B1 Rev Pack 10 markscheme - Foundation

**M1.**(a)     (i)      **C** and **D**

*no mark if more than one box is ticked*

**1**

(ii)     any **one** from:

*do* ***not*** *allow if other cell parts are given in a list*

•        (have) cell wall(s)

•        (have) vacuole(s)

**1**

(b)     (i)      **A**

*apply list principle*

**1**

(ii)     **D**

*apply list principle*

**1**

(c)     respiration

*apply list principle*

**1**

**[5]**

**M2.**(a)    xylem **and** phloem

*either order*

*allow words ringed in box*

*allow mis-spelling if unambiguous*

**1**

(b)    (i)      movement / spreading out of particles / molecules / ions / atoms

*ignore names of substances / ‘gases’*

**1**

from high to low concentration

*accept down concentration gradient*

*ignore ‘along’ / ‘across’ gradient*

*ignore ‘with’ gradient*

**1**

(ii)     oxygen / water (vapour)

*allow O2 / O2*

*ignore O2/ O*

*allow H2O / H2O*

*ignore H2O*

**1**

**[4]**

**M3.**(a)     osmosis

**1**

partially permeable

**1**

(b)     (i)      any **two** from:

*allow correct answers in terms of A*

•        vacuole is small(er)

•        cytoplasm has shrunk

*allow cytoplasm is smaller*

•        gap between cytoplasm and cell wall

•        cell wall curves inwards

*allow cell B is flaccid or cell A is turgid*

•        the (cell) membrane has moved away from the wall

**2**

(ii)     any **one** from:

•        water will move / diffuse in

•        (cells) will swell

•        (cells) will burst

*ignore turgid*

**1**

(c)     villi give the small intestines a large surface area

**1**

villi have many blood capillaries

**1**

**[7]**

**M4.**          any **four** from:

•        cells used to treat diseases do not go on to produce a baby

•        produces identical cells for research

•        cells would not be rejected

•        allow cells can form different types of cells

•        (immature) egg contains only genetic information / DNA /  
genes / chromosomes from mother **or** there is only one parent

•        asexual / no mixing of genetic material / no sperm involved /  
no fertilisation **or** chemical causes development

•        baby is a clone

•        reference to ethical / moral / religious issues

*allow ethically wrong****NB*** *cloning is illegal gains* ***2*** *marks  
ignore unnatural*

•        risk of damage to the baby

*in correct context*

**[4]**

**M5.**(a)     (i)      stomach

**1**

(ii)     small intestine

**1**

(b)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **salivary glands** | **stomach** | **pancreas** | **small intestine** |
|  | **amylase** | ✓ | ✕ | ✓ | ✓ |
|  | **lipase** | ✕ | ✕ | ✓ | ✓ |
|  | **protease** | ✕ | ✓ | ✓ | ✓ |

***1*** *mark per correct row*

***or***

*if no correct row max* ***1*** *mark for any one correct column*

**2**

(c)     enzyme / protease / pepsin most effective in acid conditions / low pH

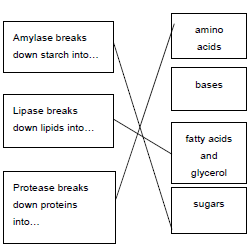
*accept optimum / correct pH*

*do not accept ref to incorrectly named enzymes*

*ignore killing bacteria*

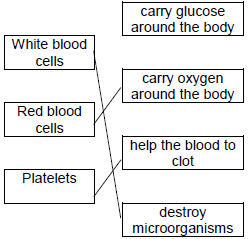
*ignore acid breaks down food*

**1**

(d)            **Enzyme**            **Breakdown products  
**

**3**

**[8]**

**M6.**(a)     (i)        


*one mark for each line*

*extra line negates a mark*

**3**

(ii)     any **one** from:

•        carbon dioxide / CO2

•        urea

*do* ***not*** *allow urine*

*ignore water*

*ignore ions*

**1**

(b)     (i)      B

**1**

(ii)     D

**1**

(iii)    vein

*accept correct named*

*examples*

**1**

(c)     (i)      any **one** from:

•        keeps artery / blood vessel open **or** widens artery / blood vessel

•        allows (more) blood to heart / cardiac muscle

•        (allows) blood to flow more easily

•        allows (more) oxygen to heart / cardiac muscle

**1**

(ii)     any **two** from:

•        bleeding

*allow blood clots*

•        infection

•        damaging blood vessels

•        damaging the heart

•        risk from anaesthetic

**2**

**[10]**

**M7.**(a)     (i)      xylem

**1**

(ii)     phloem

**1**

(iii)    transpiration

**1**

(iv)    stomata

**1**

**[4]**

**M8.**(a)     (i)      xylem

**1**

(ii)     water

**1**

minerals / ions / named example(s)

*ignore nutrients*

**1**

(b)     (i)      movement of (dissolved) sugar

*allow additional substances, eg amino acids / correct named sugar (allow sucrose / glucose)*

*allow nutrients / substances / food molecules if sufficiently qualified*

*ignore food alone*

**1**

(c)     (i)      mitochondria

**1**

(ii)     for movement of minerals / ions

*Do not accept ‘water’*

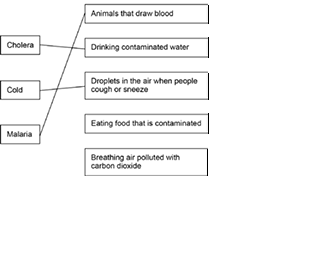
**1**

against their concentration gradient

**1**

**[9]**

**M9.**(a)     **Disease**       **Way the disease is spread**

****

*extra lines from left cancel the mark*

**3**

(b)     any **two** from:

•        skin acts as a barrier

•        blood clots (over cuts)

•        nose (hairs) catch particles (breathed in)

•        mucus (in trachea / bronchi) traps microorganisms

•        acid in stomach kills microorganisms

**2**

(c)     because measles is a virus

**1**

(d)     28 / twenty eight

*± 0.5 small square tolerance*

**1**

(e)     2.5

**1**

(f)     number will decrease

**1**

less likely to come into contact with someone with measles / the disease

**1**

**[10]**

**M1**

**M10.**(a)     water + carbon dioxide     oxygen + glucose

*extra box ticked negates mark*

**1**

(b)     **Level 3 (5–6 marks):**

A coherent method is described with relevant detail, which demonstrates a broad understanding of the relevant techniques and procedures. The steps in the method are logically ordered. The method would lead to the production of valid results.

**Level 2 (3–4 marks):**

The bulk of the method is described with mostly relevant detail, which demonstrates a reasonable understanding of the relevant scientific techniques and procedures. The  
method may not be in a completely logical order and may be missing some detail.

**Level 1 (1–2 marks):**

Simple statements are made which demonstrate some understanding of some of the relevant scientific techniques and procedures. The response may lack a logical structure and would not lead to the production of valid results.

**0 marks:**

No relevant content

**Indicative content**

•        description of how the apparatus would be used

•        reference to control intensity of light / brightness

•        use of ruler to measure distance of light from beaker / pondweed

•        reference to varying colour of light or use of different filters

•        plant releases gas / oxygen

•        measure number of bubbles / volume of gas produced

•        same length of time

•        reference to control of temperature

•        reference to control / supply of carbon dioxide in water

•        do repeats and calculate a mean

**6**

**[7]**