FOUNDATION BIOLOGY MS

 (a)     (i)      chloroplast

**1**

(ii)     cell wall

**1**

(b)     (i)      osmosis

*accept diffusion*

**1**

(ii)     cell wall (prevents bursting)

**1**

HIGHER BIOLOGY MS

(a)     **D**

**1**

any **one** from:

•        has chloroplasts

•        has a (large) vacuole

*ignore has a (cell) wall*

**1**

(b)     **B**

**1**

does **not** have a (cell) wall

*allow has only a nucleus, (cell) membrane****and****cytoplasm*

**1**

(c)     **C**

**1**

any **one** from:

•        genetic material is not in a nucleus

*allow no nucleus*

•        has a single loop of DNA

**1**

(d)     real size = 25 / 100 000

**1**

0.00025

**1**

(conversion to) 0.25 (µm)

*allow 0.25 (µm) with no working shown for****3****marks*

**1**

**[9]**

FOUNDATION CHEM MS

(a)     (i)      an electron

**1**

(ii)     a neutron

**1**

(iii)    11

**1**

(iv)    boron

**1**

(b)     (i)       GH3

**1**

(ii)     covalent

**1**

HIGHER CHEM MS

(a)     (i)      any **one** from:

•        one electron in the outer shell / energy level

•        form ions with a 1+ charge

**1**

(ii)     any **one** from:

•        hydrogen is a non-metal

•        (at RTP) hydrogen is a gas

•        hydrogen does not react with water

•        hydrogen has only one electron shell / energy level

•        hydrogen can gain an electron **or** hydrogen can form a negative / hydride / H–ion

•        hydrogen forms covalent bonds **or** shares electrons

*accept answers in terms of the Group 1 elements*

**1**

(b)     (i)      (bromine) gains electrons

*it = bromine*

*do****not****accept bromide ion gains electrons*

*ignore loss of oxygen*

**1**

FOUNDATION PHYS MS

 newton **or**N

          metre **or**m

          joules **or** J

*all three correct 2 marks
two or one correct 1 mark*

**[2]**

HIGHER PHYS MS

a)     600 kg = 5880 N

**1**

power =

**1**

= 4573.3 (W)

*this step without the previous steps stated gains****3****marks*

**1**

% Eff. =

**1**

= 57.17 (%)

*allow 57.17 with no working shown for****5****marks*

**1**

(b)     gpe = 600 × 9.8 × 35

**1**

= 205 800

**1**

gpe = KE = ½ m v2

**1**

v =

**1**

**1**

= 26.2 (m / s)

*allow 26.2 with no working shown for****6****marks*