

Question Number	Answer	Mark																																						
15(a)*	<p>This question assesses a student's ability to show a coherent and logically structured answer with linkages and fully-sustained reasoning. Marks are awarded for indicative content and for how the answer is structured and shows lines of reasoning.</p> <p>The following table shows how the marks should be awarded for indicative content and lines of reasoning.</p> <table><tr><th>IC points</th><th>IC mark</th><th>Max linkage mark available</th><th>Max final mark</th></tr><tr><td>6</td><td>4</td><td>2</td><td>6</td></tr><tr><td>5</td><td>3</td><td>2</td><td>5</td></tr><tr><td>4</td><td>3</td><td>1</td><td>4</td></tr><tr><td>3</td><td>2</td><td>1</td><td>3</td></tr><tr><td>2</td><td>2</td><td>0</td><td>2</td></tr><tr><td>1</td><td>1</td><td>0</td><td>1</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td></tr></table> <table><tr><td></td><td>Marks</td></tr><tr><td>Answer shows a coherent and logical structure with linkages and fully sustained lines of reasoning demonstrated throughout.</td><td>2</td></tr><tr><td>Answer is partially structured with some linkages and lines of reasoning</td><td>1</td></tr></table> <p><b>Indicative content:</b></p> <ol style="list-style-type: none"><li>1. There is a (backward) force/friction on floor from wheels/car</li><li>2. Newton's Third Law implies forward/opposite force from floor</li><li>3. Compression/deformation of spring reduces (as car moves forward)</li><li>4. (Resultant) force is proportional to compression/deformation of spring <b>Or</b> Reference to Hooke's law.</li><li>5. Acceleration is proportional to resultant force <b>Or</b> Reference to <math>F = ma</math></li><li>6. Acceleration reduces (as distance travelled increases) <b>Or</b> Acceleration is zero once spring has returned to original state</li></ol> <p>Accept "resultant force" for "acceleration" in IC6</p>	IC points	IC mark	Max linkage mark available	Max final mark	6	4	2	6	5	3	2	5	4	3	1	4	3	2	1	3	2	2	0	2	1	1	0	1	0	0	0	0		Marks	Answer shows a coherent and logical structure with linkages and fully sustained lines of reasoning demonstrated throughout.	2	Answer is partially structured with some linkages and lines of reasoning	1	6
IC points	IC mark	Max linkage mark available	Max final mark																																					
6	4	2	6																																					
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Total for question 15		6																																						