

Chapter 2 – Structure and function of body systems

Question	Answers	Extra information	Mark
1(a)	tissue		1
(b)	heart/brain/lungs	Accept any named organ	1
(c)	heart – pumps blood brain – controls body lungs – take in oxygen	Accept any linked function	1
2(a)	From top left clockwise: ribs trachea alveoli (air sacs) diaphragm		1 1 1 1
(b)	oxygen respiration carbon dioxide		1 1 1
3(a)	makes blood		1
(b)	support/protection/movement		1
(c)	tendon		1
4(a)	ribcage moves up diaphragm moves down chest volume increases		1 1 1
(b)i	balloons		1
(b)ii	diaphragm		1

Question	Answers	Extra information	Mark
5(a)	cartilage – prevents the ends of the bones from rubbing together ligament – connects the bones together fluid – lubricates the joint so bones slide over each other smoothly	1 mark for one correctly matched	2
(b)i	newton		1
(b)ii	so the table does not move/provides resistance to push against	Accept any other suitable suggestion	1
6(a)	to produce new organisms/offspring		1
(b)	a group of organs working together to perform a function		1
(c)	multicellular organisms are made of many cells unicellular organisms consist of only one cell		1 1
7(a)	trachea	Accept windpipe	1
(b)	to protect the lungs	Accept heart	1
(c)	Any two from: <ul style="list-style-type: none"> • large surface area • thin walls/walls one cell thick • good/rich blood supply 		2
8(a)	2650		2
(b)	2630	Allow $(2600 + 2650 + 2640) \div 3$ for 1 mark Accept ECF from part a for 2 marks	2
(c)	older/younger/lower fitness level/asthmatic	Accept any other appropriate suggestion	1
(d)	Any two from: <ul style="list-style-type: none"> • contains more carbon dioxide • contains less oxygen • warmer • contains more water vapour 		2

Question	Answers	Extra information	Mark
9	Any four from: <ul style="list-style-type: none"> • antagonistic muscles control the movement of joints • as one muscle contracts, the other relaxes • to cause movement, muscles pull on bones • muscles pull on bones when they contract • to bend the knee, the hamstring contracts (and the quadriceps relaxes) • to straighten the knee, the quadriceps contract (and the hamstring relaxes) 		4
10(a)	oxygen is used in respiration carbon dioxide is produced as a waste product		1 1
(b)	contains more water vapour/is warmer		1
(c)	Any four from: <ul style="list-style-type: none"> • muscles between the ribs contract • so ribcage moves down and in • diaphragm relaxes • and moves up • this decreases the volume of the chest • increasing pressure in the lungs • forcing air out of the lungs 		4
SPACED LEARNING QUESTIONS			
11(a)	smallest unit of a living organism		1
(b)	cell wall – surrounds the cell, providing support mitochondria – where respiration takes place nucleus – controls the cell, contains genetic material	1 mark for one correctly matched	2
(c)	microscope		1
12(a)	plant		1

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Answers

Question	Answers	Extra information	Mark
(b)	Any two from: <ul style="list-style-type: none">• have cell walls• have chloroplasts• regular structure/fit together like bricks		2
(c)	mitochondria	Accept mitochondrion	1