

GCSE 2004  
*June Series*



# Mark Scheme

## Home Economics: Food and Nutrition

3562 Higher Tier

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*Dr Michael Cresswell Director General*

## GCSE Home Economics: Food and Nutrition

## Higher Tier

Ques.	Responses to be credited	Marks
1 a)	<p>677.2kcal (accept 677 kcal) 34.05g (accept 34g) <b>Must get both answers for 1 mark including unit</b></p>	1
b)	1822.8 kcal (accept 1822 kcal)	1
c)	<p><u>Breakfast</u> high fibre breakfast cereals, semi skimmed milk fresh fruit juice, wholemeal toast with low fat spread</p> <p><u>Evening meal</u> look for a low fat meal containing plenty of fruit and vegetables</p> <p><u>Snacks</u> raw fruit and vegetables, crackers and cottage cheese, credit any low fat snack, yoghurt</p> <p>Look for nutrient rich foods that are not too high in calories or fats</p> <p>Needs to include 5 portions of fruit and vegetables Fibre content low look for high fibre foods Has already had approx. 1/2 daily fat content therefore need to look for lower fat foods Look for starchy carbohydrates not too much sugar</p> <p><b>Simple understanding/examples only - 1 mark per meal</b> <b>Clear understanding – 2 marks per meal</b></p>	<p>2</p> <p>2</p> <p>2</p> <p><b>Total: 8</b></p>
2 a)	<p>In order of proportion:</p> <p>Bread, cereals and potatoes } 30% Fruit and vegetables } 30% Milk and dairy foods } 15% Meat, fish and alternatives } 15% Foods containing fats, foods containing sugar } 10%</p>	5
b)	<p>Semi- skimmed milk / skimmed milk/ Lower fat yoghurts/0.1% fromage frais Lower fat cheeses such as Edam, cottage or reduced fat cheddar or cheese spread Low fat spread</p> <p><b>Any 2</b></p>	2

c)	<p>Calcium Protein Vitamin B12 Vitamins A Vitamin D <b>Any 3</b></p>	3
d)	<p>Energy Starchy foods are filling Cheap Helps reduce need to snack on fatty foods between meals Increases fibre intake Helps prevent intestinal disorders (constipation) Helps keep blood sugars constant Slow releasing carbohydrates/starch Provide other nutrients e.g. protein, B group vitamins, calcium, iron and vitamin C in potatoes Bread is fortified Protein sparer Low in fat <b>Any 4</b></p>	4
		<b>Total: 14</b>
3 a)	<p>One where meat is not eaten Includes no food for which an animal has to be slaughtered or has suffered in any way <b>Simple response 1 mark only</b></p>	2
b)	<p>Religious belief/cultural/family Objections to slaughter of animals/ cruelty Dietary reason Belief that vegetarian diet more healthy Economically wasteful Dislike taste of animal flesh Food scares/BSE <b>Any 3</b></p>	3
c)	<p>Anaemia – allow any description of anaemia symptoms e.g. lack of red blood cells, oxygen transportation</p>	1
d)	<p>Pulses, fortified cereals, green vegetables, cocoa/dark chocolate, egg yolk, bread, dried fruit. <b>Any 3</b></p>	3
		<b>Total: 9</b>

4 a)	Higher than average blood pressure/hypertension Increased risk of heart disease or stroke.	2
b)	Processed foods/ready meals Salt added during cooking and at the table Naturally occurring salt in foods Ham/bacon Salami Crisps/salty snacks Cheese Marmite Accept anything with added salt e.g. breakfast cereals, margarine <b>Any 3</b>	3
c)	Check labels for sodium and flavour enhancers such as monosodium glutamate Cut down on salty snacks - crisps & nuts, and salty foods e.g. bacon & cheese Choose canned vegetables with no added salt Choose lower salt stock cubes Cut down on sauces such as soy sauce Add less salt in cooking Do not put salt on at the table Low salt products e.g. crisps, margarine Lo salt Use herbs and spices instead of salt Use fewer convenience foods <b>Any 5</b>	5
<b>Total:</b>		<b>10</b>
5 a)	<u>Food Processor</u> Safety labels e.g. BSI kitemark Look at range of attachments available – juicer, liquidiser etc Value for money Ease of cleaning/Clean well between use to prevent cross contamination Size/capacity Storage Dishwasher proof Be careful with blade as it is very sharp Keep away from water/wet hands etc. in use	
	<b>Comments must be specific to equipment</b> <b>Any 6 valid points</b>  <u>Microwave</u> Mop up spills/keep clean Consider type in relation to usage e.g. combination ovens/grill/microwaves Power output 500w to 1000w Heating categories A, B, C, D & E	6

	<p>Follow manufacturer’s instructions/let food stand to prevent cold spots Do not use foil/metal containers Be careful with some plastics and with cling film <b>To get full marks they must have referred to choice safe use and care Any 6 valid points</b></p> <p>Sale of Goods Act Processor is not fit for it’s purpose Entitled to a replacement or refund</p> <p>Environmental Health Department</p>	<p>6</p> <p>3</p> <p>1</p> <p><b>Total: 16</b></p>														
6 a)	Bacteria, mould, yeast	3														
b)	<table border="1"> <thead> <tr> <th>Food</th> <th>Risk</th> </tr> </thead> <tbody> <tr> <td>Cooked meats e.g. ham Or raw meat</td> <td>Ready to eat with no further cooking Cross contamination from raw foods</td> </tr> <tr> <td>Milk/cream/custard/ milky desserts</td> <td>Easily supports bacterial growth</td> </tr> <tr> <td>Undercooked/lightly cooked eggs</td> <td>Temperature not hot enough to destroy all bacteria</td> </tr> <tr> <td>Shellfish</td> <td>Scavenger feeders/feed near sewage outlets. May have been frozen and not defrosted properly</td> </tr> <tr> <td>Soft Cheeses</td> <td>Carry Listeria</td> </tr> <tr> <td>Poultry</td> <td>Salmonella</td> </tr> </tbody> </table> <p><b>Must give 3 foods and 1 reasons for each food for full marks</b></p>	Food	Risk	Cooked meats e.g. ham Or raw meat	Ready to eat with no further cooking Cross contamination from raw foods	Milk/cream/custard/ milky desserts	Easily supports bacterial growth	Undercooked/lightly cooked eggs	Temperature not hot enough to destroy all bacteria	Shellfish	Scavenger feeders/feed near sewage outlets. May have been frozen and not defrosted properly	Soft Cheeses	Carry Listeria	Poultry	Salmonella	6
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d)	<p>-18°C 5°C (accept 1 – 5) 72°C (accept 73) 5-63°C (accept between 12 – 63)</p>	4														
e)	Cool quickly – if left at room temperature food poisoning bacteria can grow and multiply to dangerous levels															

	<p>Do not cool in the refrigerator – this will warm up refrigerator Put into the refrigerator within 1-2 hours to ensure it is kept cool and prevent bacterial growth Put into shallow containers/ smaller amounts – to speed up cooling Could be covered appropriately and then frozen – to prevent recontamination If reheating it must be piping hot (72°C) <b>Any 4 reasons</b></p> <p>f) Always wash hands thoroughly after touching raw foods Keep raw and ready to eat foods separate Use different chopping boards/work surfaces for raw food and ready to eat food Clean knives and other utensils thoroughly after use with raw food Store raw meat in sealed containers at the bottom of the fridge so it can't drip onto other food Cover up any sores – 1 personal hygiene point <b>Any 4 valid points</b></p>	<p>4</p> <p><b>Total: 27</b></p>
<p>7a)</p> <p>b)</p> <p>c)</p>	<p>Macronutrient: Large nutrients/those needed in large amounts Fat, protein or carbohydrates</p> <p>Polyunsaturated fatty acids: Fatty acids with more than one double bond in the molecule Occur mainly in oils</p> <p>Basal Metabolic Rate: Resting metabolism/amount of energy required to keep the body alive when it is at rest Used to keep heart, lungs and digestive system moving</p> <p>Energy Dense: High in calories Empty calories</p> <p><b>Simple understanding 1 mark per term (maximum 4)</b> <b>Clear understanding 2 marks per term (maximum 8)</b></p> <p>30-35% fat (accept anything within range) 50% starchy foods</p> <p>Age Gender (sex) Occupation and physical activity State of health e.g. pregnant or breastfeeding or illness Weight reduction diet</p>	<p>2</p> <p>2</p> <p>2</p> <p>2</p>

d)	<p><b>Any 4</b></p> <p>Protein 45.4 (accept 45 - 50)  Iron 14.8 (accept 14 or 15)  Calcium 800  Ascorbic acid 40  NSP 18</p>	<p>4</p> <p>5</p> <p><b>Total: 19</b></p>
8 a)	<p>Good source of many vitamins and minerals e.g. vitamin C, carotenes, folates. Must be qualified to get more than 1 mark  Low in fat  High in fibre  Mounting evidence of the role of anti-oxidant vitamins in prevention of C.H.D and some cancers  Give variety in the diet  <b>Any 4 valid points</b></p>	<p>4</p>
b)	80g	
c)	<p><b>Examples of points to credit</b>  <b>Look for evidence of knowledge and understanding of how method affects vitamin loss</b></p> <p>Eat fresh fruit/vegetables as soon as possible to get maximum value  Peel very thinly to preserve vitamins and minerals  Don't overcook, vitamins destroyed by heat  Start with boiling water, enzymes destroyed  Cover tightly to keep in steam  Use a steamer or microwave, less leaching of water-soluble vitamins.  Use as little water as possible, as above  Use water for sauces/gravies, to use leached vitamins  Avoid leaving cut fruit and vegetables exposed to air, light or heat- damage by oxidation  Cover and chill them  Do not soak because they can leach out  Don't keep food hot for too long, vitamins C is heat sensitive</p> <p><b>Criteria for award of marks</b></p> <p><b>0-3</b> Answers muddled and superficial  A limited number of points will have been made  Only a basic understanding of vitamin loss</p> <p><b>4-6</b> Fairly well organised answer</p>	<p>1</p>



	<p>A range of points that shows some knowledge and understanding Limited use of terminology</p> <p><b>7-9</b> Well organised answer A good range of points showing a good understanding of the link between method and vitamin retention Good use of appropriate terminology</p> <p>d) Help to stop cholesterol picking up oxygen So that it is deposited less readily in the coronary arteries Lowers risk of coronary heart disease Examples of anti-oxidants - Vitamins A, C and E and selenium <b>Any 3 valid points</b></p>	<p>9</p> <p>3</p> <p><b>Total: 17</b></p>
9	<p><b>Examples of points to credit</b></p> <p>Cut down on fatty foods – more likely to put on weight Whole milk to semi-skimmed Cut down on saturated fats – risks in later life of C.H.D. Cut down salt – links to high blood pressure Eat less sugar rich foods and drinks – empty calories Eat more fruit and vegetables and wholemeal cereals, pulses – need vitamin C for iron absorption Eat more fibre – constipation is common in pregnancy – eat more fruit, vegetables and wholemeal cereals Deficient in vitamin A and folic acids – lowers risk of spina bifida – eat more orange/red fruit and vegetables. Green leafy vegetables, cereals and pulses for folic acid Deficient in zinc and iron – risk of anaemia. Needed for store in baby. Eat red meat/green vegetables for iron (not liver)</p> <p>Low in vitamin D – linked to low birth weight and osteomalacia - eat oily fish, margarine Add yoghurt and cheese to supplement calcium from milk – linked to weakened bones and teeth in mother</p> <p><b>Criteria for award of marks</b></p> <p><b>0-3</b> Answer shows only superficial knowledge and understanding of nutritional needs in pregnancy No links made between nutrients and health of mother and baby Little or no use of specialist terminology and only basic communication skills</p> <p><b>4-6</b> Answer shows a general understanding of nutritional needs in pregnancy Limited reasons given for dietary changes suggested Some use of specialist terminology and satisfactory communication skills</p>	

	<p><b>7-9</b> A clear understanding of nutritional needs in pregnancy linked to health of mother and baby, choices well justified Good use of accurate terminology and satisfactory communication skills</p>	<p><b>Total: 9</b></p>
<p>10</p>	<p><b>Responses to be credited.</b></p> <p><b>Responses should be related to the different types of consumers.</b></p> <p><b>Market stalls</b> More limited range but good choice and plentiful Often very cheap Cannot handle goods No store guarantees Quality may be doubtful Range of goods varies with availability Usually need to pay with cash</p> <p><b>Corner shops</b> Local to residential area Less travel Limited range of goods Often more expensive Personal service Friendly</p> <p><b>Internet</b> Need to have a credit or debit card Need to have a computer/and ability to use it Cannot inspect goods before purchase More difficult to return unsuitable goods Some customers worry about security of using credit card. Home delivery</p> <p><b>Mail order catalogues</b> Can pay for products over a number of weeks spreading the cost Cannot see goods before you buy them Shop in the comfort of your own home</p> <p><b>Specialist shops</b> Wide range of a few types of goods Knowledgeable staff for advice and assistance Good customer care Fewer shops available, may have to travel to get there</p> <p><b>Hypermarkets</b> Sell a very wide range of different types of products Parking facilities In store facilities such as café Often have very good offers because of volume of sales</p> <p><b>Supermarket</b></p>	

	<p>Broad range of a large number of goods          Usually good parking facilities/disabled parking          Wide aisles          Battery operated chairs          Some good offers          May be family friendly          Everything under one roof          Cafeteria          Banking facilities/cash back          May need transport          Late hours</p> <p><b>Criteria for award of marks</b></p> <p><b>0-6</b> Answers may be muddled and information superficial          A limited number of points will have been made and candidates will only have a basic understanding of the most appropriate shopping methods for each consumer group          Answers may concentrate mainly on one area          Little or no use of appropriate terminology and only basic communication skills</p> <p><b>7-12</b> Answers will be fairly well organised but may lack precision.          A range of points will be given which will show some understanding of the appropriateness of different methods for different consumer groups          There will be some use of appropriate and relevant terminology and satisfactory communication skills</p> <p><b>13-18</b> Answers will be well organised and clearly presented          A good range of points will be given which will show a good understanding of the value of different shopping methods for different consumer groups          There will be good use of appropriate terminology and good communication skills          Reference will have been made to at least two methods of shopping in each consumer group with a discussion of the advantages and disadvantages of each</p> <p><b>Clearly there may be some overlap of answers but be careful not to award high marks where there is a lot of repetition</b></p> <p><b>Total marks for paper: 147</b></p>	<p><b>Total: 18</b></p>
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