



**General Certificate of Secondary Education  
June 2011**

**Home Economics: Food and Nutrition** **45851**

**(Specification 4585)**

**Unit 1: Home Economics: Food and Nutrition  
(Written Paper)**

**Final**

***Mark Scheme***

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Question	Part	Sub Part	Marking Guidance	Mark	Comments
1	a	i	Product 1 Accept reference to 'the top one'	1	
1	a	ii	<b>Red</b> traffic light indicates <b>HIGH</b> level – eat small amount <b>Amber</b> colour indicates it is an <b>OK</b> choice – moderate intake <b>Green</b> indicates a <b>LOW</b> level – eat lots <b>Candidates need to refer to each colour accurately for 3 points. They may be awarded 1 mark for a simple explanation.</b>	3	
1	b		6g	1	
1	c		Lower blood pressure/Less risk of high blood pressure/hypertension Reduce the risk of strokes Reduce the risk of Coronary Heart Disease Accept any reference to heart problems <b>Credit 2 responses</b>	2	
1	d		Compare labels Look for reduced salt products – bacon etc Look for no added salt on the label /choose tinned foods without added salt Choose low sodium salts/low salt Choose fruit and vegetables rather than salted snacks/Reduce salted snacks e.g. nuts, crisps. Avoid soy sauce, pickles etc Avoid smoked foods Don't add extra salt when cooking Don't add salt at the table Use herbs and spices Avoid fast foods/ready meals <b>Credit 3 responses</b>	3	

Question	Part	Sub Part	Marking Guidance	Mark	Comments
2	a		A diet that contains all the nutrients for good health in the correct amounts. <b>Accurate explanation 2 marks</b> <b>Simple explanation 1 mark</b>	2	Must refer to nutrients not foods
2	b		Fruit and vegetables Bread, rice, potatoes, pasta (and other starchy foods)	2	Must mention at least one food from each group.
2	c		Foods and drinks high in fat and / or sugar	1	
2	d		<p>Expect a wide range of responses.</p> <p><b>Breakfast</b> – could include some fruit/ fruit juice/ tomatoes, mushrooms etc Dairy produce e.g. milk, yogurt, cheese May include meat or meat alternatives e.g. bacon, sausage, eggs or beans.</p> <p><b>Lunch</b> – baked jacket potato could be served with green salad, coleslaw, bean salad etc Protein foods such as meat, tuna etc could be added to the potato. Dessert could include fruit, yogurt etc</p> <p><b>Dinner</b> – could be served with rice, pasta or potatoes. Accompanied by vegetables or salad. Could be served with a milky pudding, fruit etc</p> <p><b>Criteria Bands</b>  <b>1-2 marks</b> – Little thought or consideration of the segments of the eatwell plate has been included in the choices made. The choices made for the overall day are not balanced.  <b>3-4 marks</b> – The overall balance for the day is quite good but all food groups may not be fully represented.  <b>5-6 marks</b>- The overall balance of the three meals include a selection of foods from the main four segments of the eatwell plate. The balance for the whole day is accurate.</p>	6	Look at choice made for each meal and the overall day. They must have suggested foods from the 4 main segments to get into the top band.

Question	Part	Sub Part	Marking Guidance	Mark	Comments
3	a		Kcalories or Kjoules. Accept joules or calories. <b>Accept either response</b>	1	Spelling does not have to be correct but must be recognisable.
3	b		Protein Fat Carbohydrate <b>Three correct answers</b>	3	Accept either starch or sugars for 1 mark instead of carbohydrates.
3	c	i	Amount of energy needed by the body to stay alive. Rate at which the body uses energy when it is warm and resting	2	
3	c	ii	Taking in the right amount of energy to meet our needs. Too much and we will put weight on Too little and we will lose weight. When energy intake of food equals that used up in energy expenditure.	2	Good explanation 2 marks Simple explanation 1 mark
3	c	iii	The rate at which carbohydrates are converted into glucose during digestion Low GI foods are converted more slowly / slow release energy – wholegrain products, nuts , seeds, fruits etc High GI foods are converted rapidly- refined sugar, white flour etc <b>Simple explanations 1 mark</b> <b>Accurate explanations 2 marks</b>	2	
3	d		Age Gender Activity levels State of health Body size Occupation/Type of job <b>Credit 3 responses</b>	3	
3	e		Chocolate Crisps Pies Cheesecake Nuts etc <b>Credit 3 suitable foods</b>	3	Credit any named examples of high fat or high sugar foods.

Question	Part	Sub Part	Marking Guidance	Mark	Comments
4	a		<p>Saves time, foods cook very quickly                      Saves money, microwaves use less power/energy and cooks quicker                      Saves washing up, dishes can be used for cooking and serving                      Can be used for thawing frozen foods, cooking and reheating                      Easier to clean than conventional ovens                      Are safe to use as they don't get hot on the outside                      Are available in different categories from A to E.                      Power. The higher the wattage the faster it cooks.                      Less loss of nutrients                      Smaller in size – can be moved  <b>Credit 3 advantages</b></p>	3	Accept cheaper to run but not cheaper to buy. If candidates just say cheaper – do not accept.
4	b		<p>Size of family and required uses – defrosting, reheating, cooking fresh ingredients                      Space available in the kitchen/size of microwave                      Type required e.g. combination oven/microwave                      Digital or manual controls                      Design and style/colour                      Power output 500-1000watts/Heating category A-E                      Cost to buy well known brand  <b>Credit 5 advantages</b></p>	5	
4	c		<p>Do not plug electrical appliances in with wet hands                      Make sure flexes and wiring are not worn/trailing                      Use oven gloves when removing hot pans and dishes from ovens and microwaves                      Take care when washing sharp blades from food processors                      Keep all equipment clean and free from grease and food particles in order to prevent food poisoning                      Look for one of the electrical safety labels e.g. BEAB, CE Mark etc                      Read manufacturers' instructions.                      Don't use metal tools/plates in microwave/toaster.  <b>Credit 4 points</b></p>	4	

Question	Part	Sub Part	Marking Guidance	Mark	Comments															
5	a		<p>To protect food from damage during transportation and storage                      To keep food in good condition                      To preserve freshness                      To prevent contamination from dust, flies and bacteria                      To inform consumers about the product                      To enhance the appearance of products                      For convenience in storage and display.  <b>Credit three responses</b></p>	3																
5	b		<table border="1"> <thead> <tr> <th>Packaging Material</th> <th>Advantage</th> <th>Disadvantage</th> </tr> </thead> <tbody> <tr> <td><b>Plastic</b></td> <td>                     Lightweight                      Waterproof                      Can be moulded or shaped                      Clear or coloured                      Can be printed                      Suitable for vacuum packing                      May be recyclable                 </td> <td>                     Not as strong as glass or metal                      Made from hydrocarbons                      Some are not recyclable                      Have to be disposed in landfill sites                      Not bio-degradeable                 </td> </tr> <tr> <td><b>Glass</b></td> <td>                     Rigid                      Strong                      Moisture proof                      Can be recycled                 </td> <td>                     Brittle                      Easily broken                      Heavy                 </td> </tr> <tr> <td><b>Paperboard</b></td> <td>                     Lightweight                      Made from renewable sources                      Can be recycled                 </td> <td>                     Not as strong as glass                      Will crush easily                      Not moisture proof so food can dry out in storage                 </td> </tr> <tr> <td colspan="3"> <b>Credit one advantage and one disadvantage for each material.                      Do not credit the same answer twice</b> </td> </tr> </tbody> </table>	Packaging Material	Advantage	Disadvantage	<b>Plastic</b>	Lightweight Waterproof Can be moulded or shaped Clear or coloured Can be printed Suitable for vacuum packing May be recyclable	Not as strong as glass or metal Made from hydrocarbons Some are not recyclable Have to be disposed in landfill sites Not bio-degradeable	<b>Glass</b>	Rigid Strong Moisture proof Can be recycled	Brittle Easily broken Heavy	<b>Paperboard</b>	Lightweight Made from renewable sources Can be recycled	Not as strong as glass Will crush easily Not moisture proof so food can dry out in storage	<b>Credit one advantage and one disadvantage for each material.                      Do not credit the same answer twice</b>			6	
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5	c	<p>Packaging which is plant based/made from sugarcane – biodegradable.                  Resealable bags – once open can be resealed so food retains freshness.                  Tamper proof seals – prevents deliberate contamination and reassures consumers about safety                  Ring pull cans –easy to open for elderly, can eat food on the go                  Vacuum packaging – removes air so food will keep longer                  MAP - oxygen is removed and replaced with carbon dioxide or nitrogen – slows down food spoilage.</p> <p><b>One mark for the development and one for its usefulness.                  Maximum 2 marks</b></p>	2	
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Question	Part	Sub Part	Marking Guidance	Mark	Comments															
6	a		<p>To kill bacteria and make food safe to eat                      To develop flavours and improve taste                      To soften fibres in meat and vegetables and make them easier to eat and digest                      To improve the keeping qualities of food                      To give variety in the diet                      To make it look more appetising  <b>Credit four responses</b></p>	4																
6	b		<table border="1"> <thead> <tr> <th>Description</th> <th>Method of Heat Transference</th> <th>Example</th> </tr> </thead> <tbody> <tr> <td>Heat travels through liquids and gases</td> <td>Convection</td> <td>Boiling vegetables in a pan. Heating a gas oven</td> </tr> <tr> <td>Heat travels through solids</td> <td>Conduction</td> <td>Metal pan on a hob – frying, boiling etc Baking tins, trays etc in oven, baking/roasting</td> </tr> <tr> <td>Heat travels directly onto food by infrared rays</td> <td>Radiation</td> <td>Toasting bread in a toaster Cooking foods under a grill</td> </tr> <tr> <td colspan="3"><b>One mark for each method and one for each example.</b></td> </tr> </tbody> </table>	Description	Method of Heat Transference	Example	Heat travels through liquids and gases	Convection	Boiling vegetables in a pan. Heating a gas oven	Heat travels through solids	Conduction	Metal pan on a hob – frying, boiling etc Baking tins, trays etc in oven, baking/roasting	Heat travels directly onto food by infrared rays	Radiation	Toasting bread in a toaster Cooking foods under a grill	<b>One mark for each method and one for each example.</b>			6	Need to get method of heat transference correct to be credited with example.
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6	c		<p><b>Advantages:</b>                      Grilling /frying are fast methods of cooking                      Grilling/frying more suitable for thinner cuts                      They are only suitable for tender cuts of meats but slow roasting/pot roasting can be used for tougher cuts                      Grilling/ frying need constant watching. Roasting does not                      Grilling allows the fat to melt and drain away so is the most healthy rather than frying or roasting where meat sits in the fat                      All three produce tasty extractives</p> <p><b>Disadvantages:</b>                      Frying/roasting - food absorbs some of the fat</p>	6																

		<p>Temperature needs to be carefully controlled when grilling/frying to ensure the food is cooked through without burning          Grilled/fried foods needs to be turned frequently to prevent burning          Roasting meat needs to be basted</p> <p>All three methods – food can dry out</p> <p><b>Criteria Bands</b>  <b>1-2 marks</b> – Little understanding shown of the advantages and disadvantages of cooking meat by these methods. Poor spelling, punctuation and grammar.  <b>3-4 marks</b> – A fair number of points were made showing a range of advantages and disadvantages of these methods for cooking meats. May not have referred to all three methods. Fair standard of spelling, punctuation and grammar.  <b>5-6 marks</b>- Candidate was able to discuss the advantages and disadvantages of all three methods of cooking meat. A good understanding was shown. Good standard of spelling, punctuation and grammar.</p>		
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Question	Part	Sub Part	Marking Guidance	Mark	Comments
7	a		<p>Plan meals in advance                      Make a shopping list and stick to it                      Shop at the end of the day when they may reduce items                      Don't shop when you're hungry                      Make use of value lines, own brands etc                      Look for BOGOF/BOGOF and other special offers on items you need                      (Do not be tempted by unnecessary BOGOFs)  <b>Maximum of 3 marks</b></p>	3	
7	b		<p>Use cheaper cuts of meat and cook by long slow methods of cooking                      Use meat alternatives (if they are cheaper) such as nuts, lentils, soya, chick peas, quorn etc                      Make your own meals rather than buying ready made                      Use fruit and vegetables in season                      Take advantage of special offers on healthy foods                      Make use of frozen vegetables and fruit juices                      Use more pasta and rice as they are cheap and filling foods                      Baked beans, soya can be used to extend meat                      Canned fish e.g. pilchards, sardines etc                      Don't waste food – create dishes from leftovers  <b>One mark for advice.</b></p>	6	Emphasis should be on the healthy meals.
7	c		<p>Take the product back to the shop where it was bought with the receipt or other proof of purchase.                      Explain the problem and if you don't get a satisfactory response ask to speak to the manager                      If you fail to get a satisfactory outcome write a letter of complaint to the head office                      As a last resort take your complaint to a small Claims Court.                      Take to the Environmental Health Office                      Refer to Food Safety/Sale of Goods Act.                      Write a letter of complaint to head office/manufacturers.  <b>Maximum 3 marks</b></p>	3	Need to say they will take receipt with them.

Question	Part	Sub Part	Marking Guidance	Mark	Comments
8			<p><b>Diabetes</b></p> <p>Follow the eatwell plate guidelines                      A small amount of sugar can be eaten as part of a meal                      Reduce sugar content of home made cakes and biscuits                      Limit dried fruits and concentrated fruit juices                      Buy fruit canned in juice not syrup                      Limit honey, jams and preserves                      Eat more complex carbohydrates such as potatoes, yams, cassava, rice, bread and whole meal breakfast cereals                      Control fat and salt intake (as more at risk of CHD)                      Limit intake of salt                      Read labels to check for different types of sugar                      Fresh fruit, yogurts, cheese and oatcakes are healthier choices for dessert                      Increase intake of vegetables and fruits                      ACE vitamins help prevent heart disease (Diabetics at higher risk)                      Choose low fat dairy products                      Use sweeteners rather than sugar to sweeten desserts etc                      Choose diet drinks rather than full sugar.</p> <p><b>Coronary Heart Disease</b></p> <p>Eat a balanced diet following the eatwell guidelines                      Eat more fruit and vegetables - ACE vitamins                      Eat more fibre – fruit, vegetables, wholegrain cereals                      Choose low fat foods such as skimmed milk, lean meat, white fish                      Grill or bake rather than fry                      Trim the fat off meat                      Reduce the amount of fat spread on bread and toast                      Reduce salt intake                      Cut down on snack foods, ready meals and shop bought cakes and biscuits                      Reduce Saturated fats – butter, animal fats etc because they make cholesterol                      Eat more polyunsaturated fatty acids – oily fish – salmon, mackerel, sardines, pilchards, herrings etc</p>	12	

		<p>Choose PUFA spreads  <b>Vegan</b></p> <p>Make use of LBV proteins and complementary action - cereals, nuts, seeds, pulses                  Credit examples such as beans on toast, lentil soup and bread, hummus and pitta bread etc                  Alternative protein foods such as soya, tofu, tempeh                  Soya milks, yogurts etc                  Need to get iron from plant foods – whole meal cereal products, fortified cereals and bread, cocoa, green vegetables, dried fruits, lentils and beans, nuts, black treacle etc                  Vitamin C needed for iron absorption – citrus fruits etc                  Vitamin B12 - need to eat fortified foods such as yeast extract, soya milks, sun flower margarine and breakfast cereals or in supplement form.                  Not quorn (contains egg white)</p> <p><b>Credit Bands</b>  <b>1-4</b> A limited number of points. Answer muddled and the information given was superficial. No real understanding shown of the choice of foods for special dietary needs. Answer may concentrate on only one special need. Basic communication. Poor spelling and use of grammar.  <b>5-8</b> Fairly well organised. Some use of specialist terminology. A fair understanding of the choice of foods for special needs. Candidates may have answered well but may have omitted one special need. Candidates spell, punctuate and use the rules of grammar with reasonable accuracy.  <b>9-12</b> Answer well organised and clearly presented. A good understanding of the choice of foods with reference to all 3 special needs. Candidates spell, punctuate and use the rules of grammar well. Specialist terms used accurately.</p> <p>Total for the paper 100</p>		<p>Must have discussed all three needs well to get into top band.</p>
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