



General Certificate of Education

Health and Social Care
8621/8623

HC05

Mark Scheme

2009 examination - June series

This mark scheme uses the [new numbering system](#) which is being introduced for examinations from June 2010

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Quality of written communication

The quality of written communication is assessed in all assessment units where candidates are required to produce extended written material. Candidates will be assessed according to their ability to:

- Select and use a form and style of writing appropriate to purpose and complex subject matter
- Organise relevant information clearly and coherently, using specialist vocabulary when appropriate
- Ensure that text is legible, and that spelling, grammar and punctuation are accurate, so that meaning is clear.

Question 1

- 0 1** Ref to Martin's health and development in relation to high saturated fat intake – higher risk of atherosclerosis/atheroma (1) plaque formation in arteries/clogged arteries AW Not fat clogs arteries (1) causing Coronary heart disease/attacks (1) higher risk of strokes (1) allow ref to (higher blood) cholesterol/low density lipoprotein – LDL (1)Hypertension AW (1) weight gain/obesity (1) Not hypertension if related to salt
(4 marks)
- 0 2** Ref to Martin's health and development in relation to low dietary proteins : impaired cell/tissue repair (1) reduced maintenance body cells (1) less hormone production (1) less antibody production (1)
(3 marks)
- 0 3** Any one of: meat/dairy butter/milk/cream/cheese products/eggs/palm oil/coconut oil/cocoa butter
(1 mark)
- 0 4** Any one of: vegetable oils/olive oil/oily fish/margarine
(1 mark)
- 0 5** Ref to: Polyunsaturated fat (1) different from monounsaturated fat as it has more than one double bond in the molecule less hydrogen (1)
Allow reverse explanation for mono. Allow diagram if clearly labelled.
(2 marks)
- 0 6** Ref to protein being made of: carbon (1) hydrogen (1) oxygen (1) nitrogen (1) possibly sulphur (1) and/or phosphorus (1) allow ref amino acids (1)
(4 marks)

Question 2

- 0 7** Ref to Ayesha's intake being: enough AW Vit B9/Folic Acid (1)
Not excess of B9 but **slight** excess OK.
Not enough Iodine (1) not enough Iron (1)
(3 marks)

0 8 Ref to Ayesha's: Vit B9/Folic Acid – able to make nucleic acids/needed for reproduction/red blood cells max 2 marks
lack of Iodine – affects thyroid gland activity AW/slows metabolism/goitre formation/thyroxine – hormone reduced levels/weight gain max 2 marks
lack of Iron – Ayesha may become Anaemic/oxygen transport reduced/reduced respiration/lack of red blood cells/immunity reduced/haemoglobin/causing fatigue max 2 marks
(6 marks)

0 9 Vit. B9 – 1 mark for any one of the following: green leafy vegetables/mushrooms/liver/nuts.
Iodine – 1 mark for any one of the following: sea foods/milk/green vegetables such as spinach.
Iron – 1 mark for any one of the following: liver/kidney/plain dark chocolate/red meat/beans/breakfast cereals.
(3 marks)

1 0 Ref to Ayesha's level of physical exercise: the more exercise she does the more energy needed or vice versa or less carbohydrate and fat needed AW (1) metabolism from respiration food breakdown (1) more Carbohydrates (1) and/or fat needed (1)
(3 marks)

Question 3

1 1 Ref being Jewish – allowed Kosher foods (1) meat from animals with cloven hoofs (1) slaughtered by person with special religious licence (1) not Treifa – non Kosher foods (1) not allowed pork (1) not allowed dairy foods with meat (1) no shellfish (1) only fish with fins/tail (1)
(4 marks)

1 2 Ref to diabetes – need to control carbohydrate AW intake AW (1) avoid sugar rich foods – eat low sugar alternatives Not eats **no** sugar (1) eat at regular times (1) same amount daily (1) allow marks for explaining may be insulin problems (1) problems storing sugar as glycogen/ not absorbing sugar into liver/muscles (1)
(4 marks)

1 3 Mark allergens first then plus 3 explanation points of effects
Food allergies – allow two marks for any two of nuts/shellfish/fruits/eggs food additives eggs (2) plus any 3 of sufferers react to these foods abnormally AW (1) symptoms include anaphylaxis (1) hives rash (1) swellings (1) asthma breathing problems (1) as body releases large amounts of histamine (1)
(5 marks)

1 4 Antioxidants to prevent fat rancidity AW (1) slows destruction Vitamins A or C (1) prevent food browning (1) prevents **reaction** with **oxygen** **NOT** prevents oxidation
(2 marks)

Question 4

- 1 5** Allow 4 max for numerical comparisons plus 2 reasonable data related suggested reasons.
Ref to: Food prepared too far in advance and left at room temperature is most common cause (1) poor personal hygiene least common cause (1) similar numbers for undercooking food and cross contamination (1)
Allow up to 2 examples for other numerical comparisons e.g. food prepared in advance and left at room temperature 2x common as undercooking food (max 2) allow suggested reasons for data e.g. poor personal hygiene cases, low due to training/general understanding of risk (1) food prepared too far in advance and left at room temperature high numbers because life events often disrupt planned eating times also may occur in restaurants/canteens (1) undercooking food fairly common when some foods not properly thawed before cooking (1) not reheating food to a high enough temperature fairly low numbers as most foods eaten without being reheated AW (1) cross contamination fairly common e.g. raw meat juices dripping onto cooked foods (1)
- (6 marks)*
- 1 6** Ref to: microbes AW (1) not killed/destroyed (1) if not heated to high enough temperature (1) for long enough period of time during cooking (1) allow centre AW of food at lower temperature/not cooked (1)
- (4 marks)*
- 1 7** Any 2 of: Tie hair back/cover hair/remove jewellery – rings/wash hands after using toilet/wear disposable gloves when handling food/avoid coughing or sneezing over food/no smoking/wear apron – overalls – clean clothes/
- (2 marks)*
- 1 8** Any 3 of: the young/the elderly/people already ill/pregnant women/breast feeding women/those recovering from illness
- (3 marks)*