**SET 1**

**PHYSICS PP2 MARKING SCHEME**

1. The two balloons will be attracted towards the ruler
2. S =1/2 gt2

= 0.5 x 10 x 3.5 x 3.5

= 61.25 m

1. Once the cells are exposed the get damaged. Tap water may contain other substances that acts as impurities to the electrolyte
2. n = Real depth/ apparent depth

App = 1.2/1.3

= 0.923 m

1. Once the switch is closed, current flows in the circuit, the coil acquire magnetic field, a magnetic force between and the permanent magnet makes it to turn.
2. Vibration of particles in transverse waves is perpendicular to the direction of wave train while in longitudinal waves the direction of vibration of particles is parallel to direction of the wave train.



1. (i) Both the object and images are of the same size.

(ii) Plane mirror forms a virtual image while the concave mirror forms a real image

1. When all the dipoles face the same direction, the magnetic material becomes magnetically saturated



Solving the two equation simultaneously you’ve

R = 1Ω

E = 2 V

1. n = sin 48/sin 30

= 1.48

1.48 = 3. X 108 ÷ v

v = 2.018 x 108 m/s

1. (a) (i)

(ii) *v*/200 = 0.5/2

*v* = 50c

1. (a) -Focus a distant object on a white screen

-Using a metre rule measure the distance between the mirror and the screen.

-Repeat this three times and get the average distance.

-This is an estimate of the focal length of the mirror.

b) Table of results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UV | 400 | 417.5 | 450 | 532 | 625 | 812 |
| U + V | 40 | 41.7 | 45 | 53.3 | 62.5 | 81.6 |

1. A graph of UV (y-axis) against (U + V) (x-axis).
2. uv = f(u + v)

f = gradient

= 400/40

= 10 cm

c) Because it forms a magnified erect image when the object is placed between P and F

d) Similarity- They are erect

Difference – the image formed by the concave mirror is magnified while the one formed by the plane mirror is not

1. (a) – increasing the size of the current

* Increasing the number of coils
* Using a soft iron core

(b)

* 1. A -U shaped soft iron core

B - spring

C - Hammer

D - State and explain what happens to the soft iron armature when the switch is closed***.***

(c)

N

S

X

Y

1. Direction in which the wire XY
2. Fleming’s lefthand rule - when the left hand is held with the thumb, the first finger and the middle finger are held mutually at right angle to one another with the first finger pointing the direction of the magnetic field, and the middle the direction of the current, then the thumb points the direction of the force experienced by the conductor.
3. When the conductor XY is at right angle with the magnetic field
4. The conductor moves in opposite direction
5. (a) – light must be coming from denser to a less denser medium

* Angle of incidence must exceed the critical angle of the material

450

P

R

Q

(b)

(c) R. index = 8/6

= 1.3333

(d)

Coin

Observer

Container

(e) (Sin30o ÷ sinr) = (1.5 ÷ 1.33)

Sin r = 0.4433

r = 26.32o