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**PHYSICS FORM 3
PAPER 3 (PRACTICAL)
MARKING SCHEME**

QUESTION 1

C (iv)

Mass (g)	100	200	300	400	500	600
Position of pointer (cm)	38.3	45.3	52.3	58.7	65.4	72.2
Extension (e) cm		7	14	20.7	27.7	34.5
Time for 20 t_1		15.0	18.53	20.75	23.25	25.43
oscillations (s) t_2		15.09	18.03	20.96	23.46	25.28
Average time t (s)		15.05	18.28	20.86	23.36	25.36
Periodic time T (s)		0.7525	0.914	1.043	1.168	1.268
T^2 (s ²)		0.5663	0.8354	1.088	1.364	1.608

(NB - These values are only a guide. They are subject to change depending on the type of spring used. Recommended to use the student's values)

All tables values correct 9 marks

d) i) Scale

Axis labelled with quantities and units

Plotting

Straight line (positive gradient)

d) ii) Correct substitution

Correct answer

iii) Correct T^2 intercept

Substitution

Correct answer

b) ii) Slope of the graph $\frac{1.44 - 1.06s^2}{30 - 20}$ cm

$$= 0.038s^2/cm$$

$$iii) \frac{4p^2}{b} = 0.38$$

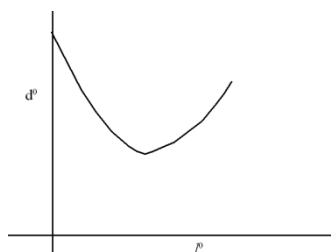
b

$$b = \frac{4p^2}{0.038} = 1039$$

QUESTION 2

d) 60^0

i) Values of d decrease, then increase. Mark the trend. (8 marks)



Scale
Axis labelled
Plotting
Curve

(h) Read from the graph the minimum value for d (30^0)

(p) Numerator and evaluated
Denominator and evaluated
Substitution

Accuracy, $n = 1.5$

