QUESTIONSHEET 1

(a)		A - liver;	**1**
		B -brain;	**1**
		C - heart;	**1**
		D - lung;	**1**
		E - kidney;	**1**
(b)	(i)	E/kidney;	**1**
	(ii)	C/heart;	**1**
	(iii)	B/brain;	**1**
	(iv)	D/lungs;	**1**

TOTAL 9

QUESTIONSHEET 2

(i)	artery;	**1**
(ii)	eye;	**1**
(iii)	stomach;	**1**
(iv)	liver;	**1**
(v)	vein;	**1**
(vi)	alveolus;	**1**
(vii)	testes;	**1**
(viii)	oesophagus/gullet;	**1**
(ix)	ovary;	**1**
(x)	bladder;	**1**

TOTAL 10

QUESTIONSHEET 3

(a)	(i)	respiration;	**1**
	(ii)	sensitivity/irritability;	**1**
	(iii)	excretion;	**1**
	(iv)	reproduction;	**1**
(b)	(i)	by eating plants or other animals;	**1**
	(ii)	green plants make food/sugar/starch;	**1**
		by photosynthesis;	**1**

TOTAL 7

QUESTIONSHEET 4

(a)	(i)	root;	**1**
	(ii)	flower;	**1**
	(iii)	leaf;	**1**
	(iv)	anther;	**1**
	(v)	stem;	**1**
(b)	(i)	cell wall;	**1**
	(ii)	nucleus;	**1**

TOTAL 7

QUESTIONSHEET 5

(a) (i) A; **1**

(ii) B; **1**

(b) (i) many chloroplasts/large amount of chlorophyll; **1**

(ii) large surface area;

(c) 3 of:
cell wall;
cell membrane;
cytoplasm;
vacuole;
nucleus; **3**

(d) chloroplast; **1**

TOTAL 7

QUESTIONSHEET 6

1. All human cells have a nucleus. ☐

2. Xylem cells in plants carries water. ☑

3. Chloroplasts are found in cells of the leaf. ☑

4. Chromosomes are found inside chloroplasts. ☐

5. Cell walls are found in all animal cells. ☐

6. An organ is a group of cells with the same structure and function. ☐

7. All cells have a cell membrane. ☑

8. All animal cells contain cytoplasm. ☑

9. Vacuoles are found in most plant and animal cells. ☐

10. Genes are found on chromosomes. ☑

TOTAL 5

QUESTIONSHEET 7

(a) A - cell membrane; **1**

D - cell wall; **1**

F - vacoule; **1**

(b) (i) cell Y; **1**

(ii) 2 of:
presence of cell wall;
presence of chloroplasts;
presence of vacuole; **2**

(c) (i) site of chemical reactions in cell; **1**

(ii) controls activity of cell; **1**

(iii) absorbs light/makes food; **1**

TOTAL 9

QUESTIONSHEET 8

(a) sperm cell;
neurone;
red blood cell; **3**

(b)

	True	**False**
All living organisms consist of cells	3	
Both animal and plant cells have a cell wall		3;
Both animal and plant cells have a cell membrane	3;	
Both animals and plant cells contain a vacuole		3
All plants cells contain chloroplasts		3

4

TOTAL 7

QUESTIONSHEET 9

(a) A - red blood cell;

B - nerve cell;

C - sperm cell;

D - ciliated epithelial cell;

E - white blood cell; **5**

(b) (i) A; **1**

(ii) D; **1**

(iii) C; **1**

(iv) E; **1**

(v) B; **1**

(vi) A; **1**

(vii) B; **1**

TOTAL 12

QUESTIONSHEET 10

(a) 2 of:
cell wall;
vacuole;
chloroplast; **2**

(b) cell membrane; **1**

(c)

	Structure		
Type of cell	**Nucleus**	**Vacuole**	**Cytoplasm**
Red blood cell			√;
Nerve cell	√;		√;
Root hair cell	√;	√;	√;

6

TOTAL 9

QUESTIONSHEET 11

(a) iodine diffuses into/through visking tubing;
which is semi/selectively/differentially permeable;
and reacts with iodine; **3**

(b) starch is unable to pass through visking tubing; **1**

(c) (i) dark blue; **1**

(ii) iodine diffuses out of tubing;
and reacts with starch; **2**

(d) volume would increase; **1**

TOTAL 8

QUESTIONSHEET 12

(a) (i) B; **1**

(ii) A; **1**

(iii) C; **1**

(iv) B; **1**

(v) A; **1**

(vi) D; **1**

(b) tongue; **1**

TOTAL 7

QUESTIONSHEET 13

(a) water moves into visking tubing;
by osmosis;
from high concentration to low concentration;
and forces liquid up the tube; **4**

(b) (i) level of water would fall; **1**

(ii) water passes out of visking tubing;
lowering level;
sugar solution is unable to enter visking tubing; **3**

(c) visking tubing is semi/selectively/differentially permeable/allows water through but not sugar; **1**

TOTAL 9

QUESTIONSHEET 14

(a) (i) A - 46; **1**

(ii) B - 46; **1**

(iii) C - 46; **1**

(iv) D - 23; **1**

(b) (i) A; **1**

(ii) B; **1**

(c) 4 cells produced in type B division/2 cells in type A;
cells produced in type B division have 23 chromosomes/cells from type A have 46 chromosomes; **2**

(d) genes are found on chromosomes;
chromosomes are found in the nucleus; **2**

TOTAL 10

QUESTIONSHEET 15

(a) 6 correct plots;;
plots joined by line; **3**

(b) (i) 2% and 4 %;
(ii) concentration of water is more concentrated outside potato; **1**
water passes into cylinder;
by osmosis;
causing cylinder to swell; **4**

(c) 6%; **1**

(d) (i) 3/60 x 100;
= 5%; **2**

(ii) water moves from high concentration inside potato;
to low concentration outside potato;
by osmosis;
causing potato cylinder to shrink; **4**

TOTAL 15

QUESTIONSHEET 16

(a) red blood cells have no nucleus;
therefore no chromosomes and no DNA; **2**

(b) sperm cells are formed by meiosis;
in which chromosome number is halved/have only 23 chromosomes;
therefore DNA content is halved; **3**

(c) (i) 800; **1**

(ii) 400; **1**

TOTAL 7

QUESTIONSHEET 17

(a) (i) 20 mm; **1**

(ii) 55mm; **1**

(b) 3.5 mm per minute; **1**

(c) rate slowed; **1**

(d) water passes into visking tubing;
by osmosis;
and forces water up the glass tube; **3**

TOTAL 7

QUESTIONSHEET 18

(a) arrow from B to A; **1**

(b) osmosis; **1**

(c)

	Diffusion	Active transport
Requires energy	8	3
Molecules always move from a high concentration to a lower concentration	3;	8;
Molecules can move from a lower to a higher concentration, against the concentration gradient	8;	3;

4

TOTAL 6

QUESTIONSHEET 19

(a) water enters red blood cell;
by osmosis;
from high concentration to low concentration;
red blood cells have no cell wall so burst; **4**

(b) water enters plant cells;
by osmosis;
due to their cell wall they do not burst; **3**

TOTAL 7

QUESTIONSHEET 20

(a) lungs; **1**

(b) inside alveolus; **1**

(c) in blood plasma; **1**

(d) oxygen dissolves in film of moisture;
diffuses through alveolar and capillary walls;
into red blood cells; **3**

(e) 3 of:
large surface area;
thin wall;
moist/film of moisture;
well supplied with blood capillaries/good blood supply; **3**

TOTAL 9