**KENYA HIGH EXAMINTIONS 2021**

**MARKING SCHEME**

**PHYSICS PAPER 3**

**PRACTICAL**

**Question 1**

1. b

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Length l(cm) | 100 | 80 | 60 | 40 | 20 | 0 |
| Voltage | 0.10 | 0.15 | 0.20 | 0.2 | 0.45 | 1.00 |
| Current I (A) | 0.04 | 0.05 | 0.07 | 0.09 | 0.12 | 0.16 |

 (7 marks)

d) The bulb lights more brightly. (2 marks)

e) Graph should be a smooth curve with positive slope

 A - 1mk

 S - 1mk

 P - 2 mks

 C - 1 mk

 Total (5 mks)

f) The resistance of the bulb. (2 marks)

g) Voltage at length L = 70cm

 Candidate value from the his/her graph.

 showing how to get it ....(1 mark) 0.75 +.1

 Writing the value ...............1 mark

f) as the current increases, the resistance also increases hence the bulb glows more brightly

**Question 2**

a) L = 0.3m (1 mark)

c) t = 5.82s ( 1 mark)

e)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ~~O~~ (0) | 60 | 70 | 80 | 90 | 100 | 110 |
| Time for 10 oscillations t(s) | 5.82 | 6.42 | 6.96 | 7.54 | 8.28 | 10.59 |
| Periodic time (T) (s) | 0.582 | 0.642 | 0.696 | 0.754 | 0.828 | 1.059 |
| T2 (s2) | 0.3387 | 0.4122 | 0.4844 | 0.5685 | 0.6856 | 1.1215 |
| 1/T2 (s2) | 2.9525 | 2.4260 | 2.0644 | 0.5685 | 1.4586 | 0.8917 |
| Cos1/2~~O~~ | 0.8660 | 0.8192 | 0.7660 | 0.7071 | 0.6428 | 0.5736 |

f) graph is a straight line graph with a positive gradient (slope)

 A............. 1mk

 S ..............1mk

 P.............. 2 mks

 L.............. 1 mk

 5 mk