

# Home Economics: Food, Nutrition and Health

Advanced Subsidiary GCE **G002**

Resource Management

## **Mark Scheme for June 2010**

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Question			Expected Answers	Marks	Rationale
1	(a)	(i)	<p><b>State the total number of food poisoning outbreaks in the year 2000.</b></p> <p>The correct answer is <b>86,528</b> and is worth <b>one</b> mark.</p>	1	
		(ii)	<p><b>State the year that shows the highest level of food poisoning outbreaks.</b></p> <p>The correct answer is <b>1998</b> and is worth <b>one</b> mark.</p>	1	
		(iii)	<p><b>State the overall trend in the number of food poisoning outbreaks between 1996 and 2006.</b></p> <p>The correct answer is the overall trend is a <b>decrease</b> and is worth <b>one</b> mark.</p>	1	To recognise a decrease after an increase will be credited.
	(b)		<p><b>Name <u>two</u> commonly found food poisoning bacteria.</b></p> <p><b>One</b> mark for each correctly identified commonly found food poisoning bacteria.</p> <ul style="list-style-type: none"> <li>• Salmonella</li> <li>• Escherichia coli 0157</li> <li>• Listeria</li> <li>• Clostridium perfringens</li> <li>• Campylobacter</li> <li>• Staphylococcus aureus</li> <li>• Shigella</li> <li>• Bacillus cereus</li> </ul>	2	Accept E. coli and Staph. aureus and Staphylococcus

Question	Expected Answers	Marks	Rationale
(c) (i)	<p>It is important that food handlers understand the environment in which bacteria grow to prevent food poisoning.</p> <p>Identify <u>three</u> conditions that bacteria require to grow.</p> <p><b>One</b> mark given for each correctly identified conditions required for bacteria to grow.</p> <p>Answers may include:</p> <ul style="list-style-type: none"><li>• Food/protein</li><li>• Moisture/water</li><li>• Warmth</li><li>• Oxygen/no oxygen</li><li>• Time</li><li>• Neutral acidity or pH</li></ul>	3	

Question	Expected Answers	Marks	Rationale
(ii)	<p><b>State the temperature range that is known as the danger zone.</b></p> <p>The correct answer is :</p> <p>5°C to 63°C.</p>	1	Candidates should state the units.
(iii)	<p><b>Describe the changes in bacterial growth outside of the danger zone.</b></p> <p>One mark given for each correctly identified change in bacterial growth.</p> <ul style="list-style-type: none"> <li>• At temperatures below 5°C most bacteria are unable to multiply rapidly.</li> <li>• Bacteria become dormant under the temperature of 5°C.</li> <li>• Freezing or temperatures between 0°C and -18°C makes bacteria dormant/unable to multiply.</li> <li>• Bacteria can survive the freezing process.</li> <li>• Cooking food above 63°C destroys most bacteria.</li> <li>• Some bacteria form spores to prevent being destroyed at high temperatures. Spores survive to start multiplication again when conditions are favourable to the bacteria.</li> </ul> <p>Credit will be given for all valid points.</p>	2	For 2 marks, candidates should make two valid points. A general awareness of decline in growth is credited with one mark.
(d)	<p><b>There are many factors that affect the incidence and patterns of food poisoning outbreaks.</b></p> <p><b>Describe <u>three</u> factors that can account for the changes in reported food poisoning cases in the United Kingdom.</b></p> <p><b>Six</b> marks are available. <b>One</b> mark is available for each correctly identified factor (total <b>three</b> marks) and <b>one</b> mark is available for each correct description.</p>	6	

Question	Expected Answers	Marks	Rationale
	<p>Answers may include:</p> <ul style="list-style-type: none"> <li>• Increased public awareness of food poisoning – awareness of symptoms, signs of poisoning. Large numbers of stomach upsets now reported as food poisoning.</li> <li>• Increased awareness of the causes of food poisoning.</li> <li>• Shopping habits have changed – frequency has reduced/households purchase larger amounts of food/food stored in the home for longer/inadequate storage/increased risks of cross contamination.</li> <li>• Consumption of cook chill foods increased – home storage may not provide suitable environment/require thorough and correct cooking/instructions for cooking often not followed correctly.</li> <li>• Barbeque food consumption increased – food poisoning outbreaks increase in the summer months/food may not be thoroughly cooked/cooking outside with risk of contamination/mixing of raw and cooked foods/mixing of cooking utensils leading to contamination/poor personal hygiene.</li> <li>• An increase in eating out – some establishments may not comply with food safety regulations/ hygiene issues.</li> <li>• Foreign travel increasing – poor hygiene and food handling practices/contaminated food and water supply consumed.</li> <li>• Globalisation of the food market – infected food brought into the UK by consumers from countries where the standards of food hygiene are not as high.</li> <li>• People educated through Food Standards Agency/media.</li> <li>• Increased awareness of importance of good personal hygiene.</li> <li>• Better controls in hygiene has led to a decrease eg staff training, HACCP.</li> <li>• Advances in microbiology allow easier identification.</li> </ul> <p>Credit will be given for all valid points.</p>		<p>First bullet point could be vice versa, eg just a bug – so not reported.</p>

Question	Expected Answers	Marks	Rationale
(e)	<p><b>Explain the techniques that could be used for the safe handling of food during preparation and cooking.</b></p> <p><b>High 7-8</b> The candidate is able to clearly explain a range of techniques that could be used for the safe handling of food during preparation and cooking. The information will be expressed clearly and fluently with specific detail and relevant examples used to illustrate the answer. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 4–6</b> The candidate is able to satisfactorily explain the techniques that could be used for the safe handling of food during preparation and cooking. The information will be expressed clearly, though the ideas may not be fully developed, and examples may not be used to illustrate the answer. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0–3</b> The candidate is able to give a limited explanation of the techniques that could be used for the safe handling of food during preparation and/or cooking. The information may be generalised and simplistic and may be expressed awkwardly. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Answers may include the following:</p> <p><b>Personal hygiene</b>– prevention of contamination through good hygiene practices eg covering cuts, washing hands etc.  <b>Direct and Indirect Contamination</b>– the removal of the source of the bacteria eg soil away from ready to eat foods (direct) /the use of colour coded chopping boards to remove instances of cross contamination between food types (indirect)  <b>Food preparation area</b>– the cleanliness of the environment/structural damage eg chipped tiles and peeling paint need to be repaired.</p>	8	Details on storage not related to preparation will not be credited.

Question	Expected Answers	Marks	Rationale
	<p><b>Equipment</b> - must be in good working order/must function correctly/temperature checks should be taken from refrigerators/scratched surfaces and chopping boards invite bacterial growth/damaged equipment can be difficult to clean/chipped crockery should be discarded.</p> <p><b>Cleaning</b> - use of hot water and detergents/wash dishes, equipment, work surfaces and cutlery/keep dishcloths and tea towels clean changing them frequently.</p> <p><b>Food preparation</b>– prepare refrigerated foods last to avoid them being expose to warmer temperatures for long periods of time.</p> <p><b>Preparations for cooking</b> – make sure frozen food is thawed/thaw food in a refrigerator.</p> <p><b>Temperature control</b> - bacteria is destroyed above 70°C/hold at 70°C for two minutes/care must be taken with large joints of meat as they cook unevenly/check temperature of food with food probes.</p> <p><b>Cooking instructions</b>– follow manufacturers guidance on time and temperature when cooking food</p> <p><b>Hot holding food</b> - cooked food must be stored above 63°C during serving or display for sale/food must be rotated or stirred to maintain the temperature throughout the product/display up to maximum of two hours/care must be taken to avoid cross contamination.</p> <p><b>Cooling hot food</b>– must be done rapidly and within one hour/reduce the temperature to 5°C/stir or rotate food to speed up cooling and allow air to circulate</p> <p><b>Reheating</b>– any leftover food should be used within 24 hours/heat to at least 70°C for two minutes/do not reheat food more than once</p> <p><b>Microwaving</b>– microwaves don't cook evenly so foods have hot and cold spots/regular stirring and turning is required through the cooking process/follow recommended standing times to allow conduction of heat through the food.</p>		

Question	Expected Answers	Marks	Rationale
	<b>Barbecues</b> - take care that raw and cook foods do not touch/wash hands after handling raw meat/use separate cooking utensils and equipment for raw and cooked meats/check food is thoroughly cooked/use a temperature probe. Credit will be given for all valid points.		
<b>Section A Total</b>			<b>25</b>

Question	Expected Answers	Marks	Rationale
2 (a)	<p><b>The government issues recommendations on the types and amounts of food individuals should eat to help improve the health of the nation.</b></p> <p><b>Describe how to implement current dietary guidelines when purchasing and preparing food.</b></p> <p><b>High 8-10</b> The candidate is able to clearly describe how to implement current dietary guidelines when purchasing and preparing food. Information will be clearly and fluently expressed with relevant examples and appropriate detail given to illustrate the points made. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 4-7</b> The candidate is able to satisfactorily describe how to implement current dietary guidelines when purchasing and preparing food. Information will be well expressed and some detail will be included with some examples given to illustrate the points made. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0-3</b> The candidate is able to give a limited description of how to implement current dietary guidelines when purchasing and preparing food. Information may be simplistic with few examples given to illustrate the points made. Ideas may be expressed awkwardly. Errors of grammar, punctuation and spelling may be intrusive. Spelling may be intrusive.</p> <p>Answers may include description of the following :</p> <p><b>Candidates must show evidence of how the guidelines influence food purchase and preparation eg</b></p>	10	

	<ul style="list-style-type: none"> <li>• Meals based on starchy/fibrous foods <ul style="list-style-type: none"> <li>◇ Buy wholegrain cereals eg brown rice</li> <li>◇ Use wholemeal pasta and noodles</li> <li>◇ Add a portion of wholemeal flour to home baking</li> <li>◇ Use pulses in stews and casseroles</li> </ul> </li>   <li>• Eat more fruit and vegetables <ul style="list-style-type: none"> <li>◇ Use a variety of fresh, frozen, tinned, dried or juiced</li> <li>◇ Eat fruit and vegetables with the skins left on</li> <li>◇ Serve larger portions with the family meal</li> <li>◇ Add extra vegetables into any meals cooked</li> <li>◇ Serve fruit with breakfast cereal</li> <li>◇ Buy fruit to eat as a snack</li> <li>◇ Ways to buy fruit and vegetables cheaply eg in season</li> </ul> </li>   <li>• Eat more fish <ul style="list-style-type: none"> <li>◇ Use a variety of fish eg fresh, frozen and canned.</li> <li>◇ Purchase tuna or salmon for a sandwich filling</li> <li>◇ Use part prepared fish for easy cooking</li> <li>◇ Add shellfish to stir fry vegetables and stews/soups</li> <li>◇ Barbeque fish</li> <li>◇ Add fish to pasta sauces</li> <li>◇ Try smoked fish added to rice</li> <li>◇ Purchase readymade fish soups</li> <li>◇ Use tinned fish as a quick snack or for lunch</li> <li>◇ Include oily fish once a week</li> </ul> </li>   <li>• Do not skip breakfast</li>   <li>• Drink plenty of water</li>   <li>• Cut down on saturated fats and sugar <ul style="list-style-type: none"> <li>◇ Read nutritional labels to identify quantity and type of fat in the product before purchase</li> <li>◇ High fat is more than 20g per 100g; low fat is 3g or less per 100g.</li> </ul> </li> </ul>	<p>The “eat well plate” can be used as a basis for this answer.</p>
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		<ul style="list-style-type: none"> <li>◇ Choose low fat or fat free versions of food products</li> <li>◇ Eat more white fish and chicken rather than red meat</li> <li>◇ Purchase lean cuts of meat/trim of fat from meat bought/remove chicken skin</li> <li>◇ Use stock cubes for sauces/gravies rather than meat juices</li> <li>◇ Use less meat in stews and casseroles by using more beans, pulses or vegetables</li> <li>◇ Eat less fried and roasted foods/use sunflower oil for roasting and frying</li> <li>◇ Change the method of cooking to microwaving, dry roasting, dry fry, grilling, steaming or poaching.</li> <li>◇ Use skimmed or semi skimmed milk.</li> <li>◇ Buy tomato based ready meals and sauces rather than cream based</li> <li>◇ Buy products that state they are reduced fat eg butter, salad dressings</li> <li>◇ Avoid snacking on high fat/sugar food products</li> <li>◇ Look at the carbohydrate content of food as an indication of sugar content</li> <li>◇ High sugar is more than 15g per 100g; low sugar is 5g or less per 100g</li> <li>◇ Try not to add sugar to hot drinks/use an alternative eg sweetener</li> <li>◇ Eat fewer cakes, sweets, chocolate and other confectionary items</li> <li>◇ Eat fresh fruit instead of readymade products eg fruit puddings, trifles</li> <li>◇ Use less sugar in home baking</li> <li>◇ Look for foods that have no added sugar</li> <li>◇ Use sugar free products eg jellies and drinks</li> <li>• Eat less salt <ul style="list-style-type: none"> <li>◇ High is 1.5g salt per 100g (or 0.6g sodium); low is 0.3g salt or less per 100g (or 0.1g sodium)</li> <li>◇ Reduce the amount in cooking eg adding to vegetables and casseroles</li> </ul> </li> </ul>		
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		<ul style="list-style-type: none"> <li>◇ Use herbs and spices to season instead</li> <li>◇ Buy products that show reduced salt content</li> <li>◇ Use 'low sodium' table salt</li> <li>◇ Cut down on snack that are high in salt eg crisps</li> <li>◇ Make your own food products as some processed food is high in salt eg sandwiches</li> </ul> <p>Credit will be given for all valid points.</p>		
	(b)	<p><b>Explain how the choice and use of food preparation and cooking equipment can help provide healthy family meals.</b></p> <p><b>High 12-15</b> The candidate is able to clearly explain how the choice and use of food preparation and cooking equipment can help provide healthy family meals. Information will be clearly and fluently expressed with relevant examples and appropriate detail given to illustrate the points made. There will be few, if any errors of grammar, punctuation and spelling.</p> <p><b>Middle 6-11</b> The candidate is able to satisfactorily explain how the choice and use of food preparation and cooking equipment can help provide healthy family meals. Information will be well expressed and some detail will be included with some examples given to illustrate the points made. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0-5</b> The candidate is able to give a limited explanation of how the choice and use of food preparation and/or cooking equipment can help provide healthy family meals. The description and explanation will be generalised. Information may be simplistic with few examples given to illustrate the points made. Errors of grammar, punctuation and spelling may be intrusive.</p>		

(b)	<p>Answers may include :</p> <p>Microwaves</p> <ul style="list-style-type: none"> <li>• Can cook in microwaves without using fat</li> <li>• Quick method of cooking so individuals may use to make quick snacks rather than eating ready made products</li> <li>• Flavour and colour retention of foods cooked is better so less salt is needed</li> <li>• Soluble nutrients are retained in any vegetables cooked due to using minimal water</li> <li>• Fish can be cooked quickly and retains its moisture</li> <li>• Can be used to reheat a leftover meal- often better than eating a ready made processed meal</li> </ul> <p>Cookers</p> <ul style="list-style-type: none"> <li>• The use of a grill allows fat to drip away from food</li> <li>• Fruit and vegetables baked in skins are particularly suitable for oven cooking</li> <li>• Pasta, rice, vegetables and stir fries can be cooked on the hob top</li> <li>• Fish and small pieces of meat can easily be grilled quickly</li> </ul> <p>Blenders/Liquidisers/Smoothie Makers</p> <ul style="list-style-type: none"> <li>• Quick method of preparing a wide range of fruit and vegetables</li> <li>• Use to create own baby food, often contains less salt and other additives than bought.</li> <li>• Good for pureeing soups that contain lots of vegetables</li> <li>• Easy to obtain one or two portions of the five recommended a day</li> <li>• Can be used to make a quick fruit smoothie for breakfast</li> <li>• Appeal to young children who find smoothies more palatable than fresh fruit</li> <li>• Retains the fibre content of fruit in a smoothie rather than peeling off the skin.</li> <li>• Can be used to hide fruit and vegetables eg for children</li> </ul>	15	No marks are awarded for just identifying the piece of equipment.
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		<p>Food mixers</p> <ul style="list-style-type: none"> <li>• Enable different methods of making to be used with home baking eg whisked sponge that is lower in fat</li> <li>• Can be used to knead dough making it easy for consumers to control ingredients added to their bread eg salt</li> </ul> <p>Steamers</p> <ul style="list-style-type: none"> <li>• Cook without fat</li> <li>• Only use a small amount of water therefore less destruction of soluble vitamins</li> <li>• Individuals can cook a large variety of foods together at one time eg meat, rice and vegetables</li> <li>• Easy method for cooking fish – retaining flavour and moisture/nutrients</li> </ul> <p>Food processors</p> <ul style="list-style-type: none"> <li>• Reduce the time taken to prepare vegetables in a variety of ways</li> <li>• Large capacity makes them useful for families</li> </ul> <p>Contact Grills</p> <ul style="list-style-type: none"> <li>• Easy to use for a quick snack</li> <li>• Non stick plating so no oil needs to be added before cooking</li> <li>• Drip trays can collect any fat that comes from food</li> <li>• Suitable for a wide variety of meats especially chicken breast</li> <li>• Vegetables can be easily and quickly cooked</li> <li>• Toasted sandwiches can be made with a variety of fillings</li> </ul> <p>The following can be included if well explained:  Bread makers  Slow cookers  Pressure cookers  Woks  Toaster  Equipment to make food appealing to children</p> <p>Credit will be given for all valid points.</p>		
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Question	Expected Answers	Marks	Rationale
3 (a)	<p><b>Food retailers use a wide variety of marketing strategies to build customer loyalty and generate sales and profits.</b></p> <p><b>Explain the methods used to attract and secure customer loyalty.</b></p> <p><b>High 8–10</b> The candidate is able to clearly explain a wide range of methods used to attract and secure customer loyalty. The information will be expressed clearly and fluently with specific detail and relevant examples used to illustrate the answer. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 4–7</b> The candidate is able to explain some of the methods used to attract and secure customer loyalty. The information will be expressed clearly, though the ideas may not be fully developed, and examples may not be used to illustrate the answer. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0–3</b> The candidate is able to give a superficial explanation of a limited number of methods used to attract and secure customer loyalty. The information may be generalised and simplistic and may be expressed awkwardly. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Answers may include :</p> <ul style="list-style-type: none"> <li>• Above the line – advertising through media e.g. radio and television / very effective as available to a wide audience</li> <li>• Below the line – less expensive e.g. direct mail, leaflets, brochures / builds awareness of retailers products / makes consumer aware of what is on offer</li> <li>• Celebrity endorsements</li> </ul>	10	<p>Candidates do not need to explicitly distinguish between attracting and securing loyalty.</p> <p>Inclusion of Internet/on line shopping should be clearly linked to loyalty – for one mark only.</p> <p>Methods must be explained ( not just identified) in order to gain credit.</p>

Question	Expected Answers	Marks	Rationale
	<ul style="list-style-type: none"> <li>• In store activity – buy one get one free offers / price reductions / discounts / printed coupons on products / multibuy savings / buy multiple similar items for a set price / demonstrations of products in store with free tasters / in store display of seasonal items / store competitions or events e.g. computers for schools / tannoy announcements in store about special offers/ price comparisons with other retailers</li> <li>• Packaging – attractive, bright and colourful / using percentage extra free labelling / making special claims e.g. free from additives / use of persuasive language e.g. taste the difference, finest</li> <li>• Loyalty cards – customer collects points which can be converted into money saving vouchers and coupons / vouchers can be used to purchase goods and services from other participating organisations / can be used to target selected audiences based on spending patterns e.g. enrolment in retailers specialist clubs like ‘Wine Club’, ‘Healthy Eating’ / loyalty card members receive offers, competitions and extra point incentives</li> <li>• In store facilities – makes shopping experience more enjoyable to the customer / include cafes, crèches, toilets, specialised parking bays for families, taxi services, discounted petrol(cheaper prices/voucher system,) and a variety of different trolleys for customers / in store pharmacies, post office, photo shops or dry cleaning/layout</li> <li>• Wide range of products to meet all consumer tastes</li> </ul> <p>Features of small food retailers will be credited if well explained, eg knowledgeable and friendly staff in a delicatessen</p> <p>Credit will be given for all valid points.</p>		

Question	Expected Answers	Marks	Rationale
(b)	<p><b>Describe the technological advances in the distribution and retailing of food that have benefited consumers.</b></p> <p><b>High 12-15</b> The candidate is able to clearly describe the technological advances in the distribution and retailing of food that have benefited consumers. Information will be expressed clearly and fluently and will be supported by the use of appropriate examples. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 6-11</b> The candidate is able to satisfactorily describe some of the technological advances in the distribution and retailing of food that have benefited consumers. Information will be well expressed though ideas may not be fully developed and examples may not be used to illustrate the answer. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0-5</b> The candidate is able to give a superficial description of a limited number of technological advances in the distribution and retailing of food that have benefited consumers. Information given may be general and superficial and ideas will be poorly expressed with little supporting evidence. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>The answer may include:</p> <p>Greater availability of food products</p> <ul style="list-style-type: none"> <li>• ICT networks link retailers to suppliers and manufacturers</li> <li>• Quick reactions to changes in demand for products</li> <li>• Quick stock ordering systems and replenishment</li> <li>• Increased likelihood of stock being available to consumers when they visit the retailer</li> </ul>	15	There must be reference to technology.

Question	Expected Answers	Marks	Rationale
	<p>Electronic point of sale (EPOS)</p> <ul style="list-style-type: none"> <li>• Virtually all food products labelled with a barcode</li> <li>• Gives customer quick access to product description and price</li> <li>• Provides instant information to the retailer regarding updating of stock levels and can re order if necessary</li> </ul> <p>B2B e-commerce (business to business exchange of services, information or products)</p> <ul style="list-style-type: none"> <li>• Has helped to widen choice of availability of products</li> <li>• Food manufacturers and retailers have access to global sources of food products</li> </ul> <p>Online Grocery Shopping</p> <ul style="list-style-type: none"> <li>• Customers able to browse a wide variety of products on websites</li> <li>• Use of online shopping has been aided by growth of broadband services across the UK</li> <li>• Can offer more choice to the customer</li> <li>• Saves costs of actual visit to the supermarket eg transport, fuel</li> <li>• Customers can buy shopping in bulk leading to potential money saving</li> <li>• More convenient as can have shopping delivered at a suitable time for the customer</li> <li>• Customers can compare prices from a variety of retailers</li> <li>• Very easy to repeat shopping orders for food that is bought on a regular basis</li> <li>• Notification of offers (also on mobile phones)</li> </ul> <p>Self-scanning</p> <ul style="list-style-type: none"> <li>• Saves time as customers scan their own shopping before payment</li> <li>• Some retailers offer hand held devices so that customers scan items as they are removed from shelves</li> <li>• Self scanning checkouts are also available in some retailers</li> </ul>		

Question	Expected Answers	Marks	Rationale
	<p>Remote payment terminals</p> <ul style="list-style-type: none"> <li>• Offer easy way to pay for shopping via a terminal that accepts credit and debit card payments.</li> <li>• Credit and debit cards have an embedded chip and pin technology that allows payments to be more secure</li> <li>• Saves time as traditionally customers would have to sign a sales receipt for payment – now a four digit pin is entered</li> </ul> <p>Convenience during shopping</p> <ul style="list-style-type: none"> <li>• Large entrances to stores through automated doors give easy access</li> <li>• Temperature, lighting and air conditioning are all controlled</li> <li>• Announcements and digital screens showing latest offers keep customer informed</li> <li>• Touch screen electronic scales available for customers to weigh produce</li> <li>• Electronic ticketing systems manage queuing in store when shopping at the delicatessen counter where one to one service is needed.</li> <li>• Development of in store bakeries now offer freshly baked breads and pastries</li> <li>• Some stores now offer customers opportunity to be involved with the production of celebration cakes eg Tesco create a cake.</li> <li>• Rotisserie cooking for fresh hot poultry and meat products</li> <li>• Some retailer garage forecourts offer microwave facilities and hot beverages</li> <li>• Credit will be given for all valid points.</li> </ul> <p>Improvements in food safety</p> <ul style="list-style-type: none"> <li>• New ICT systems increase the traceability of foods</li> <li>• Customer can access information on the name, address of the supplier.</li> <li>• Monitoring of temperatures of food products throughout production and distribution is now widespread</li> </ul>		

Question	Expected Answers	Marks	Rationale
	<ul style="list-style-type: none"> <li>• Electronic food storage monitoring is used to record temperature data and alert retailers and manufacturers to any problems</li> </ul> <p>Faster and efficient methods of transport</p> <ul style="list-style-type: none"> <li>• Has led to an increased consumer choice especially regarding perishable foods</li> </ul> <p>Developments in stock control</p> <ul style="list-style-type: none"> <li>• Use of radio frequency identification tags (RFID) can link consumer purchasing patterns to targeted marketing and advertising.</li> <li>• Smart shelf technology where specially designed shelves can monitor via radio waves the stock levels, alerting staff when supplies are running low</li> </ul> <p>Developments in food packaging</p> <ul style="list-style-type: none"> <li>• Increased choice and variety of products for the consumer</li> <li>• Ensure products are kept at best quality</li> <li>• Examples include MAP, CAP and aseptic packaging</li> <li>• Packaging designed specifically for cooking ready meals</li> </ul> <p>Credit will be given for all valid points.</p>		

Question	Expected Answers	Marks	Rationale
4 (a)	<p><b>The relationship between time, money and energy is important when managing resources in the home.</b></p> <p><b>Explain the factors that affect resource management.</b></p> <p><b>High 8–10</b> The candidate is able to clearly explain the factors that affect resource management. The information will be expressed clearly and fluently with specific detail and relevant examples used to illustrate the answer. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 4–7</b> The candidate is able to give a satisfactory explanation of some of the factors that affect resource management. The information will be expressed clearly, though the ideas may not be fully developed, and examples may not be used to illustrate the answer. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0–3</b> The candidate is able to give a superficial explanation of a limited number of the factors that affect resource management. The information may be generalised and simplistic and may be expressed awkwardly. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Answers may include :</p> <p>Factors that affect resource management include :</p> <ul style="list-style-type: none"> <li>• The number of people in a household – direct impact on the amount of resources available.</li> </ul>	10	<p>Candidates must explain rather than just describe the factors.</p> <p>Credit the quality of the explanation rather than the identification of the factors.</p>

Question	Expected Answers	Marks	Rationale
	<ul style="list-style-type: none"> <li>• The ages of members of the household /number of dependants – very young/old will take up time and energy of others due to care/dependent members of a household may involve additional financial cost.</li> <li>• The health of the household – people may suffer ill health/disabilities – may need more resources.</li> <li>• The gender of the household – may affect what people are able to do or what they perceive is an acceptable role for a man/woman eg men may be prepared to do physically demanding work but may not be prepared to share domestic chores.</li> <li>• The skills talents of household members – a good cook can save the household money/people with a good level of DIY skill</li> <li>• The location of the home – how near to work, school, college and other services/travelling will affect costs/fuel for vehicles/cost of public transport/amount of time travelling to and from work.</li> <li>• The geographical location of home – costs may be higher in the south than north of the country/sought after regions become more expensive/heating costs could be higher in colder regions eg Scotland/transport costs higher for those in rural areas</li> <li>• The nature and size of the house – ease of maintenance/cost of heating/difficulty of keeping it clean. Smaller house generally easier to keep clean and maintain. Quantity of house contents/surfaces and furnishings can also affect time taken to clean/maintain.</li> <li>• Labour saving appliances – can save time and energy/there may be cost implications for a household who decides to invest in the labour saving equipment.</li> </ul>		<p>Insulation needs to be related to the nature of the house.</p>

Question	Expected Answers	Marks	Rationale
	<ul style="list-style-type: none"> <li>• Leisure – chosen activities/time spent on activities/cost of activities/energy spent while engaging in leisure activities.</li> <li>• Help to the household – help from friends, neighbours and extended family/employ people to help with domestic chores</li> <li>• Work/income – hours worked/nature of work done effects how cash rich and time poor a household can be.</li> </ul> <p>Credit will be given for all valid points.</p>		
(b)	<p><b>Describe how the resources of time, money and energy can be effectively managed in the home.</b></p> <p><b>High 12-15</b> The candidate is able to clearly describe how the resources of time, money and energy can be effectively managed in the home. Information will be clearly and fluently expressed with relevant examples and appropriate detail given to illustrate the points made. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Middle 6-11</b> The candidate is able to satisfactorily describe how the resources of time, money and energy can be effectively managed in the home. Information will be well expressed and some detail will be included with some examples given to illustrate the points made. There may be occasional errors of grammar, punctuation and spelling.</p> <p><b>Low 0-5</b> The candidate is able to briefly describe how the resources of time, money and energy can be effectively managed in the home. Information may be simplistic with few examples given to illustrate the points made. Ideas may be expressed awkwardly. Errors of grammar, punctuation and spelling may be intrusive.</p>	15	<p>To achieve high band marks, candidates should give a balanced response addressing all three resources.</p> <p>Responses should relate to resources “in the home.”</p> <p>Lower Band – the candidate may only focus on one or two of the resources. Marks should be awarded appropriately.</p>

Question	Expected Answers	Marks	Rationale
	<p>Answers may be interchangeable</p> <p>Answers may include :</p> <p>Managing Time :</p> <ul style="list-style-type: none"> <li>• Timers on household appliances allow machines to operate whilst other activities are completed</li> <li>• Labour saving equipment eg food mixers and processors used to prepare food quickly</li> <li>• Kettles now have automatic shut off mechanisms</li> <li>• Continued use of fridges and freezers/new styles and sizes means people shop less frequently</li> <li>• Television programmes now accessed via the internet eg BBC iPlayer at a time suitable to people</li> <li>• Use of EPG (electronic programme guides) on television set top boxes to record television programs that can be watched when convenient</li> <li>• Corresponding via email quicker than using postal system</li> <li>• Sharing basic domestic tasks and chores</li> <li>• Cooking in bulk/meal planning</li> </ul>		

Question	Expected Answers	Marks	Rationale
	<p>Managing Energy:</p> <ul style="list-style-type: none"> <li>• Smooth surfaces have been developed for use on furniture and appliances that enable easy cleaning and minimise dust collection</li> <li>• Teflon coatings on household equipment eg saucepans allowing easy cleaning and iron sole plates allowing quicker ironing</li> <li>• Well designed home eg adequate storage, well planned kitchen</li> <li>• Fixtures and fittings in the home that control lighting, heating and ventilation eg PIR (passive infrared) lighting senses movement turning lights on; thermostats automatically control room heating</li> <li>• Thermostats on appliances save energy as only the temperature required is achieved eg cookers, freezers, toasters</li> <li>• Use of energy saving techniques/products eg not having appliances on stand by</li> </ul>		

Question	Expected Answers	Marks	Rationale
	<ul style="list-style-type: none"> <li>• Increased use of dishwashers and washing machines make household chores less labour intensive – these machines are becoming extremely energy efficient.</li> <li>• Use of insulating materials to effectively insulate the home</li> <li>• Increased use of microwave ovens.</li> <li>• Individually controlled radiators in the house via room thermostats</li> <li>• Use of solar powered heating is becoming more popular</li> <li>• Development of combination boilers have allowed for instant hot water instead of heating a full water tank</li> <li>• Use of new cooking appliances that only need one energy source to cook a meal eg steamer</li> </ul> <p>Managing Money:</p> <ul style="list-style-type: none"> <li>• On-line banking allowing instant access to banking information</li> <li>• Grocery and service shopping via the internet – no travelling/parking expenses incurred – can also prevent impulse buying.</li> <li>• Use of on-line comparison sites to access information on a variety of household goods and services to provide the most financially beneficial option.</li> <li>• Use of new energy efficient kitchen appliances and electrical equipment</li> <li>• Use of direct debits/standing orders to easily budget and plan</li> <li>• Use of a budget to manage income and expenditure</li> </ul> <p>Credit will be given for all valid points.</p>		
			<b>Section B Total 75</b>

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