

Additional Applied Science A

General Certificate of Secondary Education

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

Mark Scheme for January 2012

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, OCR Nationals, 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 2012

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

Annotations

Used in the detailed Mark Scheme:

| 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 |

Available in scoris to annotate scripts

| | |
|---|---|
|  | 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 |
|  | 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 | Mark | Guidance |
|----------|-----|---|------|--|
| 1 | (a) | any three of: measure fitness (1) step test/ bleep test/ or other example (1) (repeat measurement) after a period of time (1) compare the performance (1) keeping record s/log | 3 | looking for some kind of test and the idea that is repeated over a period of time to allow comparison of performance to give a measure of progress |
| | (b) | any two of: progress may not be rapid enough (1) progress may be faster than expected (1) further injury may have happened (1) | 2 | allow illness allow programme not working / too hard / too easy |
| | (c) | <p>Saskia is tactful <input checked="" type="checkbox"/></p> <p>Saskia is very good at Biology <input type="checkbox"/></p> <p>Saskia has lots of friends who are <input type="checkbox"/></p> <p>Saskia recognises the importance <input type="checkbox"/></p> <p>Saskia shows empathy <input checked="" type="checkbox"/></p> <p>Saskia is very patient <input checked="" type="checkbox"/></p> | 3 | all correct = 3 mark 2 correct = 2 marks 1 correct = 1 mark |

| Question | | | Answer | Mark | Guidance |
|----------|-----|------|--|------|--|
| 2 | (a) | (i) | (from 1997 onwards) the % of obese women has increased (1) | 1 | allow comparison with men eg women more obese than men |
| | | (ii) | 420 000 | 1 | allow 0.42 million |
| | (b) | (i) | $\frac{124}{2^2}$ (1) 31 (1) | 2 | allow 1 mark for correct substitution allow 2 marks for correct answer |
| | | (ii) | obese (1) | 1 | allow ecf 1 mark |
| | (c) | | any three of: do you smoke (1) do you drink <u>alcohol</u> (1) do you take any drugs (1) do you do any regular exercise (1) | 3 | allow reference to a balanced diet ignore reference to medication / health issues |
| 3 | (a) | | any three of: blood capillaries carry more blood/dilate/vasodilation (1) allowing more blood to flow closer to surface (1) skin flushed/red (1) sweat produced (1) | 3 | look for body/skin response |
| | (b) | | any two from: doing the test carries a risk (1) risk assessment about the test carried out (1) Ralph must give his consent (1) do routine health check/medical history (1) | 2 | benefits outweigh the risks = 2 |
| | (c) | | an example of drug therapy (1) brief description of how it works (1) | 2 | allow any example that the student is likely to have come across together with a description of what it involves eg chemotherapy kills rapidly growing cells/cancer cells, antibiotics kill/reduce growth of bacteria/fungi (ignore reference to infections). allow analgesics / named painkillers/anti-inflammatories / statins / cholesterol reducing drugs etc |

| Question | | Answer | Mark | Guidance |
|--------------------|---------|--|-----------|---|
| 4 | (a) | normal is sample B anaemic is sample C infected is sample A | 1 | |
| | (b) | any three from: saliva (1) faeces (1) pus (1) tissue sample (1) | 3 | allow DNA/eggs/sperm/semen/mucus allow named tissue sample for one mark |
| | (c) | removes urea/waste (1) controls water levels (1) | 2 | allow removes water allow removes toxic waste |
| 5 | (a) | hCG (1) | 1 | allow HCG |
| | (b) (i) | both increase (1) rate of increase levels off in both (1) greater increase in non smoker (1) rate in smoker erratic (1) mean mass of smoker always lower (1) total increase greater in non smoker (1) | 3 | Level of response marking..... simple similarity (both go up) simple difference (goes up less) higher level comment eg rate decreases/ more of a rate decrease/ more unpredictability accept correct use of figures |
| | (ii) | fewer babies premature / underweight / needing specialist care (1) freeing up facilities/ cost less (1) will pay for programme or other treatments/ facilities (1) | 3 | allow more healthy babies allow reference to Anita/other adults less likely to develop smoking related diseases and so save NHS money for one mark |
| Paper 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 2012

