



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

General Certificate of Education

Health and Social Care 8621/8623/8626/8629

HC05 Nutrition and Dietetics

Mark Scheme

2007 examination – January series

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.

Nutrition and Dietetics

HC05

Question 1

- 1ai) Ref to – Cherie may develop constipation/bowel problems/bowel cancer AW (1) diverticular disease (1) bile salts will be reabsorbed AW (1) blood cholesterol/LDL may rise (1) resulting plaque/atherosclerosis AW (1) not feel full/overeate AW (1)
Not: digestive problems/become obese max 3 3 marks
- a ii) Any 2 of – (named) vegetables, pulses, wholegrain cereals, bran, fruits (named examples) max 2 2 marks
- bi)

<u>Macronutrients</u>	<u>Reason</u>	
Protein/Amino acid (1)	Growth/repair/hormones/antibodies/maintenance of cells/immune system/enzymes (1)	
Carbohydrate/starch/sugar (1)	Energy supply/storage (1)	
Fats/oils (1)	Insulation/protection/energy (storage) (1)	
max 2 linked 4 marks		
- bii) Protein/Amino acids – Any 3 of contain carbon (1) hydrogen (1) oxygen (1) nitrogen (1) possibly sulphur (1) and/or phosphorous (1) max 3
Carbohydrates – contain carbon (1) hydrogen (1) oxygen (1) generally twice as much hydrogen as oxygen (1) max 3
Fats – contain carbon (1) hydrogen (1) oxygen (1) relatively less oxygen than carbohydrates (1) max 3
If symbols – CHO/correct 3 = 1 Any 2 x 3
no description 6 marks

Question 2

- ai) Ref to: Insufficient VitB3 AW (1) – Allow about ½ / 50%
Enough Vit C AW (1) / about enough NOT excess
Insufficient Calcium AW (1) – about 60% 3 marks
- ii) Ref to: (Insufficient VitB3) may cause problems with carbohydrate metabolism/respiration (1) fat metabolism (1) nerve function (1) digestive system (1) sex hormone production (1) Allow body may manufacture VitB3 (1) from amino acid/tryptophan (1) max 3
(Enough Vit C) maintain healthy bones (1) skin/teeth/gums (1) ligaments (1) blood (1) operation of immune system (1) wound healing (1) max 3
(Insufficient Calcium) may affect bone maintenance AW (1) as Calcium phosphate (1) affects muscle contraction (1) nerve impulse transmission (1) blood clotting (1) max 3 9 marks
- b) Vit D – made by action of sunlight on the skin 1 mark
- c) Any 2 of: protection against cancer/diabetes/cardiovascular disease/hypertension AW 2 marks

Question 3

- ai) Ref to will not consume animal food AW (1) where animal has been harmed/slaughtered (1) may eat animal products/e.g. eggs/milk (1) max 2 2 marks
- aii) Ref to: very strict vegetarian AW (1) will eat no animal food (1) whether product/slaughtered
Ignore ref 'leather' (1) max 2 2 marks
- bi) Ref to: need increased intake AW (1) to provide energy (1) protein/ amino acids (1) for growth (of baby placenta) (1) and milk production (1) more iron/calcium (1) more Vitamin B9/Folic Acid (1) max 3 3 marks
- bii) Ref to: basal metabolic rate changes at different ages (1) (when young) grow bigger need bigger intake (1) post 18/ BMR declines (1) reduces intake need (1) (when old) intake need reduces (1) as tissue/body mass lost (1) max 3 3 marks
- biii) Ref to: cannot control sugar levels (in blood) (1) need to control carbohydrate intake AW (1) in terms of quantities/timing of intake/not take too much at once (1) or will excrete sugar/coma may result (1) Allow cannot store/ create glycogen (1) ref hypo/hyperglycaemia max 3 3 marks
- c) Any 2 of: anaphylaxis/rash/hives/asthma - symptom - breathless/throat swelling max 2 2 marks

Question 4

- a) Any of: Chicken/Turkey most common (1) in both years (1)
shellfish/fish least common (in both years) (1)
Chicken/Turkey 2x other meat/meat products 2003(1)
10x shellfish/fish 2003 (1) other meat much more common source of shellfish/fish (1)
Chicken/Turkey ½ number cases 2004 of 2003 (1)
Little change shellfish/fish (1) small drop/about same meat/meat products (1)
May indicate more chicken/turkey eaten of other two food sources (1)
or preparation of chicken/turkey less thorough (1) allow reverse argument shellfish/fish. max 7 7 marks
- bi) Ref to: clean overalls carry few microbes AW(1) ordinary clothes may transfer microbes (1) reduces risk of food contamination AW (1) max 2 2 marks
- ii) Ref to: jewellery may 'trap' microbes AW(1) which may reproduce/increase in numbers (1) food contaminated (1) may fall into food (1) max 2 2 marks
- iii) Ref to: rubbish may attract vermin/e.g. – rats/mice (1) carry/transfer microbes to work surfaces (1) microbes breed in rubbish (1) max 2
Do not allow vague transfer unless qualified. 2 marks

- c) Any two of: the young/pregnant women/those who are ill
recovering from illness

max 2

2 marks

Paper total 60 marks