2020 Year 3OP END-OF-YEAR PHYSICS PRACTICAL EXAMINATIONS RUBRICS

Question	Answer
1(a)(i)	Correct precision and unit only. (t_0 =2.91 s)
1(a)(ii)	Correct precision and unit only. (t_1 =1.74 s)
1(b)(i)	v_0 = 99.0/2.91 = 34.0 cm/s [allow "m/s"] v_0 is correctly calculated to the correct s.f. & unit using sf rule
1(b)(ii)	v_1 = 50.0/1.74 = 28.7 cm/s [allow "m/s"] v_1 is correctly calculated (smaller than v_0) to the correct s.f. & unit using sf rule
1(c)	a = 2 x [(34.0-28.7)/(2.91-1.74)] = 9.1 cm/s^2 a is correctly calculated (ecf) to the correct s.f. & unit using sf & dp rule

Question	Answer
2(e)	"h" has correct precision and unit. (h = 4.0 cm)
2(f)	(Either) Using the protractor provided, draw a perpendicular line from RR' (or) measure 2 equal distances from QQ' to locate the mirror line Ensure the line is longer than the width of the mirror so as to align both sides of the mirror accurately
3(h)	This is to ensure that the line drawn over the pin positions is accurate. This affects the accuracy of "y"
3(i)	At least 2 of the lines joining P_3 and P_4 are parallel to each other.
3(j)	"y" has correct precision and unit. (y ~ 3.0 cm)
3(l)	At least five sets of h & y data.
	Table heading with quantities with correct units.
	All values of h & y to 0.1 cm precision.
	Range of h at least 4.0 cm
3(m)	Axes labelled with units and correct orientation. [Allow ecf from wrong unit in table.]
	Suitable scale, not based on 3, 6, 7 etc with plotted data occupying more than half the graph paper in both directions.
	All points plotted correctly (points must be ≤ ½ small square from the correct position)
	Best fit line and fine crosses.
	Use of a triangle that uses more than half the graph line + 2 (x,y) coordinates of correct precision
3(n)	Correct calculation of gradient "k" with correct lowest s.f. (Teacher's reference value: k = between **0.542** and **0.662**)
	"k" calculated to the correct lowest s.f. (no sf , dp rule here)
	"c" read directly or calculated correctly from graph or correctly calculated.
	"c" calculated to the correct lowest s.f. (no sf , dp rule here)
3(o)	It is difficult to perfectly align the centre of the closest pin (P_4) to the centre of the furthest pin (P_2). This affects the accuracy of the value y.