



Rewarding Learning

General Certificate of Secondary Education
2011–2012

Science: Double Award (Modular)

Living Organisms and the Processes of Life

End of Module Test

Foundation Tier

A

[GDA01]

MONDAY 27 FEBRUARY 2012

9.30 am–10.15 am

**MARK
SCHEME**

		AVAILABLE MARKS
1	(a) vitamin D calcium	[2]
	(b) iron used to make haemoglobin/used in red blood cells	[1]
2	(a) cell membrane/plasma membrane	[1]
	(b) respiratory passages/oviduct/nose/throat (not lungs)	[1]
	(c) ciliated cell has no cell wall/no chloroplasts/no large vacuole/plant cell has vacuole	[1]
3	(a) A – pancreas B – large intestine/colon	[2]
	(b) it is long/has folds; thin walls/one cell thick for absorption gives large surface area for absorption/time for all food to be digested has villi/microvilli → large surface area good blood supply → for diffusion or absorption	[2]
4	(a) osmosis	[1]
	(b) xylem	[1]
	(c) travelled in/xylem in leaves/pulled up by transpiration into veins	[1]
5	(a) renal artery	[1]
	(b) urine (not urea)	[1]
	(c) osmoregulation/control of water level	[1]
6	(a) optic nerve/nerve leading to brain (not nerve on its own)	[1]
	(b) controls amount of light that enters eye	[1]
	(c) both rays to meet on the retina	[1]

		AVAILABLE MARKS
7	<p>(a) any three from: antigen (on surface of micro-organism); antibodies made to match antigen/antibodies lock onto the micro-organism/bacteria lock onto antigen; (not disease) produce clump; stops micro-organism spreading or makes easier to engulf</p>	[3]
	(b) Active	[1]
8	<p>(a) (i) G</p> <p>(ii) E</p>	[1] [1]
	(b) appropriate direction of arrows through each side of the heart: from D through to E; from G through to F in heart	[2]
9	<p>(a) Any two from: (assume inhaled)</p> <ul style="list-style-type: none"> • inhaled air has more oxygen or converse: exhaled has less O₂ • inhaled air has less carbon dioxide or converse • inhaled air has less water vapour or converse • inhaled air is colder or converse 	[2]
	<p>(b) Any two from:</p> <ul style="list-style-type: none"> • large surface area/lots of them • good blood supply/capillaries close by • moist • short diffusion distance/thin walls of alveoli or capillaries/very thin • permeable 	[2]
10	(a) starch is too large to pass through the Visking tubing/membrane	[1]
	(b) starch (in the tubing) broken down to sugar; by amylase; sugar small enough to escape from the tubing (not conc. gradient)	[3]
11	<p>tube A; snail respire/produces carbon dioxide; in tubes B/C plant takes in carbon dioxide; by photosynthesis in tube A no pondweed to absorb CO₂</p>	[4]

