

Question Number	Answer	Mark																																								
*16	<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>Indicative content</p> <p>IC1 There is a change in flux linkage (with the coil) Or the wires cut the magnetic field (lines) ignore magnet cuts lines no marks, but doesn’t prevent subsequent marks, e.g. for change in flux linkage.</p> <p>IC2 The greater the rate of change of flux linkage the larger the induced e.m.f.</p> <p>IC3 After the south pole reaches the coil the flux linkage (starts to) decrease Or When the south pole reaches the coil, by Lenz’s law the polarity of the coil changes to continue to resist the motion of the magnet Or As the south pole reaches the coil the rate of change of flux linkage is zero (Not direction of field lines opposite)(reference to wires move along field lines for no change in flux linkage)</p> <p>IC4 As the south pole of the magnet passes through the coil the (induced) e.m.f. is negative</p> <p>IC5 The (downwards) speed of the magnet increases</p> <p>IC6 Emf is zero before magnet enters coil Or Emf is zero when midpoint of magnet in coil Or Maximum negative value is greater than maximum positive value Or Time for which emf is negative is greater than time for which emf is positive Or emf is zero when magnet totally leaves coil</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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Total for question 16		6																																								