical bob (say 25 cm)
- 3) Use the given stop watch to record the time taken (t) by the pendulum for 20 oscillations & find the time period (T) of the simple pendulum.
- 4) Use the above procedure to find the time period of the pendulum by changing its length to 35 cm & 45 cm.

Observation- (Copy the table in your answer sheet)

SR.NO.	Length of the string 'l' cm	Time taken for 20 Oscillations 't' in sec	Time period of the pendulum 'T' in sec
1	25cm		
2	35 cm		
3	45 cm		

Write your **conclusion**.