**SUNRISE EXAMS FORM 4-2021**

***Kenya Certificate of Secondary Education (K.C.S.E)***

**232/3**

**PHYSICS**

**PAPER 3**

**MARKING SCHEME**

**QUESTION ONE**

**Part A**

b) d = 20.0 1 cm✓1

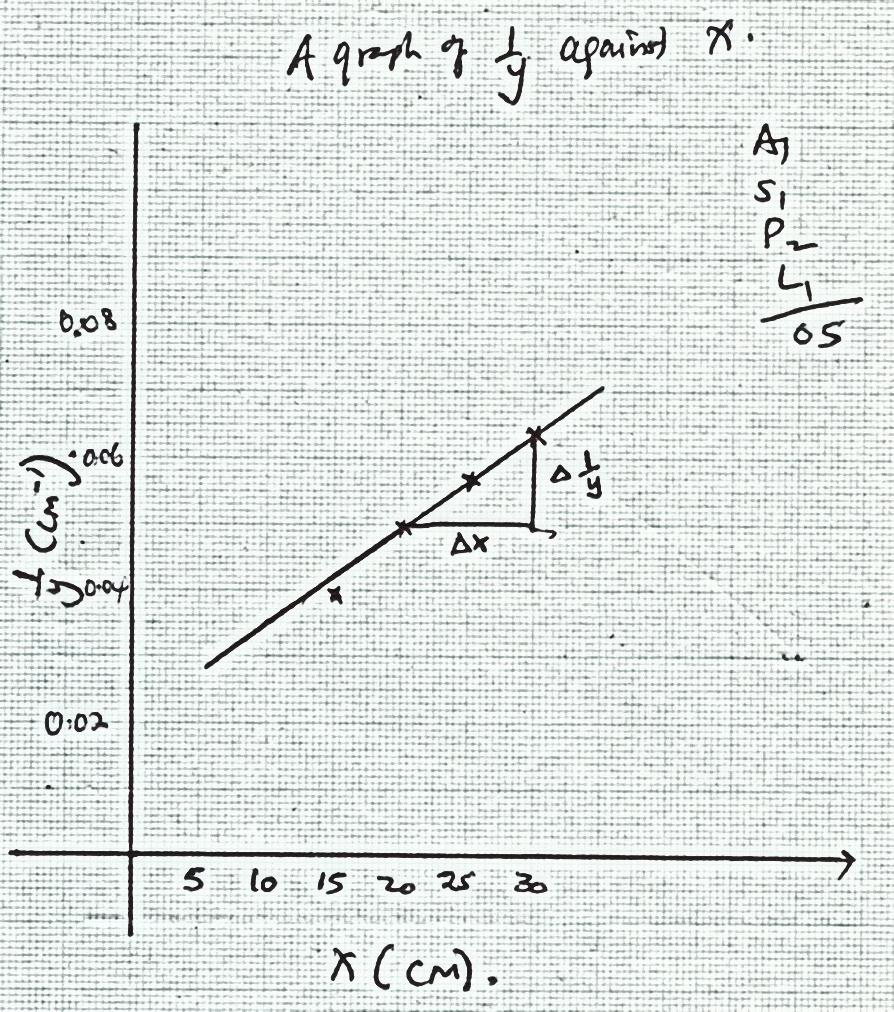
d = 0.02 0.01m ✓1

d)

|  |  |  |
| --- | --- | --- |
| BD= Xcm | AC = Y (cm) | (cm-1) |
| 30  25  20  15  10 | 16.0  17.5  20.0  25.5  28.0 | 0.0626  0.0571  0.0500  0.0392  0.0357 |
|  | 4 marks for values within the range. Each value 1 cm | 2 marks for correct calculation |

(6 marks)

f) i)



ii) Slope =

= ✓1

= ✓1

= 0.013cm-2✓1 *(Answer to have the correct units)*

iii) M = ✓1

= 8.771cm✓1 (Answer with units)

iv) - M is approximately half of d✓1

* d is approximately the focal length of the lens✓1

**QUESTION TWO**

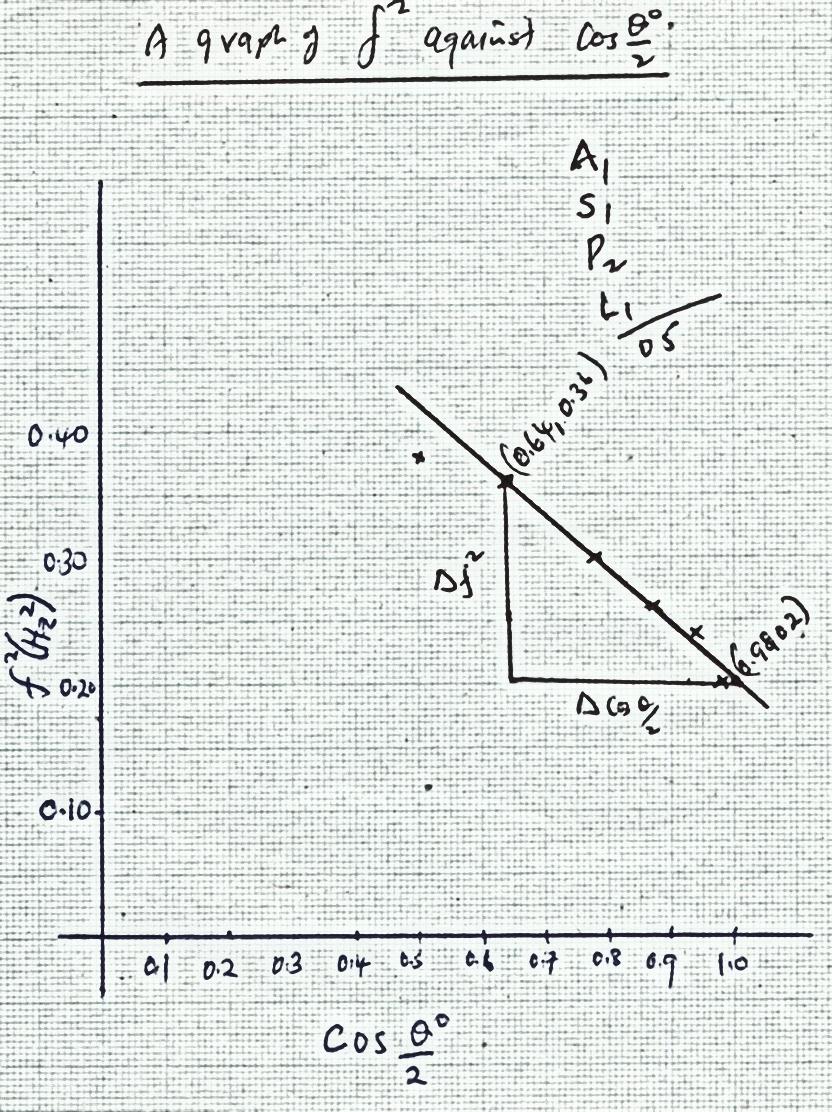
c) i) t = 4.51 2 seconds ✓1

ii) = 0.451Hz✓1

d)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Angle | Time for 10 oscillation t(s) | Frequency f = | F2(Hz2) | Cos |
| 200  400  600  800  1000  1200 | 4.51  4.94  5.06  5.50  6.00  6.20 range 1 sec | 0.451  0.494  0.506  0.550  0.640  0.620 | 0.2034  0.2440  0.2560  0.3025  0.3600  0.3844 | 0.9848  0.9397  0.8660  0.7660  0.6428  0.5000 |
|  | 3 mks | 1 mk for correct calculation | 1 mk for correct calculation | 2 mk(for correct calculation |

e)



f) Slope =

= ✓

= ✓

= - 0.4706Hz2✓ *(Answer with units)*

g) f2 = Cos

Slope =

L = ✓1

= ✓1

= 56.994✓1