

Question Number	Answer	Mark																																								
*15a	<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. The following table shows how the marks should be awarded for indicative content.</p> <table><tr><th>IC points</th><th>IC mark</th><th>Max linkage mark</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> <p>The following table shows how the marks should be awarded for structure and lines of reasoning.</p> <table><tr><td></td><td>Number of marks awarded for structure of answer and sustained line of reasoning</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><tr><td>Answer has no linkages between points and is unstructured</td><td>0</td></tr></table> <p><b>Indicative content</b></p> <ul style="list-style-type: none"><li>• Waves diffract (as they pass through the gaps) <b>Or</b> Waves spread out (as they pass through the gaps)</li><li>• At X/loud the waves are in phase <b>Or</b> at X/loud the path/phase difference is 0</li><li>• Constructive interference/superposition at X <b>Or</b> constructive interference/superposition when loud</li><li>• When moving away (from X), path/phase difference changes</li><li>• Destructive interference/superposition when no sound is heard</li><li>• This is where the waves are in antiphase <b>Or</b> This is where the waves have a path difference of <math>\lambda/2</math></li></ul> <p>(IC2 – <b>do not</b> accept phase difference of <math>2n\pi</math> or path difference of <math>n\lambda</math>) (IC6 – allow phase difference of <math>180^\circ</math> or <math>\pi</math> radians) (IC6 – <b>do not</b> accept path difference of <math>(n + \frac{1}{2}) \lambda</math>)</p>	IC points	IC mark	Max linkage mark	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		Number of marks awarded for structure of answer and sustained line of reasoning	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	Answer has no linkages between points and is unstructured	0	6
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