

KAPSABET HIGH SCHOOL

232/3 PHYSICS
(PRACTICAL)

MARKING SCHEME

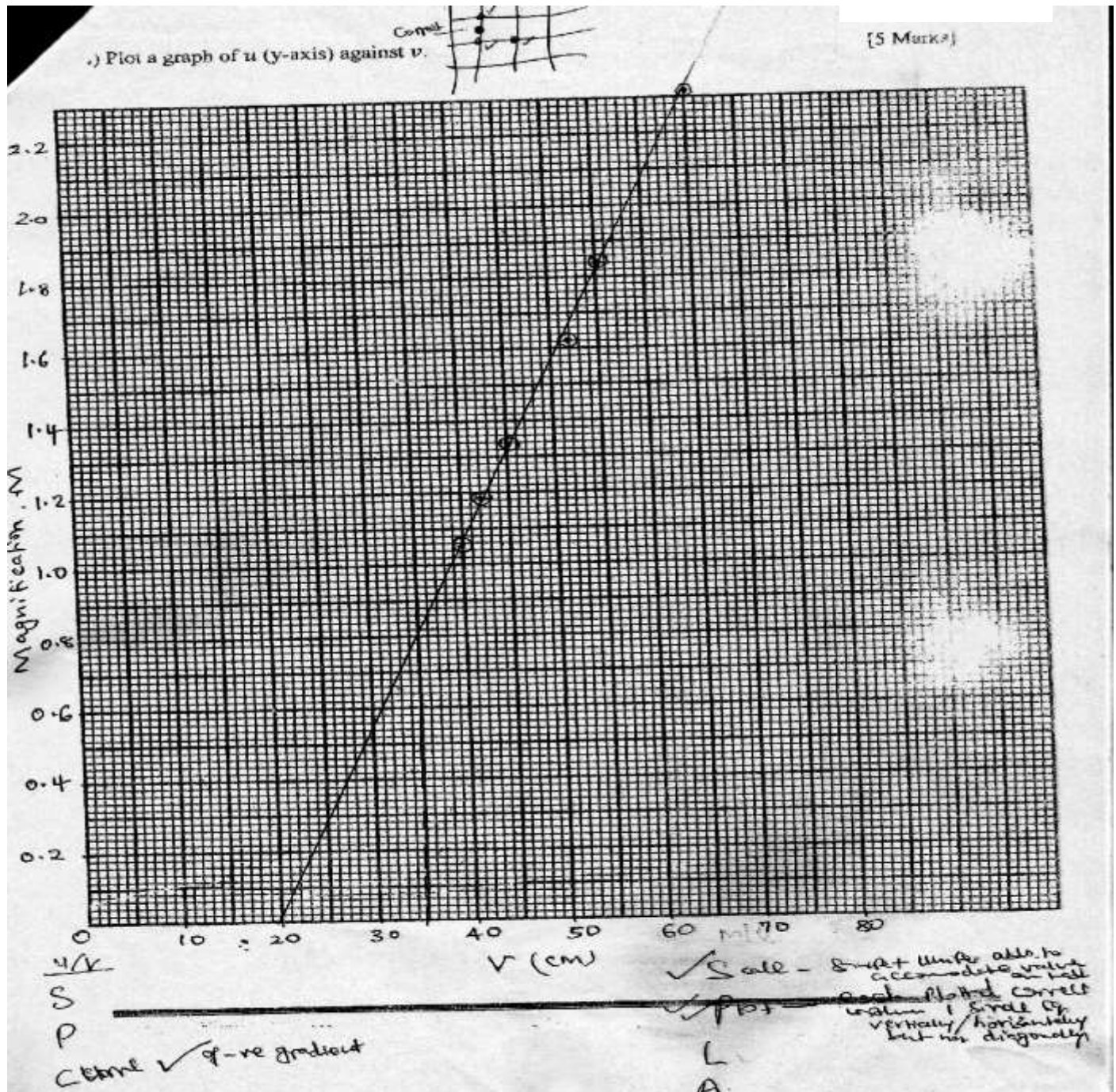
Q1. v)

u (cm)	28	30	32	34	36	38
v = (cm)	65.0	55.2	51.8	45.1	42.3	39.9
$m = v/u$	2.321	1.84	1.619	1.326	1.175	1.05

± 0.5 cm $\frac{1}{2}$ mk
upto 3 mks

1 mk for correct
values of v/u

vii)



$$\text{Slope} = \frac{0.8 - 0}{35.0 - 19.5} = \frac{0.8}{15.5} = 0.05161$$

$$\text{Slope} = \frac{1}{f}$$

$$f = \frac{1}{0.05161} = 19.38 \text{ cm}$$

$$\text{Slope} = \frac{5.882 - 2.174^{\sqrt{1}}}{40 - 90} = \frac{3.708}{-50}$$

$$= -0.07416 \text{v}^{-1} \text{cm}^{-1} \sqrt{1}$$

ii) The value of W (1 mk)

$$\frac{-W}{100} = \text{Slope} \Rightarrow$$

$$W = -100 (\text{slope})$$

$$= -100 \times (-0.07416) = 7.416 \text{v}^{-1} \text{cm}^{-1} \sqrt{1}$$

iii) The value of R .

(2 mks)

$$\frac{I}{V} = \frac{-WL}{100} + \frac{12}{R}$$

$$R = \frac{12}{8.70}$$

$$\text{y-intercept} = \frac{12}{R}$$

$$= 1.379 \text{V}^{\sqrt{1}}$$

PART II

b) Measure the length x . (½ mk)

$$x = 3.2 \text{ cm}$$

c) Measure the whole length of test tube y . (½ mk)

$$y = 14.6 \text{ cm}$$

d) Determine the external diameter of the test tube using the vernier caliper.

$$\text{External diameter} = 2.41 \text{ cm} \quad (\frac{1}{2} \text{ mk})$$

$$\text{External radius, } r = 1.08 \text{ cm} \quad (\frac{1}{2} \text{ mk})$$

e) Measure the mass of the test-tube and its contents,

$$\text{Mass, } M = 47.01 \text{ g} \quad (1 \text{ mk})$$

f) Determine the density of water given that (1 mk)

$$\rho = \frac{7M}{22r^2 (y - x)}$$

$$1.12 \text{ gcm}^{-3} \pm 0.1$$