
SCIENCE

1113/02

Paper 2

For Examination from 2014

SPECIMEN MARK SCHEME

MAXIMUM MARK: 50

This document consists of 7 printed pages and 1 blank page.

Question	1												
Part	Mark	Answer	Further Information										
(a)	3	<table border="0"> <thead> <tr> <th>part</th> <th>function</th> </tr> </thead> <tbody> <tr> <td>flower</td> <td>photosynthesis</td> </tr> <tr> <td>leaf</td> <td>absorption of water</td> </tr> <tr> <td>root</td> <td>transport of water and minerals</td> </tr> <tr> <td>stem</td> <td>reproduction</td> </tr> </tbody> </table>	part	function	flower	photosynthesis	leaf	absorption of water	root	transport of water and minerals	stem	reproduction	3 or 4 correct = 3 marks 2 or 3 correct = 2 marks 1 correct = 1 mark Accept line from root to transport of water and minerals
part	function												
flower	photosynthesis												
leaf	absorption of water												
root	transport of water and minerals												
stem	reproduction												
(b)	2	<table border="0"> <tr> <td>(carbon dioxide)</td> <td>+</td> <td>water</td> <td>→</td> <td>(glucose)</td> <td>+</td> <td>oxygen</td> </tr> </table>	(carbon dioxide)	+	water	→	(glucose)	+	oxygen	water / H ₂ O as reactant = 1 mark oxygen / O ₂ as product = 1 mark			
(carbon dioxide)	+	water	→	(glucose)	+	oxygen							
Total	5												

Question	2								
Part	Mark	Answer	Further Information						
	2	<table border="1"> <thead> <tr> <th>metal or non-metal</th> </tr> </thead> <tbody> <tr> <td>metal</td> </tr> <tr> <td>metal</td> </tr> <tr> <td>non-metal</td> </tr> <tr> <td>non-metal</td> </tr> <tr> <td>metal</td> </tr> </tbody> </table>	metal or non-metal	metal	metal	non-metal	non-metal	metal	5 correct = 2 marks 3 or 4 correct = 1 mark 1 or 2 correct = 0 mark Accept non-metal for last row (graphite)
metal or non-metal									
metal									
metal									
non-metal									
non-metal									
metal									
Total	2								

Question	3		
Part	Mark	Answer	Further Information
(a)	1	The person does not sink into the snow because the force acts on a larger area so that the pressure is less.	All three in correct order needed = 1 mark
(b)	1	The edge of the sharp knife has a smaller area so the force acting on the knife produces a larger pressure .	All three in correct order needed = 1 mark
Total	2		

Question	4		
Part	Mark	Answer	Further Information
(a)	1	so they start with same amounts / allows comparisons to be made / controls a variable	Accept a fair test
(b)	1	so the algae could grow	
(c)	2	(colour of algae) gets darker / increases / greener gets lighter / decreases (after concentration of 4)	Accept (colour is) greatest at concentration of 4 / darkest at concentration of 4 = 2 marks
(d)	1	When the concentration of magnesium sulfate is 4 the algae grow fastest .	
Total	5		

Question	5		
Part	Mark	Answer	Further Information
(a)	1	iron	
(b)	1	mercury	
(c)	1	oxygen	
Total	3		

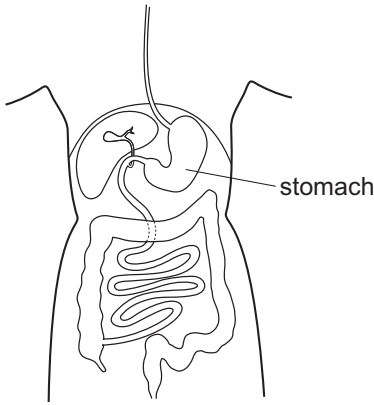
Question	6		
Part	Mark	Answer	Further Information
(a) (i)	1	B	
(ii)	1	A	
(iii)	1	E	
(b)	1	(idea of) Venus is reflecting light from the Sun	
Total	4		

Question	7		
Part	Mark	Answer	Further Information
(a)	3	chloroplast cell wall (large) vacuole	1 mark for each correct answer
(b)	1	chloroplast	Ignore chlorophyll
Total	4		

Question	8		
Part	Mark	Answer	Further Information
(a)	1	mantle	Do not accept magma
(b)	1	iron	
(c)	1	1.1 million years old <input type="checkbox"/> 1200 million years old <input type="checkbox"/> 2100 million years old <input type="checkbox"/> 3200 million years old <input type="checkbox"/> 4600 million years old <input checked="" type="checkbox"/>	More than one tick = 0 marks
Total	3		

Question	9		
Part	Mark	Answer	Further Information
(a)	1	300 (MJ)	
(b)	1	600 (MJ)	
Total	2		

Question	10		
Part	Mark	Answer	Further Information
(a)	1	convection	
(b)	1	conduction	
Total	2		

Question	11												
Part	Mark	Answer	Further Information										
(a)	1	oesophagus	Accept gullet										
(b)	1												
(c)	2	<table border="0"> <thead> <tr> <th>organ</th> <th>function</th> </tr> </thead> <tbody> <tr> <td>large intestine</td> <td>food is mixed up into a creamy liquid</td> </tr> <tr> <td>small intestine</td> <td>digests proteins, carbohydrates and fats and absorbs water, amino acids, sugars and fatty acids</td> </tr> <tr> <td>stomach</td> <td>absorbs water</td> </tr> <tr> <td></td> <td>food is chewed into smaller pieces</td> </tr> </tbody> </table>	organ	function	large intestine	food is mixed up into a creamy liquid	small intestine	digests proteins, carbohydrates and fats and absorbs water, amino acids, sugars and fatty acids	stomach	absorbs water		food is chewed into smaller pieces	3 correct = 2 marks 2 correct = 1 mark 1 correct = 0 mark
organ	function												
large intestine	food is mixed up into a creamy liquid												
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stomach	absorbs water												
	food is chewed into smaller pieces												
Total	4												

Question	12		
Part	Mark	Answer	Further Information
(a)	2	(6cm) = 2 (11cm) = 1.5	
(b)	1	<p>the amplitude does not change with distance <input type="checkbox"/></p> <p>the amplitude decreases with distance <input checked="" type="checkbox"/></p> <p>the amplitude increases with distance <input type="checkbox"/></p> <p>there is no pattern in the results <input type="checkbox"/></p>	
Total	3		

Question	13		
Part	Mark	Answer	Further Information
(a)	1	<p>acid <input type="checkbox"/></p> <p>alkali <input type="checkbox"/></p> <p>catalyst <input checked="" type="checkbox"/></p> <p>metal <input type="checkbox"/></p>	
(b) (i)	1	temperature	
(b) (ii)	1	<p>Any one from:</p> <p>concentration of hydrogen peroxide / volume of hydrogen peroxide / amount of hydrogen peroxide</p> <p>amount of catalyst</p>	<p>Ignore same apparatus</p> <p>Accept particle size of the manganese (IV) oxide</p>
Total	3		

Question	14		
Part	Mark	Answer	Further Information
(a)	1	aluminium copper <u>iron</u> lead	
(b)	2	carbon dioxide hydrogen nitrogen <u>oxygen</u> <u>water</u>	1 mark for each
(c)	1	paint	Accept coat in oil / galvanise Do not accept cover unqualified
Total	4		

Question	15		
Part	Mark	Answer	Further Information
	2	either way round A (and) E	2 correct = 2 marks 3 written, 2 correct = 1 mark 4 written, 2 correct = 0 marks
Total	2		

Question	16		
Part	Mark	Answer	Further Information
	2	The car is slowing down. The forces that slow the car down are air resistance and friction .	Any order 1 mark for each
Total	2		

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