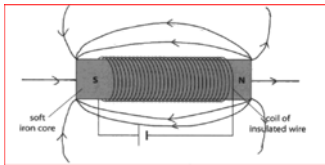


Question number	Answer	Notes	Marks
4 (a) (i)	<p>Any three from</p> <p>MP1. parallel field shown inside the core;</p> <p>MP2. one complete line from a pole and to the other pole;</p> <p>MP3. at least three lines at each pole with a minimum of two correctly curved lines;</p> <p>MP4. Arrow on any external field line from N or into S;</p> 	<p>Condone dotted lines</p> <p>Reject Crossing field lines for MP3 only conflicting arrows for MP4 only</p>	3
(ii)	<p>idea that strength of magnetic field is increased;</p>	<p>allow concentrates the magnetic field</p> <p>ignore</p> <ul style="list-style-type: none"> • 'channels the magnetic field'/eq • references to soft iron • references to easily magnetised /demagnetised 	1

(b)	any two from:- MP1 Steel is magnetically hard material/eq ; MP2 Steel becomes (permanently) magnetised; MP3 Steel remains magnetised (when current switched off) /paper clips remain attracted to steel;	NB do not credit repeat of stem (<i>remain attached</i> is in the stem)	2
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(Total for Question 4= 6 marks)