**MARKING SCHEME TERM 1 2016**

**232/3 FORM 3 PHYSICS PRACTICAL**

Table

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| dcm | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |  |
| t(s) | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | * 4Mks
 |
| T(s) | 1.50 | 1.45 | 1.40 | 1.35 | 1.30 | 1.25 | 1.20 | 1.15 | 1.10 | * 1mk
 |
| T2(s2) | 2.25 | 2.10 | 1.96 | 1.82 | 1.69 | 1.56 | 1.44 | 1.32 | 1.21 | * 1mk
 |
| d2(cm2) | 1600 | 2025 | 2500 | 3025 | 3600 | 4225 | 4900 | 5625 | 6400 | * 1mk
 |

Row 2(t-value)

* 1. values correct -0mk

2-3 values correct 1mk

4-5 values correct 2mks

6-7 values correct 3mks

8-9 values correct 4mks

g) slope = T2  = (1.44-1.96) 1mrk

 dd2 (4900-2500)

h)( i ) T2 = 3d2 +C

 M

 3 =-0.00022 s2/cm2 1mrk

 M

 M= 3 1mrk

 0.00022

 =-13846.15cm2/s2 1mrk

(ii) C=y – intercept 1mrk

 Y intercept=2.55s2

 C=2.55s2 1mrk

**MARKING SCHEME**

**QUESTION 2**

**PART A**

a)N=83 1mrk

b)D=0.0116m(4 d.p) + 0.0002 1mrk

c)d=6.3x10-4m 1mrk

d)N= 0.4D ½ mrk

 dM

 m= 0.4D = 0.4x0.0116 1mrk =0.0887 4 d.p ½ mrk

 dN 6.3x10-4x83

e)Lo=50.0

f)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| W(N) | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | * 1mk
 |
| L(cm) | 50 | 51.2 | 52.4 | 53.6 | 54.8 | 56.0 | 57.2 | 58.4 | 59.6 | 60.8 | 62.0 | * 1mk
 |
| E(cm) | 0 | 1.2 | 2.4 | 3.6 | 4.8 | 6.0 | 7.2 | 8.4 | 9.6 | 10.8 | 12.0 | * 1mk
 |
| 1/e cm-1 | 0 | 0.8333 | 0.4166 | 0.2777 | 0.2083 | 0.1666 | 0.1389 | 0.1190 | 0.1042 | 0.0926 | 0.0833 | * 1mk
 |

g)- Scale=1mk –Appropriate scale

 -Axes =1mk-well labelled

 -plots =2mks 8-11 plots correctly plotted

 4-7 correctly plotted 1mk

 -Smooth curve-1mrk

h)slope 5.5-3.5 = 2 = 2.5cm 1mrk

 2.2-1.4 0.8

i)T=m(5+60)2 1mrk

 -255

 T=0.0887(2.5+60)2 1mrk =1.3588N2cm2 1mrk

-255

