

Additional Applied Science A

General Certificate of Secondary Education

Unit **A324/02**: Life Care (Higher Tier)

Mark Scheme for January 2013

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2013

Annotations

Annotation	Meaning
/	alternative and acceptable answers for the same marking point
(1)	separates marking points
not/reject	answers which are not worthy of credit
ignore	statements which are irrelevant – applies to neutral answers
allow/accept	answers that can be accepted
(words)	words which are not essential to gain credit
words	underlined words must be present in answer to score a mark
ecf	error carried forward
AW/owtte	alternative wording
ORA	or reverse argument
Annotation	Meaning
	indicate uncertainty or ambiguity
	benefit of doubt
	contradiction
	incorrect response
	error carried forward
	draw attention to particular part of candidate's response
	draw attention to particular part of candidate's response
	draw attention to particular part of candidate's response

Annotation	Meaning
	no benefit of doubt
	reject
	correct response
	draw attention to particular part of candidate's response
	information omitted

Subject-specific Marking Instructions

- If a candidate alters his/her response, examiners should accept the alteration.
- Crossed out answers should be considered only if no other response has been made. When marking crossed out responses, accept correct answers which are clear and unambiguous.

Eg

For a one mark question, where ticks in boxes 3 and 4 are required for the mark:

Put ticks (✓) in the two correct boxes.

<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 1 mark.

Put ticks (✓) in the two correct boxes.

<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 0 marks.

Put ticks (✓) in the two correct boxes.

<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 1 mark.

c. The list principle:
 If a list of responses greater than the number requested is given, work through the list from the beginning. Award one mark for each correct response, ignore any neutral response, and deduct one mark for any incorrect response, eg one which has an error of science. If the number of incorrect responses is equal to or greater than the number of correct responses, no marks are awarded. A neutral response is correct but irrelevant to the question.

d. Marking method for tick boxes:

Always check the additional guidance.

If there is a set of boxes, some of which should be ticked and others left empty, then judge the entire set of boxes.

If there is at least one tick, ignore crosses. If there are no ticks, accept clear, unambiguous indications, eg shading or crosses.

Credit should be given for each box correctly ticked. If more boxes are ticked than there are correct answers, then deduct one mark for each additional tick. Candidates cannot score less than zero marks.

Eg If a question requires candidates to identify a city in England, then in the boxes

Edinburgh	
Manchester	
Paris	
Southampton	

the second and fourth boxes should have ticks (or other clear indication of choice) and the first and third should be blank (or have indication of choice crossed out).

Edinburgh			✓			✓	✓	✓	✓	
Manchester	✓	x	✓	✓	✓				✓	
Paris				✓	✓		✓	✓	✓	
Southampton	✓	x		✓		✓	✓		✓	
Score:	2	2	1	1	1	1	0	0	0	NR

Question		Answer	Marks	Guidance
1	(a)		4	
	(b)	<p>any two pairs from</p> <ul style="list-style-type: none"> large surface area (1) allows more gas exchange to occur at any one time (1) thin walls (1) short diffusion distance for gases (1) moist walls (1) gases dissolve / speeds up diffusion (1) good blood supply (1) maintains concentration gradient owtte (1) 	4	
	(c) (i)	there are a number of different treatments available and some may be more effective for him than others	1	

Question		Answer	Marks	Guidance
	(ii)	asthma is incurable (1) medication is treating the symptoms (1)	2	
Total			11	

Question		Answer	Marks	Guidance
2		<p>to advertise new drugs <input type="checkbox"/></p> <p>to plan suitable healthcare... <input checked="" type="checkbox"/></p> <p>to make health care available to all ... <input checked="" type="checkbox"/></p> <p>to provide specialist care... <input checked="" type="checkbox"/></p> <p>to promote pregnancy... <input type="checkbox"/></p> <p>to test out new medicines <input type="checkbox"/></p>	3	
Total			3	

Question		Answer	Marks	Guidance	
3	(a)	<p>any three from</p> <p>smoking habits (1)</p> <p>smoking can reduce ability to exercise energetically so it could be dangerous (1)</p> <p>current medication (1)</p> <p>sensible suggestion, such as, if you are taking insulin will know what to do if you collapse during exercise (1)</p> <p>family medical history / previous treatments (1)</p> <p>previous treatments to ensure that the exercise regime will not aggravate previous injuries such as a bad back (1)</p> <p>general level of physical activity (1)</p> <p>in order to produce a safe and suitable exercise programme (1)</p> <p>alcohol consumption (1)</p> <p>it is not safe to operate most gym equipment if under the influence of alcohol (1)</p>	4	<p>not a vague reference to it being dangerous or making you ill, it must be linked to the factor stated in</p> <p>looking for three named factors for 2 marks</p> <p>looking for two good and relevant explanations for 2 marks</p>	
	(b)	(i)	$\frac{300 \times 100}{(124 + 100 + 76) \times 2} \quad (1)$ $=50 \quad (1)$	2	allow 50 for 2 marks
		(ii)	<p>Matthew is average</p> <p>Mathew's girlfriend is above average</p>	1	both required
		(iii)	<p>(Ian has a poor fitness level) needs aerobic exercise / to build stamina / named example of exercises he could do / idea of monitoring his progress or increasing training as he improves</p>	2	looking for a sensible suggestion of an exercise programme rather than just a list of exercises stemming from the basis that he has a poor level of fitness to start with
			Total	9	

Question		Answer	Marks	Guidance
4	(a)	<p>any three from the overall number of new cases of HIV is dropping (1) public health campaigns aimed to raise awareness (1) people more aware, so take more care (1) it will save money in the long term (1) more people are aware (1) less people will contract HIV (1) people take more care and avoid getting it (1)</p>	3	
	(b)	<p>any three from cost of treatment (1) availability of treatment (1)</p> <p>lack of hospitals / doctors (1) lack of public information campaigns (1) poor access to condoms to prevent HIV infection (1)</p>	3	
		Total	6	

Question		Answer	Marks	Guidance
5	(a)	need to ensure she is fit enough to undergo the course of treatment (1) need to ensure that the treatment will actually benefit the patient in the long term (1)	2	there are many ways to express this answer but looking for the idea that treatments are expensive / a large commitment of time and staffing / therefore need to be sure that the patient is likely to survive the treatment and will actually be better off as a result of it
	(b) (i)	A (atrioventricular) valve B left atrium C <u>left ventricle</u>	2	A and B correct for 1 mark C correct for 1 mark
	(ii)	arrow to aorta or pulmonary artery	1	
	(c)	arteries carry blood at high pressure away from the heart (1) therefore need thicker walls / narrower lumen / no valves (1)	2	allow reverse argument but looking for a comparison to get both marks
		Total	7	
		Total	36	

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2013

