DISTRICT EXAMINATIONS

MARKING GUIDE OF S4ALL_ALTERNATIVE TO PHYSICS PRACTICAL EXAM

The following marking scheme is a guide

a) The resistance is given by $R = \frac{V}{I}$ .The current I is 0.38 A

X/cm	V/V	R/Ω
0.100	0.21	0.55**(1mark)**
0.300	0.59	1.55**(1mark)**
0.500	10.4	2.74**(1mark)**
0.700	1.42	3.74**(1mark)**
0.900	1.87	4.92**(1mark)**

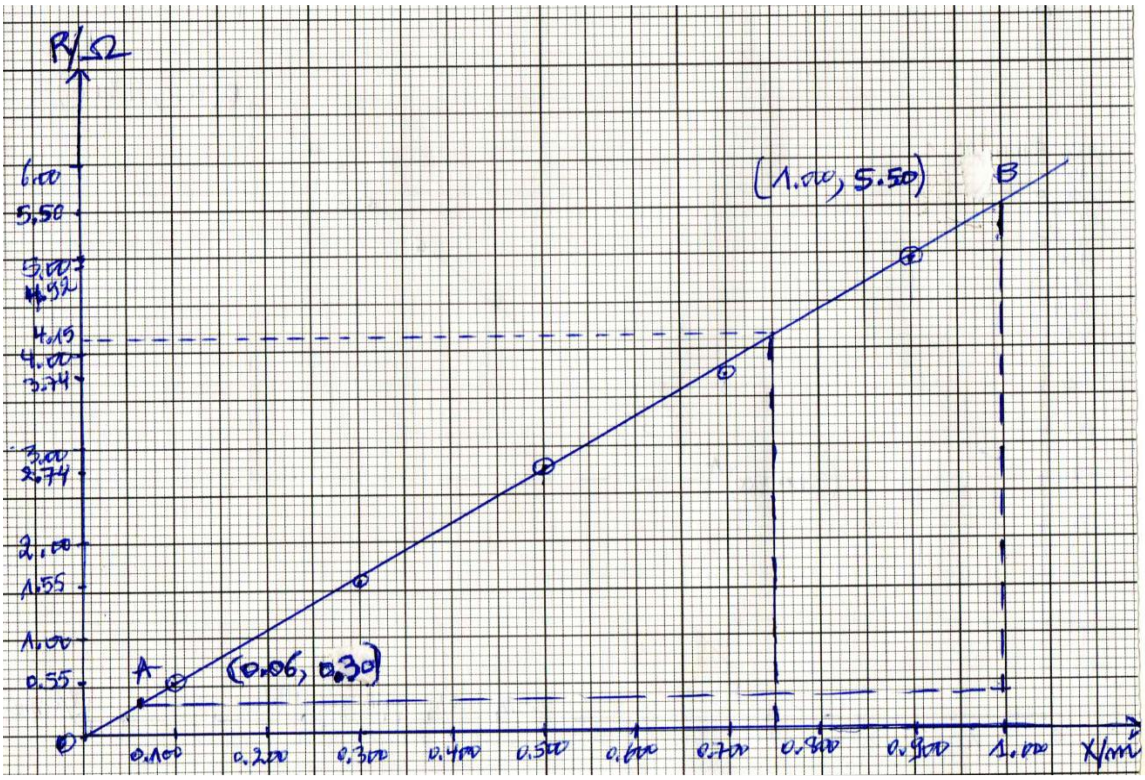
b)

Two labelled axes with arrows **(0.5 marks x 2=1mark)**

Two suitable scales on the axes **(1mark x 2=2marks)**

Plotted points **(1mark x 5=5marks)**

Well-judged best fit line **(1mark)** allow at least 3 good plots on line



c) The resistance R is directly proportional to the length X of the wire **(1mark)**

Or is X increases then R increases

This is shown by the straight line passing through the origin **(1mark)**

d)Indication on the graph **(1mak)**

The resistance R=4.15 Ω **(1mark)** if x=0.750m

e)(i)If heating effect increases the resistance of a conductor increases **(1mark)**

But for semiconductor when the temperature increases its resistance decreases

(ii)To switch off the circuit during the recording of readings **(1mark)**

Reduce the voltage /power

Use low current by adding lamp in the circuit or a resistor