

Name of the Student: \_\_\_\_\_

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

Question number	Answer	Mark
	C reaction time	(1)

Q2.

Question Number	Answer	Additional guidance	Mark
	<b>B</b> distance  <b>A,C,</b> and <b>D</b> are incorrect as these are vector quantities		(1) AO1

Q3.

Question number	Answer	Mark
	<input checked="" type="checkbox"/> <b>B</b> force  Options A, C and D are all scalars.	(1)

Q4.

Question number	Answer	Additional guidance	Mark
	Any three improvements from: <ul style="list-style-type: none"> <li>• suitable instrument to measure distance (1)</li> <li>• using a greater distance (to reduce effect of reaction times) (1)</li> <li>• suitable instrument to measure time (1)</li> <li>• use of one student at the {first/second} lamp post to signal when to {start/stop} timing (1)</li> <li>• two of three sets of students taking readings for the same car (1)</li> </ul>	allow tape measure, trundle wheel  allow stop watch/clock or timing app. on phone	(3)

Q5.

Question Number	Answer	Mark
(i)	all three correct (2) one or two correct (1)  	(2)

Question Number	Answer	Additional guidance	Mark
(ii)	Q and S  Q (1) (and) S (1) OR S (1) (and) Q (1)	in either order  maximum of 1 mark if 3 letters given no marks if 4 or more letters given	(2)

Question Number	Answer	Additional guidance	Mark
(iii)	substitution (1)  (distance =) $30 \times 100$  evaluation (1) 3000 (m)	for 1 <sup>st</sup> mp accept $100 \times 30$  OR $(30 \times 50) \times 2$  award full marks for the correct answer without working  allow <b>1 mark</b> for  EITHER  $30 \times 50$  OR  $30 \times 150$  OR  $30 \times 250$	(2)

Q6.

Question Number	Answer	Mark
	weight / force  (accept circle around weight if not contradicted on answer line)	(1)  AO 1 2

Q7.

	Answer	Acceptable answers	Mark
(i)	B to the left ←		(1)
(ii)	A accelerating		(1)
(iii)	substitution $625 \times 10$ (1) Evaluation 6250 (N) (1)	$625 \times 9.8$ 6125 (N) give full marks for correct answer, no working	(2)