232/3
PHYSICS
PAPER 3
(PRACTICAL)
MARKING SCHEME

Question 1

(a) Width w = 2.82 ± 0.1 √1mk
Thickness t = 0.62 ± 0.1 √1mk

(c) Pointer reading a = 4.5 cm √1mk
(Read candidates value)

Table 1

L (cm)	Pointer reading x (cm)	Depression d = x – a (cm)	K = 50 / d of 1cm
70	6.0	1.5	33. 33
60	5.8	1.3	38.46
50	5.5	1.0	50.00
40	5.1	0.6	83.33
30	4.9	0.4	125
20	4.7	0.2	250
10	4.5	0.1	500
	½ √mk each	5-7 √2mks 4-5 √1mk	5-7 √2mks 4-5 √1mk
	Max 3mks	Less than 4 0 mk	Less than 4 0mk

(7mks)

(f) Graph

Axes labelled with units	√1mk
Scale – simple and uniform	√1mk
Plotting	√2mks
Curve with negative gradient	√1mk
Max	5mks

This paper consists of 4 printed pages
Turn Over

(g) Slope

- a tangent at L = 30cm√ 1mk
- correct intervals√ 1mk
- correct evaluation√ 1mk

$S = \frac{350 - 50}{5 - 39}$

$= -8.82$

(h) $A = w \times h$

$= 2.82 \times 0.62$

$= 1.7484 cm^2$

$q = 1.7484 \times -8.82 + 125$√ mk

For substitution

= 109.58√ mk

2.

2. (d) d = 18 ± 1cm

(g) Table 2

U (cm)	25	30	35	40	45	50
V (cm)	49.0	36.5	32.0	28.0	26.0	25.0
$M = {}^{v}/_{u}$	1.96	1.22	0.91	0.70	0.58	0.5

V – 1 mark each for maximum 5mks

± 0.5

M – 5 -6 values – 2mks

3 – 4 values 1mk

(h) Graph

Axes labeled with units √ 1mk

Scale 1mk

Plotting 2mks

Straight line with positive gradient 1mk

(i) Slope

$S = \frac{\Delta M}{\Delta V} = \frac{(20-7.5)}{50-29}$ √$\times 10^{-1}$ = 0.0595√

Accuracy 0.052 – 0.058√

(j) n = 1 = 1√ = 16.81√

Slope 0.0595

(k) $n_1 = 16.5$ √

(l) n_1 is focal length of the lens√

Magnification m x 10-1	Image distance (cm)
0 5 10 15 20 25	10 20 30 40 50 60