Kenya Certificate of Secondary Education

SCHEME

PHYSICS

PAPER 3

MARKING Lo = 95cm

(i)

Distance, d (cm)	0	20	30	40	50	60	70
Pointer reading							
Extension, e, (cm)	0.0	2.1	4.8	6.1	7.5	9.5	11.0

± 0.5cm

1 mark each for a pair of correct values = 7mks)

(j) Graph

- Labelling axes correctly 1mk

- Appropriate scale 1mk

- Plotting

  - 6 or more correctly plotted 2mks

  - 4 correctly plotted points 1mk

  - Less than 4 correctly plotted points – 0

* Line – straight line passing through at least 4 correctly plotted points 1mk

Total for graph = 5mks

(k) Correct extraction of points from own graph 1mk

Correct evaluation to 2 d.p 1mk

Accuracy of slope (0.110 – 0.150) 1mk

(l) Correct substitution of S and Lo 1mk

Correct evaluation to 2dp 1mk

2. (b) Correct values of voltmeter and ammeter

Voltmeter = 0.8V 1mk

Ammeter = 0.3A 1mk

(c)

Length A(AJ) (mm)	200	300	400	500	600	700
Voltmeter reading V(v)	0.8	0.9	1.0	1.05	1.1	1.15
Ammeter reading I(A)	0.32	0.25	0.22	0.18	0.16	0.15
$^{V}/_{I}$						

Voltmeter reading $\pm$ 0.2V

Ammeter reading $\pm$ 0.1A

Upto 3 correct sets 1mk for V and I – 2mks each

V/I – correct evaluation to 2dp – 1mk

(d) Graph

- Labelled axes 1mk

- Plotting – ½ mk each for a max of 4 points – 2mks

- Line - Best straight line through the points – 1mk

- The line must have a negative slope

(e) (i) Slope

Correct reading off from graph 1mk

Correct evaluation 1mk

Correct answer 2dp (0.16 – 0.20) 1mk

(ii) Correct reading off the v intercept + 0.5v – 1mk

(iii) Correct reading of thickness in metres – 1mk

(0.30mm $\pm$ 0.01mm)

(g) (i) Correct reading of V and I

V = 0.55V 1mk

I = 0.10A 1mk

(ii) Correct substitution of the values 1mk

Correct evaluation and in standard form 1mk

(iii) Proper explanation that p represents resistivity of the wire 1mk

(iv) Correct sketch of the set up 2mks