



**General Certificate of Education (A-level) Applied  
June 2011**

**Health and Social Care**

**HC05**

**(Specification  
8621/8623/8626/8627/8629)**

**Unit 5: Nutrition and Dietetics**

**Final**

***Mark Scheme***

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**Question 1**

Question	Part	Sub Part	Marking Guidance	Mark	Comments
1	01		Ref to Eddie’s tissue maintenance being impaired AW cells – tissues not being repaired (1) his immunity may be reduced (1) due to less antibodies being produced (1) his enzyme production may be affected (1) hormones affected AW (1) max 4	4	Ignore growth
1	02		Ref to Eddie’s body lacking insulation (1) less protection around organs (1) lack energy stores/feel tired – cold (1) lack fat soluble vitamins (1)	3	
1	03		Any one of meat or named example – bacon – salami/milk/cheese/nuts/oily fish or example/peanut butter	1	
1	04		Saturated (1) Mono-unsaturated (1) Polyunsaturated (1)	3	
1	05		Ref to saturated fats having no double bonds (between carbon atoms) (1) unable to contain anymore hydrogen atoms AW (1) mono-unsaturated fats have one double bond (1) two less hydrogen atoms than a saturated fat would have (1) polyunsaturated fats have several double bonds (1) much less hydrogen atoms AW (1) max 4	4	Allow fewer hydrogen atoms mark only once

**Question 2**

Question	Part	Sub Part	Marking Guidance	Mark	Comments
2	06		Ref to Alice having enough Vitamin C AW (1) not enough/65% of Iron (1) not enough/less than 50% AW of Iodine (1)	3	Not Vit C – slight excess Not Iron/Iodine – slight-small deficiency Not: Iron 3.5 below Not: Iodine 65 below

2	07	<p>Likely points will include ref to Alice’s Vitamin C intake helping build her connective tissue – skin/gums / aiding iron absorption / acting as an antioxidant/would help her wounds heal. Ref to Alice’s Iron intake being low increases her risk of anaemia /as she will have less – smaller red blood cell/less haemoglobin content / causing tiredness – paleness / reduced oxygen transport/ reduced resistance to infectious diseases. Ref to Alice’s Iodine intake being low which would cause her to produce less thyroxine/thyroid hormones / risk of developing goitre AW / cellular respiration – energy release impaired AW / possible hypothyroidism.</p> <p>Mark Ranges                      0 marks No response worthy of credit                      1-2 marks probably only 1-3 accurate points made, not reasoned or detailed. Answers vague and superficial. There will be errors in spelling, punctuation and grammar.                      3-4 marks Likely to make 3 or more accurate points with some reasoning of how the effect(s) are caused. Answers are organised but lack precision. There may be errors in spelling, punctuation and grammar.                      5-6 marks Answers likely to cover at least five accurate points, all reasoned logically showing understanding. Answers are well structured with good spelling, punctuation and grammar throughout.</p>	6	
2	08	<p>Likely foods are: meat/liver/black pudding/peas/beans/kidney/breakfast cereals/spread/cabbage (1) (to raise iron content) produce haemoglobin/help make red blood cells (1) <span style="float: right;">2 marks</span></p> <p>Seafood or examples/iodised salt/milk/green vegetables/seaweed (1) (to raise iodine content) to help produce thyroxine/aid energy release AW (1) <span style="float: right;">2 marks</span></p>	4	If foods only named without links then 1 mark if first correct in either category.
2	09	<p>Ref to cholesterol helping Alice with bile salts production/cell membranes/hormone production/fat transport in blood/protecting against arterial disease (HDL) <span style="float: right;">max 2</span></p>	2	

**Question 3**

Question	Part	Sub Part	Marking Guidance	Mark	Comments	
3	10		<p><u>Food Additive (1)</u> Antioxidants</p> <p>Preservatives</p> <p>Emulsifiers/Stabilisers</p> <p>Flavour enhancers/sweeteners</p> <p>Colourings</p> <p>Micronutrients or example</p> <p>Texture enhancers</p> <p>Bleaching agents</p> <p>Anti-caking agent</p> <p>max 2</p>	<p><u>Reasons for use (1)</u> prevent reaction with oxygen in the air/prevents vitamin breakdown/prevents oils/fat becoming rancid/improves shelf life AW</p> <p>prevent food deterioration AW/destroy – reduce microbial growth AW</p> <p>maintain emulsions – mixtures e.g. oil and water</p> <p>improve palatability of foods</p> <p>improve appearance of foods AW</p> <p>improve nutritional value of foods/health purposes or example</p> <p>maintain texture – physical 'state' of food</p> <p>remove unwanted colours from foods/improve appearance</p> <p>maintains separation of particles AW</p> <p>linked</p> <p>max 2</p>	4	n.b different reasons needed
3	11		Ref to nutritional values: as quantities in foods (1) of macronutrients (1) and micronutrients - vitamins - minerals(1) allow examples of macronutrients and micronutrients for the marks.	3		
3	12		Ref to palatability – how much a food appeals to an individual AW(1) usually dependent on - sight - taste (1) and/or source/nature of the food (1) Allow example of foods not appealing if explained e.g. some may find tripe unpalatable since it is made from cow intestines (1)	3		

3	13		Any 2 of costs of food materials/ease of preparation/variety/age/gender/level of physical activity AW/religion - culture/illness or example/pregnancy	2	
3	14		Ref to individuals with lactose intolerance unable to digest lactose/milk sugar/milk (1) due to low levels of lactase/the appropriate enzyme (1) need to avoid milk and milk products (1) as these may cause stomach pain/diarrhoea if consumed (1) max 3	3	

#### Question 4

Question	Part	Sub Part	Marking Guidance	Mark	Comments
4	15		<p>Likely responses will include: Overall more allergic reactions in children than adults/suggests adults may 'outgrow' allergies/adults know foods to avoid/Foods 1/3 may be eaten more by children than adults/children more sensitive/Food 2 adults and children similarly affected/Food 1 allergic reactions most common – Food 3 least common cause children and adults/Food 1 widely eaten – Food 3 much less so/Allow symptoms for Food 1 and/or 3 may be milder – unnoticed in adults c.f. children.</p> <p>Mark Ranges</p> <p>0 marks No response worthy of credit</p> <p>1-2 marks Probably only 1-3 points made, of straight forward comparison e.g. more/less without reasoning. Probably mostly about differences c.f. similarities. Answers vague and superficial. There will be errors in spelling, punctuation and grammar.</p> <p>3-4 marks Likely to make 3 or more points with some reasoning of why there are similarities and differences. Answers are organised but lack precision. There may be errors in spelling, punctuation and grammar.</p> <p>5-6 marks Answers likely to cover most of the likely responses, all supported with reasoned suggestions for differences and similarities. Answers are well structured with good spelling, punctuation and grammar throughout.</p>	6	
4	16		Any three of: Shell fish/Eggs/Peanuts/Wheat/Cow's milk/Soya/Fish/food additives/strawberries.	3	

4	17		Ref to hot water and detergent removing food debris/spillages (1) reduced opportunities for microbial growth/reproduction AW (1) reducing cross-contamination of other foods prepared on the surface (1) max 3	3	Ignore kills bacteria unless specifies detergent contains microbial-killing chemicals (1)
4	18		Ref to high temperatures destroying microbes (1) prevent growth/reproduction/reduce microbe numbers (1) if long enough time ensures all parts of food sufficiently heated AW (1) no transfer of food poisoning microbes from food to person when eaten (1) max 3	3	