Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Mark Schemes

Q1.

(a) iron

correct positions only

1

primary

1

secondary

1

(b) (it) decreases the p.d.

accept it would increase current
accept voltage for p.d.
the voltage goes from 230(V) to 20(V) is insufficient
*do **not** accept decreases current / energy / power*
*do **not** accept decreases p.d. / voltage and current*

1

(c) an environmental

1

[5]

Q2.

(a) (i) 9000

*an answer of 9 k(N) gains **1** mark*

1

(ii) increase

accept other comparative terms, eg give a bigger
affect / change is insufficient

1

(iii) smaller

accept other comparative terms, eg less

1

(b) Q N M

all three in correct boxes
*one statement in correct box gains **1** mark*

2

(c) any **two** from:

- increase the current / p.d. (supplied to the coil)
  *accept reduce the resistance of the coil **or** increase cross sectional area of wire*
  *accept more cells / batteries **or** turn up the power supply*
  increase power is insufficient

- increase number of turns (on the coil)

- increase the area (of the coil)
  accept increase the width of the coil
  increase width / size is insufficient

- increase the (strength of the permanent) magnetic field
  accept move the magnets closer to the coil
  accept use stronger magnets
  *do **not** accept use larger magnets*

2

(d) an economic

1

[8]

Q3.

(a) a force

1

(b) any **two** from:

- more powerful magnet
  *do **not** allow 'bigger magnet'*

- reduce the gap (between magnet and coil)

- increase the area of the coil

- more powerful cell
  *do **not** allow 'bigger cell'*
  accept battery for cell
  accept add a cell
  accept increase current / potential difference

- more turns (on the coil)
  allow 'more coils on the coil'
  *do **not** allow 'bigger coil'*

2

(c) reverse the (polarity) of the cell
  allow 'turn the cell the other way round'
  accept battery for cell

1

reverse the (polarity) of the magnet
  allow 'turn the magnet the other way up'

1

[5]