

232/3 – PHYSICS PAPER 3
MARKING SCHEME

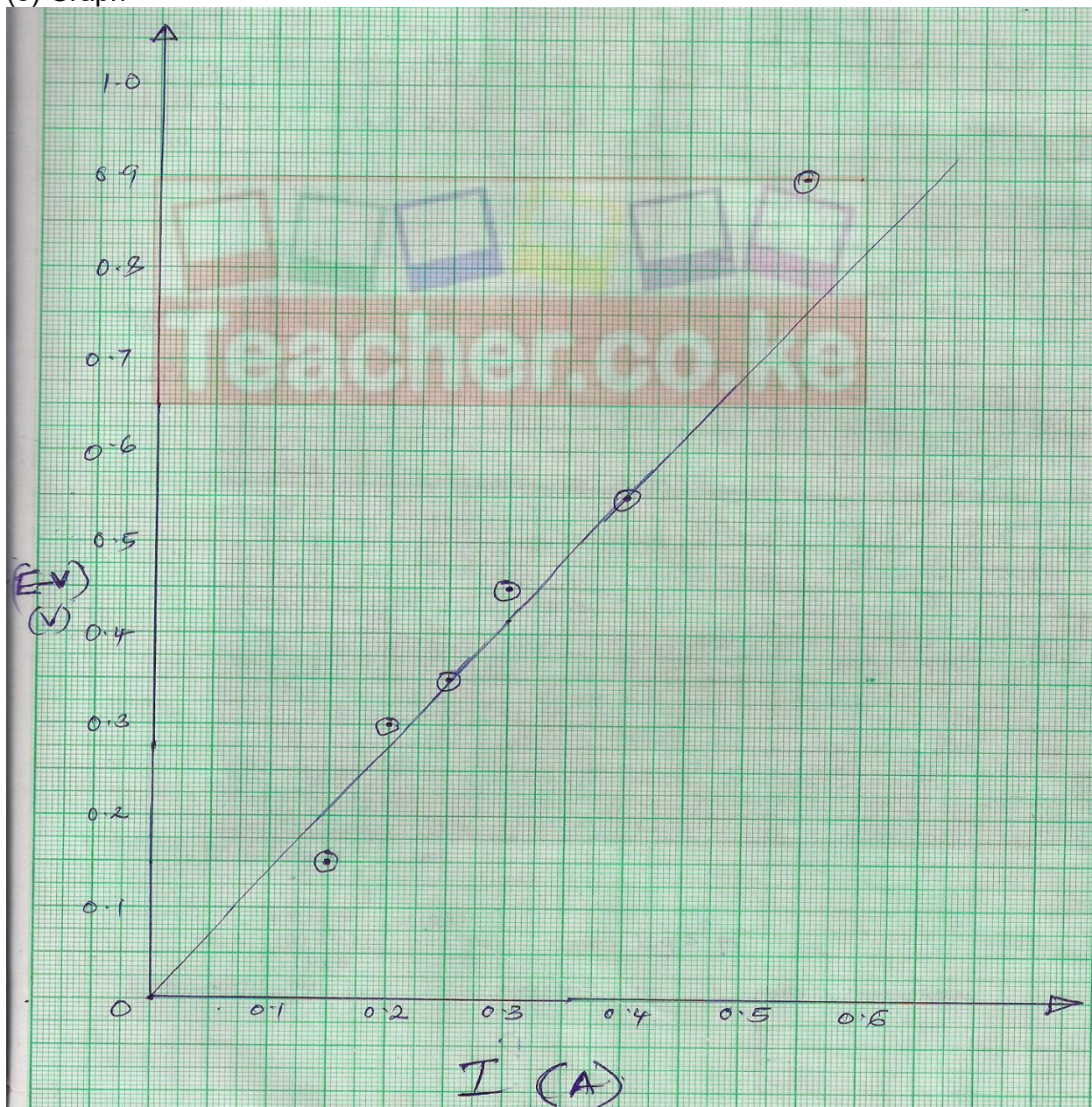
1. (b) $I = 0.15 \pm 0.02A$
 $V = 2.3 \pm 0.02V$

(c) $E = 3.0 \pm 0.2V$

(d)

Length L (cm)	100	70	60	50	40	20
I (A)	0.15	0.20	0.25	0.30	0.40	0.55
P.d (V)	2.85	2.70	2.65	2.55	2.45	2.10
E – V (v)	0.15	0.30	0.35	0.45	0.55	0.90

(e) Graph



(f) Slope = $\frac{\Delta y}{\Delta x} = \frac{0.55 - 0.35}{0.2} = 0.2 = 0.8\Omega$

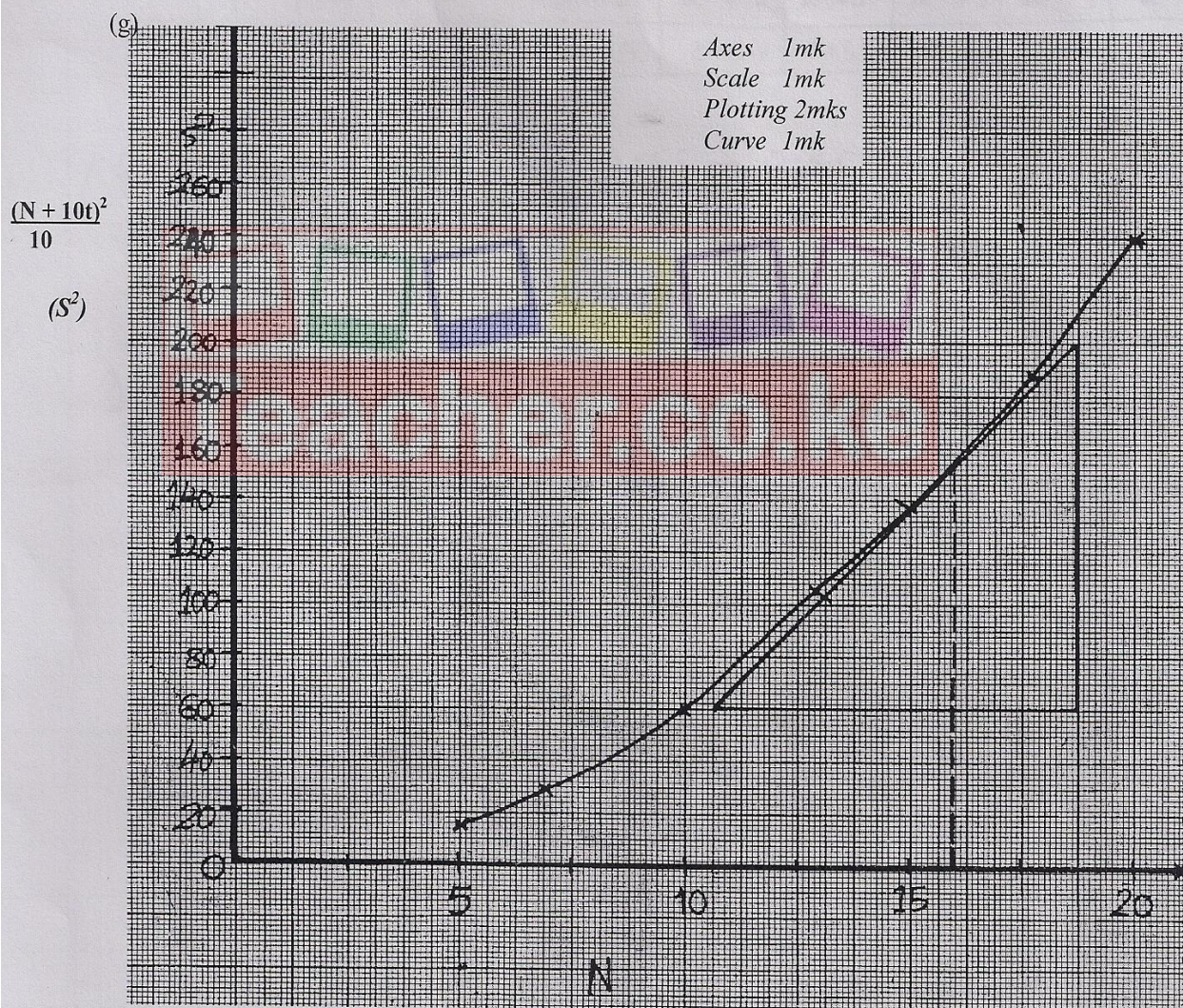
$$\Delta x \quad 0.40 - 0.25 \quad 0.25$$

(g) Slope = $r = 0.8\Omega$

2.

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- (b) $L_0 = 60 \pm 10\text{mm}$ ($\frac{1}{2}\text{mk}$)
 - (c) $L_1 = 120 \pm 10\text{mm}$ ($\frac{1}{2}\text{mk}$)
 - (d) $L = 60\text{mm}$
= 6cm (1mk)
 - (e) $M = 100 \pm 5\text{g}$ (1mk)
 - (f)

Oscillations, N	5	7	10	13	15	18	20	
t(s)	3.46	4.97	7.06	9.27	10.59	12.54	14.10	5mks
$\left(\frac{N+10t}{10}\right)$ (s)	3.806	5.467	7.766	10.20	11.65	13.80	15.51	1mk
$\left(\frac{N+10t}{10}\right)^2$ (S^2)	14.49	29.90	60.31	104.0	135.7	190.3	240.6	1mk



(h) (i) Tangent 1mk
 $= \frac{15.5 - 0}{8.2 - 6.5}$ (1mk)
 $= 9.12 S^2$ (1mk)

(ii) $K = \frac{100 \times 9.12\sqrt{}}{13 \times 6} = 11.70\sqrt{}$ (2mks) $\text{Kg S}^2 \text{m}^{-1}$