PHYSICS PAPER 3
MARKING SCHEME

232/3
PHYSICS
PAPER 3
QUESTION 1
PART A
(d)

D(cm)	Time for 20 oscillations(S)	Periodic time T (s)	$T^2(S^2)$
15	94.00	4.70	22.09
20	70.91	3.65	12.60
25	60.60	3.03	9.18
30	53.43	2.67	7.13
35	47.87	2.40	5.76
40	44.62	2.23	4.87

(e) Labeling axis√ 1mk
Scale √1mk
Plotting 5-6 points currently 2mks
3-4 points 1mk
L1 √

(f) Slope=$\frac{\Delta P}{\Delta T^2}=\frac{25.0-32.5}{15-10}$ √
1.5 cm/s^2√

(g) 30cm=9.4T^2 (S^2) √
T=$\sqrt{9.4}$
=3.066S√

PART B

Vcm	M=$\frac{v}{u}$
15.0 √	0.5
13.9√	0.386

($^1/_2$ mark each)
$\pm$ 0.1

$F_1=\frac{15}{1+0.5}$ =10cm $F_2=\frac{13.9}{1+0.386}$ =10.02 √**(for both)**

$\frac{10+10.02}{2}$ =10.01cm√

QUESTION TWO.

Length L (cm)	I(A)	P.d(V)	I (MA)	p.d(MV)	Log1	Log V(MV)
20	0.08	0.5	80	500	1.803	2.699
40	0.12	1.0	120	1000	2.079	2.000
60	0.16	1.4	160	1400	2.204	3.146
70	0.20	2.1	200	2100	2.301	3.32
80	0.22	2.5	220	2500	2.342	3.398
	(2mks)	(2mks)	(1mk)	(1mk)	(1mk)	(1mk)

$\frac{1}{2}$mk to max of 2mks for all ***(column 1 and 2)***

(Others 1 mk for all)

(d) Labelling axis (1mk)
Scale (simple and uniform) (1mk)
Five points plotted (2mks)
Three to four points(1mk)
Best line through 3correctly plotted points. (1mk)
Total (5mks)

$\frac{\Delta \log L}{\Delta Log\ V}$ (1mk)
Evaluation (1mk)
Accuracyand units (1mk)
=0.628A/V

(f) (i) n=slope (1mk)
n=0.628(1mk)

(ii) Y-intercept = log K(1mk)
Evaluation (1mk)