

Name of the Student: _____

Max. Marks : 12 Marks

Time : 12 Minutes

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
(i) CLIP WITH (ii)	acceleration = $\frac{\text{change in velocity}}{\text{time (taken)}}$	$a = \frac{v-u}{t}$ $a = \frac{\Delta v}{t}$ $\frac{v}{t}$ allow correct rearrangements seen here or in bii	(1) grad

Question number	Answer	Additional guidance	Mark
(ii) CLIP WITH (i)	substitution (1) $\frac{20 - 2}{12}$ evaluation (1) $1.5 \text{ (m/s}^2\text{)}$	$\frac{18}{12}$ -1.5 (m/s ²) award full marks (1 in bi and 2 in bii) for the correct answer without working, award 1 mark if 20-2 or 18 or 2-20 is seen and no other marks are scored If (incorrectly) $a = \frac{v^2 - u^2}{t}$ given in 3bi $a = \frac{20^2 - 2^2}{12}$ OR = 33 scores 1 mark	(2)

Q2.

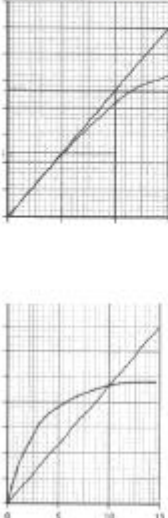
	Answer	Additional guidance	Mark
	4.6 (m/s)	allow any value between 4.5 and 4.7 (m/s) inclusive	(1) AO3

Q3.

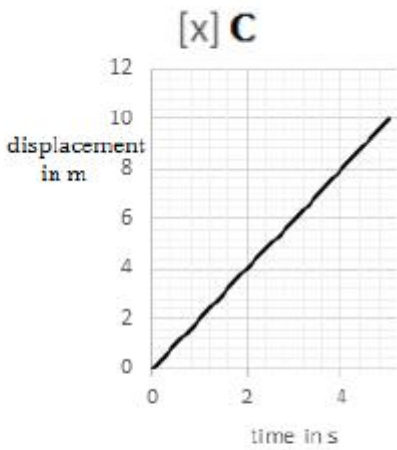
Question Number	Answer	Mark
	<p>C N/kg is the only correct answer</p> <p>A J/kg is not dimensionally the same as m/s²</p> <p>B J/kg² is not dimensionally the same as m/s²</p> <p>D N/kg² is not dimensionally the same as m/s²</p>	<p>(1)</p> <p>AO 1 1</p>

Q4.

Question number	Answer	Additional guidance	Mark
<p>(i)</p> <p>CLIP WITH GRAPH</p>	<p>distance = area under graph (1)</p> <p>$\frac{1}{2} \times 7 \times 15$ (1)</p> <p>52(.5) (m) (1)</p>	<p>attempt to find area seen on graph</p> <p>correct area(s) identified including calculation</p> <p>53 (m)</p> <p>allow 7×15 or 105 for 1 mark only</p> <p>award full marks for the correct answer with no working</p>	(3)

Question number	Answer	Additional guidance	Mark
(ii) CLIP WITH GRAPH H paper	(curve) <u>starting</u> from 0,0 (1) of decreasing gradient (1)	curve can be above or below the line both of these are acceptable 	(2)

Q5.

Question number	Answer	Mark
	<p>[x] C</p>  <p>A is not correct because it shows a constant velocity of 0.4 m/s</p> <p>B and D are not correct because they show constant acceleration.</p>	(1) A03

Q6.

Question Number	Answer	Mark
	<p>A kgm/s</p> <p><i>B is not correct it is mass divided by velocity</i></p> <p><i>C is not correct because it is the product of mass and acceleration</i></p> <p><i>D is not correct because it is mass divided by acceleration</i></p>	<p>(1)</p> <p>AO1</p>