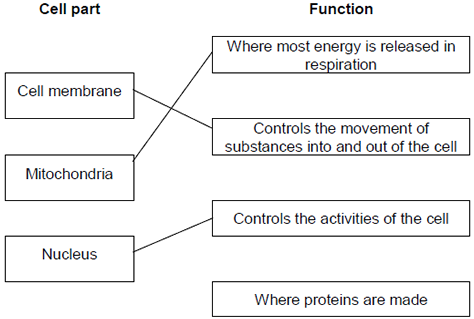
**IYG Term 2 – Foundation**

Mark schemes

**Q1.**

(a)    

*extra lines cancel*

**3**

(b)     Cell wall

*in either order*

**1**

Chloroplast

*allow (permanent) vacuole*

**1**

**[5]**

**Q2.**

(a)     (i)      diffusion

**1**

(ii)     carbon dioxide

*accept CO2 / CO2*

*do* ***not*** *accept CO2*

**1**

(iii)    red blood cells

**1**

(b)     70

*if no / incorrect answer then*

*70 000 000*

***or***

*280 x 0.25 gains* ***1*** *mark*

*ignore doubling the answer*

**2**

(c)     allows more gas / oxygen / CO2(exchange)

*do* ***not*** *accept air*

**1**

**[6]**

**Q3.**

(a)     (i)      C

**1**

(ii)     B

**1**

(iii)    A

**1**

(iv)    D

**1**

(b)     (i)      SO2

**1**

(ii)     shared

**1**

(iii)    covalent

**1**

**[7]**

**Q4.**

(a)     protons **(and)** neutrons

*both needed for* ***1*** *mark*

*ignore p / + and n / 0*

*do* ***not*** *accept electrons*

**1**

(b)     because the number of protons is equal to the number of electrons

*allow protons and electrons balance / cancel out*

*allow positive / + and negative / - balance / cancel out*

**1**

(c)     *it = atom A*

because atom A has a full highest energy level **or** full outer shell

*allow all the shells are full* ***or*** *no incomplete shell*

**or** because atom A has a stable arrangement of electrons

*allow because atom A is in Group 0 / a noble gas*

**1**

(d)     (atom) B / lithium / Li **(and)**

(atom) C / sodium / Na

*both needed for* ***1*** *mark*

**1**

because they have the same number/one outer electron(s)

*linked to answer for first mark*

*accept because both need to lose one / an electron*

*allow because (atoms) B and C are in Group 1 / the same group / are alkali metals*

**1**

**[5]**

**Q5.**

(a)     20 790 (J)

*an answer of 21 000 (J) (2 s.f.) gains* ***2*** *marks*

*allow* ***1*** *mark for correct  
substitution:  
ie E = 0.33 × 4200 × 15 provided no subsequent step shown*

**2**

(b)     temperature

**1**

(c)     (top pan) balance

*accept scales*

*do* ***not*** *accept a scale  
do* ***not*** *accept weighing scales  
do* ***not*** *accept newtonmeter  
do* ***not*** *accept spring balance*

**1**

(d)     dark / black / (dark) grey

**1**

convection

*correct order only*

**1**

(e)     (i)      created

*accept made*

**1**

(ii)     increases

**1**

**[8]**

**Q6.**

(a)     (i)      4 (V)

*allow* ***1*** *mark for correct substitution*

**2**

(ii)     5 (V) or (9 – their (a)(i)) correctly calculated

*e.c.f*

*do* ***not*** *allow a negative answer*

**1**

(b)     (i)      thermistor

*c.a.o*

**1**

(ii)     0°C to 20°C

**1**

**[5]**