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PHYSICS

PAPER 3

(PRACTICAL)

TIME: 2½ HOURS

MARKING SCHEME

1. i) Mass 0.057 kg ✓1

Mark according to the material of metre rule in your school

v) **Table 1**

Position of the mass of 50g	x (cm)	y (cm)
49.5	**13.5**	**36.0**
47.5	**12.5**	**35.0**
45.5	**10.5**	**33.7**
43.5	**10.2**	**33.2**
41.5	**9.2**	**32.3**
39.5	**8.0**	**31.5**
37.5	**7.9**	**30.6**
35.5	**5.7**	**29.8**

Maximum 6 marks

NB: *These values may be affected by the rule used*

vi) Plotting ✓2

Axes✓1

Scale ✓1

Line✓1

vii) $\frac{36-32.3}{13.5-9.2}$ ✓1 $= \frac{3.7}{4.3}$✓1

$= 0.86047$✓1

viii) I) $y = \frac{50}{P}x + C$

$\frac{50}{P} = slope$ ✓

$\frac{50}{P} = 0.86047$ ✓

$P = \frac{50}{0.86047} = 58$ ✓

(NB: *P should equal or be close to the candidates mass in (i)*)

II) C = 25 ✓± 1

Centre of gravity (y-intercept) ✓

2. c)

Length (xy) cm	80	70	60	50	40	30	20
Voltmeter reading (V)	2.3	2.0	1.8	1.6	1.5	1.3	1.0
Ammeter reading (A)	0.20	0.30	0.35	0.4	0.45	0.5	0.60

Maximum 7 marks

d) i) Plotting ✓2

Axes✓1

Scale ✓1

Line✓1

ii) $\frac{(2.0-1.3)}{0.5-0.3}$✓ $= \frac{0.7}{0.2}$ ✓ $= -3.5$✓

e) i) $V = K_1I + K_2$✓

K_1 = slope → 3.5✓

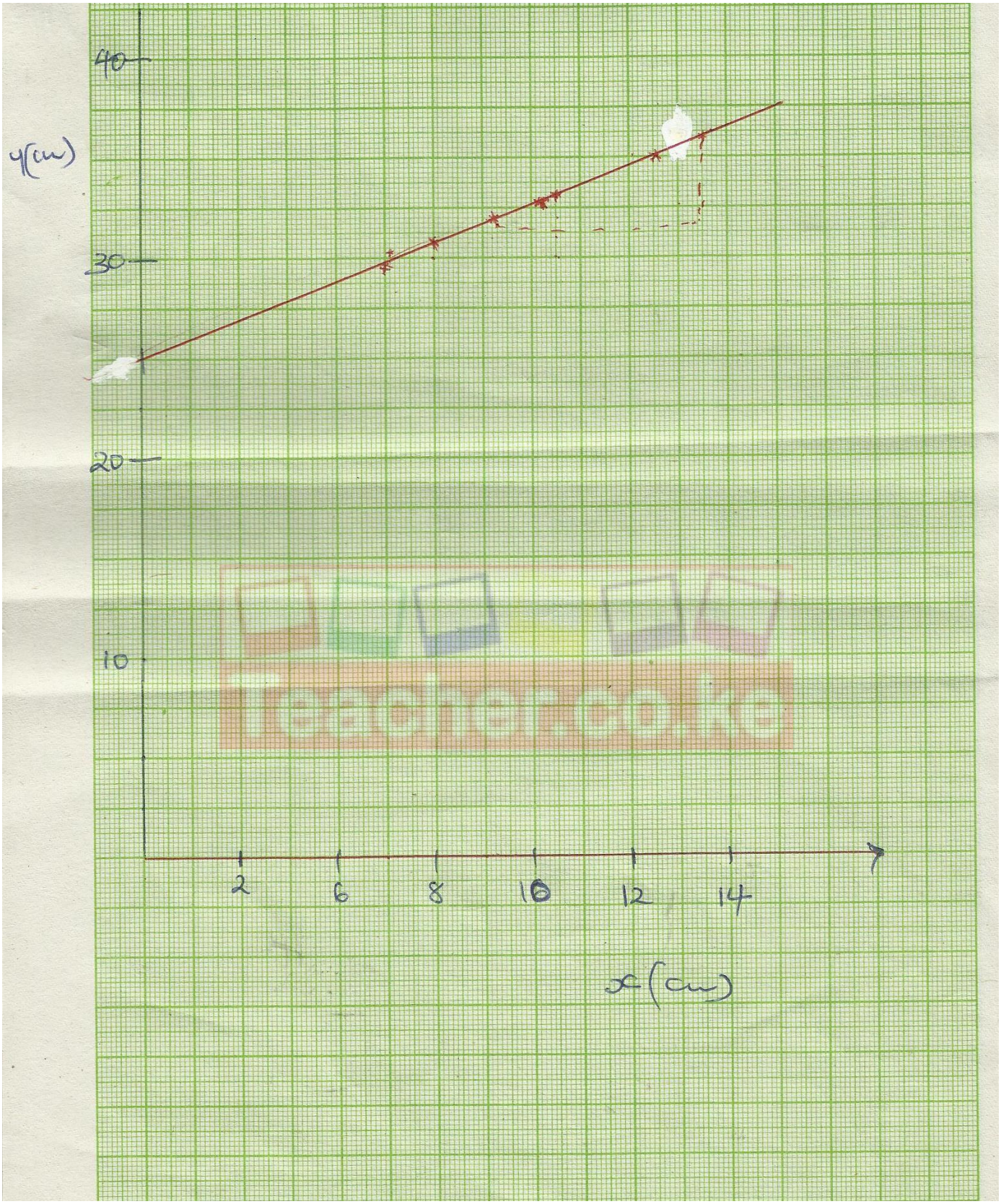
ii) $K_2 = 2.9$✓

f) K_1 = internal resistance ✓

K_2 = e.m.f of the cells✓

g) Prevent draining of voltage✓

1. GRAPH



2. d (i) **GRAPH**