

1. (a) (i) it moves or experiences a force horizontally to the right 1
for 1 mark
- (ii) A - moves in opposite direction or force reversed e.c.f. 2
 B - faster movement or larger force
 (**not** move further)
for 1 mark each
- (b) turns clockwise 3
 oscillates/reverses
 comes to rest facing field/at 90° to field/vertically
for 1 mark each
- (c) number of turns or linear number density of turns 3
 current
 core
for 1 mark each

[9]

2. (a) electric drill, electric fan, 2
 electric food mixer and
 electric screwdriver
all four ticked and no others (2)
either all four of these ticked and only one other (1)
or any three of these ticked and none/one/two of the others (1)
- (b) (i) reverse (the direction of the) current (1) 2
or reverse the connections (to the battery)
 reverse (the direction of the) magnetic field (1)
or reverse the (magnetic) poles /ends
do not credit 'swap the magnets (around)'
- (ii) any **two** from: 2
- increase the strength of the magnet(s)/
 (magnetic) field
do not credit 'use a bigger magnet'
 - increase the current
allow 'increase the voltage/p.d.'
allow add cells/batteries
allow increase the (electrical) energy
allow increase the power supply
allow 'decrease the resistance'
allow 'increase charge'
allow 'increase the electricity'
do not credit 'use a bigger battery'
 - reduce the gap (between coil/armature
 and poles/magnets)
allow increase the (number of) coils
 - increase the turns (on the coil/armature)
do not credit 'use a bigger coil'

[6]