

**GCSE**  
**HOME ECONOMICS:**  
**FOOD AND NUTRITION**

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Mark scheme

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

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' 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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**Question 1**

<b>Question</b>	<b>Part</b>	<b>Marking guidance</b>	<b>Mark</b>	<b>Comments</b>
<b>1</b>	<b>a</b>	Growth/Building Repair Maintenance Energy	3	One mark for each function given
<b>1</b>	<b>b</b>	Meat Fish Cheese Eggs Milk Soya	3	Accept any 3 answers from list
<b>1</b>	<b>c</b>	Complementation is combining LBV protein foods together to provide a sufficient supply of all the indispensable/essential amino acids	2	<b>1 mark</b> Simple answer such as eating two protein foods at the same time.  <b>2 marks</b> Reference to <u>both LBV proteins</u> and (indispensable /essential) <u>amino acids</u> is needed.
<b>1</b>	<b>d</b>	Beans on toast Lentil soup with bread Hummus and pitta bread	1	Accept any combination of cereals and pulses or any other appropriate response  <b>Do not accept</b> examples of HBV foods linked to LBV foods

<b>1</b>	<b>e</b>	Children need protein mainly for growth. Teenagers go through a growth spurt / rapid growth. Pregnant women need protein for the development of the foetus / growth of baby (and their own needs). Breastfeeding women need protein for the protein content of breast milk (as well as their own needs). Elderly need protein for repair and maintenance as they stop growing. Gender difference, males need more protein than females / larger body surface area.  Any three of the above.	<b>3</b>	Candidates may describe protein requirements at three life stages simplistically or may show good knowledge of protein needs at one or two life stages to score maximum marks.
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**Question 2**

<b>Question</b>	<b>Part</b>	<b>Marking guidance</b>	<b>Mark</b>	<b>Comments</b>
<b>2</b>	<b>a</b>	High blood pressure/hypertension Coronary Heart Disease (CHD)/heart disease/heart attack Stroke Kidney damage/failure Osteoporosis Dehydration Electrolyte and Hormone imbalance	2	Credit any 2 of the conditions given.
<b>2</b>	<b>b</b>	6g	1	Candidate must tick the correct box <b>only</b> .
<b>2</b>	<b>c</b>	Eat less sugar Eat more fibre Eat more starchy food Eat at least 5 portions of fruit and vegetables daily Don't skip breakfast Eat more fish Eat a variety of foods Eat the right amount to stay a healthy weight Eat foods rich in antioxidants Drink less alcohol Follow eatwell plate Drink plenty of water	3	Accept any 3 answers from the list

**Question 3**

<b>Question</b>	<b>Part</b>	<b>Marking guidance</b>	<b>Mark</b>	<b>Comments</b>
<b>3</b>	<b>a</b>	Concentrated source of energy/energy Insulation/warmth Formation of cell walls To provide essential fatty acids To provide fat soluble vitamins (A, D, E and K) Protection /protect internal organs such as kidneys	<b>3</b>	Credit any 3 responses from list plus any other appropriate responses
<b>3</b>	<b>b</b>	Weight gain/obesity Can produce high/bad cholesterol Can block arteries/furred arteries/atherosclerosis/arteriosclerotic vascular disease/narrowed arteries/build up of plaque inside the arteries Coronary Heart Disease (CHD)/heart disease/heart attack Trans fats/ higher risk of cancer e.g. breast cancer	<b>3</b>	Credit 3 responses plus any other appropriate responses
<b>3</b>	<b>c</b>	Reduce amount of fried foods Cut visible fat off meat, bacon Eat more chicken (not skin) and fish and less red meat Eat / buy leaner cuts of red meat (low fat mince/low fat sausages etc) Choose low fat spreads, cheese, yogurt and milk/reduced fat foods Use an oil spray or a non-stick frying pan/dry frying Cut down on cakes, pastries, biscuits etc Reduce the fat content in recipes Reduce intake of ready meals and takeaways Check fat content on food labels Grill food instead of frying	<b>4</b>	Credit 4 examples from the list plus any other appropriate responses

3	d	<p>full fat milk      Hard margarine      Coconut/Palm Oil  butter              egg  cheese              cakes/Biscuits  cream              Pastries  meat                Chocolate  meat products    Beef fat/dripping/lard</p>	2	<p>Credit any 2 from the list plus any other appropriate responses</p> <p>Must specify full fat milk</p> <p>No to ready meals/takeaways</p>
3	e	<p><b>Saturated fatty acids</b>  All the carbon atoms (1) are saturated /matched/fully laden/fully loaded(1) with hydrogen atoms (1)  Usually solid at room temperature (1)  Usually found in animal fats (1)  Single bonds (1)</p> <p><b>Polyunsaturated fatty acids</b>  Fatty acids have more than one double bond (1) in the molecule  Found mainly in vegetable fats (1)  Softer at room temperatures (1)</p>	6	<p><b>1-2 marks</b>  Answer may be muddled and information superficial. A limited number of points included and may have no reference to the differences.</p> <p><b>3-4 marks</b>  A range of points made which demonstrate a satisfactory understanding of a fatty acid. However, some explanations may be inaccurate.  May have concentrated on either saturated or polyunsaturated fatty acids.</p> <p><b>5-6 marks must refer to carbon and hydrogen atoms to get in top band.</b>  High level response about both fatty acids, demonstrating a detailed understanding of the difference between saturated and polyunsaturated fatty acids.  <b>Candidate needs to demonstrate a clear understanding of the difference between the two fatty acids to score 6 marks.</b></p>

**Question 4**

Question	Part	Marking guidance	Mark	Comments
4	a	How much preparation of fresh foods will be done Additional attachments Required functions – chopping, mixing, making dough, liquidizing etc Storage space available/size Ease of cleaning/use Cost to buy Energy rating / Power rating Design features e.g. colour, style, settings Capacity Brand name	3	Credit 3 examples from list plus any other appropriate responses  Not energy efficiency or energy consumption
4	b	(Metal) blade – chopping, making breadcrumbs, rubbing in method, making soup Grater – cheese, carrots Whisk – cream, egg whites Dough hook/Plastic blade – kneading bread, mixing dough e.g. scones Juice extractor – oranges, lemons Slicer- vegetables, fruit Blender/liquidizer – soup, baby foods Mincer – meat Grinder – coffee beans/spices	3 x 2 marks	1 mark for naming attachment and 1 for a use. Must name attachment to be credited with a function. Maximum 2 marks for each attachment and its use.  The list is not exhaustive. Credit any other appropriate responses
4	c	<b>Advantages</b> Saves time/quicker Consistency of product Labour saving/saves effort/easy to use <b>Disadvantages</b> Can be noisy May be difficult to clean/time consuming/creates more washing up. Need to be careful with sharp blades	4	Credit 2 advantages and 2 disadvantages Plus any other appropriate responses.



		May be difficult to assemble Storage		
4	d	Sale of Goods Act/Sale and Supply of Goods Act	1	Candidates do not need to specify the date of the Sale of Goods Act

**Question 5**

Question	Part	Marking guidance	Mark	Comments
5	a	Can lessen the damage caused by free radicals Reduce risk of heart disease/strokes Reduce the risk of certain cancers Can boost the immune system/help immune system For healthy cell production/protect from cell damage Healthy eyes Healthy bones and joints/strong bones	2	Credit any 2 examples from the list
5	b	A (retinol/carotene) C (ascorbic acid) E ( <i>tocopherol</i> )	2	Any 2 from list. Accept either name or letter.
5	c	<b>Preparation:</b> Prepare just before cooking Use fresh Peel thinly/do not peel Wash under running water/do not soak in water Do not cut into small sections or shred finely OR cut into small pieces to reduce cooking time Use a sharp knife  <b>Cooking:</b> Minimum amount of water Put into boiling water Cover with a tightly fitting lid Boil rapidly for minimum time	6	<b>1-3 marks</b> A limited number of points have been made. May have concentrated on either preparation or cooking. Little use of subject specific terminology. Basic communication skills.  <b>4-6 marks</b> A good range of points will have been made showing a good understanding of how to prepare and cook vegetables to minimize vitamin loss. Good communication skills and use of terminology. <b>Must include both preparation and</b>

		Strain and use liquid in stock, gravy, sauces Stir fry/ microwave/steam rather than boil Serve immediately Use cooking liquid in gravy/sauces etc		<b>cooking for top band marks</b>
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**Question 6**

<b>Question</b>	<b>Part</b>	<b>Marking guidance</b>	<b>Mark</b>	<b>Comments</b>
6		<p><b>Anaemia</b> Increase vitamin C intake Eat more iron rich foods Eat more red meat/offal Green vegetables Pulses Plain chocolate Eat non-haem iron foods and vitamin C at the same meal to ensure more effective absorption Avoid tea and coffee Eat plenty of haem iron foods as they are more easily absorbed.</p> <p><b>Obesity</b> Reduce calorie intake/cut down on empty calories Eat a balanced diet, following eatwell plate Eat more fruit and vegetables Choose low fat foods e.g. skimmed milk, lean meat etc Grill or bake rather than fry Trim fat off meat Use reduced-fat spreads Follow low GI diet</p>	9	<p>Criteria Band Marking:</p> <p>1-3 Answer may be muddled and information superficial. The dietary advice given is limited.</p> <p>4-6 Answer will be fairly well organised. Candidate is able to offer reasonable dietary advice and name specific foods. Must have mentioned at least 2 of the conditions. Some use of terminology.</p> <p>7-9 A well organised answer. Candidate is able to offer detailed dietary advice for at least two conditions and give examples. Good use of subject specific terminology. Candidate must address all three conditions in detail for the full 9 marks.</p>

		<p>Choose sugar free/low sugar drinks and food Reduce alcohol intake</p> <p><b>Dental caries</b> Be careful with hidden sugar in food and drink/read labels Look for other names of sugar on labels – glucose, fructose etc Do not add sugar to drinks Adapt recipes to lower sugar content Do not eat sugar/sugar products between meals Reduce intake of acid fruit/drinks Avoid extrinsic sugars</p>		
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**Question 7**

Question	Part	Marking guidance	Mark	Comments
7	a	<p>Name of product Name and address of manufacturer/packer Country of origin Storage information Date mark/shelf life/use by/ best before dates Cooking instructions Weight/volume Ingredients Ingredients in descending order of weight Nutrition information if a claim has been made</p>	5	Credit 5 responses.
7	b	<p>Peanuts and other nuts Wheat/gluten/flour Egg (white) Lactose/milk products Strawberries Seafood e.g. prawns</p>	2	Any 2 from the list

		Soya Orange squash (tartrazine) Chinese foods (MSG) Sesame and other seeds		
7	c	<p><b>Best before:</b> found on foods with a longer shelf life e.g. breakfast cereals, biscuits etc Storage may affect the quality of the product – texture, taste, and colour.</p> <p><b>Use by:</b> found on perishable foods/food with a short shelf life e.g. yogurt, milk etc</p>	4	<p><b>1-2 marks</b> Simple response. Simple description of the two terms given but the difference between the two terms may not be clear. May show understanding of just one of the terms. No examples to support answer.</p> <p><b>3-4 marks</b> Detailed response. 4 marks is awarded for clear description of difference between best before and use by, food examples may be given to support answer. <b>Candidate needs to demonstrate a clear understanding of the difference between the two to score 4 marks.</b></p>
7	d	<p><b>Table – Big 4/energy, fat, carbohydrate and protein</b> Candidate must 'state' energy plus fat, carbohydrate and protein for the mark</p> <p><b>Traffic lights-</b> for fat, saturates, sugar and salt e.g. green low, amber medium, red high</p> <p><b>GDA comparison –</b> of portion of product to guideline daily amounts for calories, sugar, fat, saturated fat and salt</p>	4	<p>Maximum of 2 marks only if candidates name the two methods without a description or gives a description without naming the method.</p> <p>4 marks for naming the two methods and giving a description of each.</p>

**Question 8**

Question	Part	Marking guidance	Mark	Comments
8	a	Plan meals in advance Check the foods they already have in Make a shopping list and stick to it Choose fruit and vegetables in season Choose cheap cuts of meat/cheap fish e.g. mackerel, shoulder of lamb, minced beef etc Eat more pulses or cheaper meat alternatives Check out special offers Base meals around starchy foods such as potatoes, pasta and rice Make your own foods from scratch rather than buy ready meals Look for reduced items at the end of the day Buy value lines/own brand Shop around/use budget supermarkets Don't waste food! Only buy what you need Use frozen vegetables which could be cheaper and prevent waste	6	Credit 6 valid points from list plus any other appropriate responses.

<p><b>8</b></p>	<p><b>b</b></p> <p><b>Use eatwell plate</b> Eat nutrient dense food because of a small appetite.</p> <p><b>Restrict fat content, particularly saturated fat</b></p> <p><b>Protein for repair and maintenance of cells.</b> May need to look for cheaper protein foods e.g pulses and dairy</p> <p><b>Starch and fibre-</b> wholegrain rice, pasta, breakfast cereals, bread and potatoes and fruit and vegetables</p> <p><b>Calcium needed to maintain bones</b> Eat plenty of milk, dairy, white bread, green vegetables etc</p> <p><b>Vitamin D needed for calcium absorption</b> – may need a vitamin D supplement Oily fish, fortified margarines</p> <p><b>Iron needed for red blood cells</b> – red meat/offal, white flour etc</p> <p><b>Vitamin C needed for healing wounds/iron absorption</b> Green vegetables, orange juice etc</p> <p><b>Vitamin B group for nervous system/preventing memory loss</b> etc. yeast extract, meat, fortified flours, dairy foods etc</p> <p><b>Vitamin A for a healthy digestive system.</b> An antioxidant. Examples include milk, dairy products, carrots, oily fish</p> <p><b>General points</b> May suffer from constipation so high fibre foods needed e.g. high</p>	<p>10</p> <p>This is not an exhaustive list, credit appropriate responses</p> <p><b>Criteria Bands</b></p> <p><b>1-3 marks</b> Answer shows only superficial knowledge of the nutritional needs of the elderly. Little mention is made of nutrients by name. No links made between nutrients and foods. Basic communication skills. Poor use of grammar and punctuation. Poor spelling.</p> <p><b>4-7 marks</b> Answer shows a clear understanding of most of the nutritional needs of the elderly. A range of nutrients is included with links between these and foods to eat. Satisfactory communication skills. At the higher end of this mark band they may refer to dietary conditions such as constipation. Satisfactory use of grammar and punctuation. There may be some errors in spelling.</p> <p><b>8-10 marks</b> A high level of understanding is shown of the nutritional needs of the elderly. A good range of nutrients are mentioned accurately with good links as to how these can be met. References are made to health issues that</p>
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	<p>fibre cereals, fruit and vegetables</p> <p>Plenty of fluids needed to reduce risk of dehydration Other health problems may include high blood pressure so may need to limit salt intake</p> <p>Diabetes – low GI foods, sugar intake, low fat etc</p> <p>Sugar can be a useful source of calories for elderly people with a small appetite</p> <p>Eat regularly</p> <p>Restrict alcohol</p>		<p>may be suffered by the elderly. Good use of terminology. Good use of grammar and punctuation. Most words are spelt correctly.</p>
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