



2007 Health and Food Technology

Intermediate 2

Finalised Marking Instructions

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**2007 Health and Food Technology
Intermediate 2**

Marking Scheme

Question 1

(a) For each of the following nutrients state one function and two different food sources.

1. Protein
2. Sodium
3. Vitamin A

Core skill: Recall and use of knowledge

Mark allocation: 6 marks

3 x 1 mark for each correct function

6 x ½ marks for each correct food source

Protein

Functions

1. Growth and repair of body cells.
2. Maintenance of body cells.
3. Extra is used as a (secondary) source of energy.

Food Sources

1. (Red) meat.
2. Poultry.
3. Fish.
4. Eggs.
5. Dairy products.
6. Cereals.
7. Pulse vegetables.
8. Nuts.
9. Soya.
10. Tofu.
11. Mycoprotein/quorn.

Sodium

Functions

1. Maintenance of fluid balance (in body cells).
2. Required for muscle/nerve activity.
3. Required to activate some enzymes.
4. Required to transport carbon dioxide in the blood.

Food Sources

1. Bacon.
2. Cheese.
3. Smoked foods eg kippers, cheese, meat.
4. Crisps/potato snacks.
5. (Some) convenience foods.
6. Salt.

Question 1 (continued)

Vitamin A

Functions

1. Makes a substance called visual purple (which is formed in the retina of the eye).
2. Ability to see in dim light/helps prevent night blindness.
3. Keeps the mucous membranes of the throat/digestive tract/nose moist/free from infection.
4. Healthy skin.
5. Normal growth in children.

Food Sources

1. Milk/cheese/yoghurt/butter.
2. Eggs (yolks).
3. Oily fish.
4. Liver.
5. Kidney.
6. Cod liver oil.
7. Margarine.
8. Carrots.
9. (Dark) green vegetables.
10. Apricots.
11. Tomatoes.

- (b) A parent wishes to buy a healthy snack for a primary school child to eat during morning interval.
Choose the most suitable snack.

Core skill: Drawing conclusions	Mark allocation: 3 marks
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1 x 1 mark for correct choice

2 x 1 mark for correct explanation related to case study

Correct choice	Snack B
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Energy – 668kJ

1. Snack contains 668kJ of energy which will help replace energy used by child/at school.
2. Snack contains 668kJ of energy which will help give the child energy to last till lunch.
3. Snack contains 668kJ of energy so the child will probably use this up/little excess energy to be stored as fat.
4. Second lowest in energy so will help prevent the child becoming overweight/obese.

Protein – 4.1g/highest

1. Highest in protein which the child will need for growth/as he is still growing.
2. The child will need protein for repair of body tissues if he falls and hurts himself.
3. The child can use protein as an additional source of energy as/if he is active.

Sugar – 15.9g/lowest

1. Has the lowest amount of sugar so will be less likely to rot the child's teeth.
2. Will not taste too sweet making the child less likely to develop a sweet tooth.
3. Contributes to the dietary target to reduce sugar and the parent is keen for the child to have a healthy snack.
4. Has the lowest amount of sugar so it will be less likely to contribute to diabetes/late onset diabetes/type2 diabetes.
5. Has the lowest amount of sugar so it will be less likely to contribute to obesity.

Question 1 (continued)

Fat – 1.2g/lowest

1. Lowest in fat so the child is less likely to suffer from CHD/obesity.
2. Contributes to the target to reduce fat intake and the parent is keen for the child to have a healthy snack.

Vitamin B – 0.23mg/highest

1. Contains the highest amount/0.23mg of Vitamin B which the child will need to release energy from food/as he is active.
2. Contains the highest amount/0.23mg Vitamin B which the child will need for growth/as he is still growing.

(c) Other than diet, identify and explain **two** factors which may contribute to coronary heart disease.

Course skills: Recall and use of knowledge	Mark allocation: 3 marks
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2 x ½ marks for correct factors

2 x 1 mark for correct explanation linked to obesity

Factor – Hereditary

Explanation

1. If there is a family history of heart disease then an individual may have an increased risk of CHD (as it may be passed on by the parents).

Factor – Cigarette smoking

Explanation

1. Smoking increases blood pressure which is a risk factor in CHD.
2. Carbon monoxide in tobacco smoke reduces the blood's ability to carry oxygen so increasing the risk of CHD.
3. Smoking (also raises the levels of fibrinogen (a protein which causes blood to clot) and increases platelet production (also involved in the formation of blood clots) which makes the blood stickier and so more likely to clot increasing risk of CHD.

Factor – Lack of physical exercise

Explanation

1. (Aerobic) physical activity can help reduce blood pressure so reduce risk of CHD.
2. Physical activity can increase the blood's ability to carry oxygen so reduce risk of CHD.
3. Physical activity can lower blood cholesterol/blood pressure/body fat reducing the risk of CHD.
4. Lack of (physical) exercise can lead to obesity increasing the risk of CHD.

Factor – Diabetes

Explanation

1. It is thought that if the blood glucose levels are higher than normal (and not controlled) this may affect the lining of the body's arterial walls increasing risk of CHD.

Question 1 (continued)

Factor – High blood pressure

Explanation

1. Too much pressure puts a strain on the arteries/the heart itself increasing the risk of CHD.

Factor – Obesity

Explanation

1. Obesity can raise blood pressure which increases the risk of CHD.
2. Obesity increases total cholesterol levels which increases the risk of CHD.

Factor – Stress

Explanation

1. Stress can raise blood pressure/put a strain on the heart increasing the risk of CHD.

Factor – Alcohol

Explanation

1. (Excess) alcohol consumption can lead to obesity increasing the risk of CHD.
2. (Excess) alcohol consumption can lead to high blood pressure/strain on the heart increasing the risk of CHD.

Question 2

- (a) A manufacturer wishes to extend his range of healthy eating products to include biscuits. Study the information about the biscuits shown and evaluate **two** of the biscuits for their suitability to be included in the range.

Core skill: Evaluation

Mark allocation: 4 marks

4 x 1 mark for correct evaluation points

Biscuit A

Wholemeal flour

1. High in NSP which will help prevent constipation/bowel disorders/bowel cancer so will be suitable to be included in the range.
2. Wholemeal may be perceived by the consumer as healthy, so increasing sales.
3. Flour/wholemeal flour helps to contribute to the dietary target of increase intake of total complex carbohydrate so will be suitable to be included in the range.
4. Contains NSP which may help lower cholesterol.
5. High in NSP which may give a feeling of fullness so consumer may be less likely to snack on high fat/sugar foods.

Rolled oats

1. High in NSP which will prevent constipation/bowel disorder/bowel cancer so will be suitable to be included in the range.
2. Help meet the dietary target to increase intake of total complex carbohydrate.
3. High in NSP which may help lower cholesterol.
4. High carbohydrate content may make the biscuits very dry so may be unacceptable to consumers.
5. High in NSP which may give a feeling of fullness so consumer may be less likely to snack on high fat/sugar foods.

Dried orange pieces

1. Helps meet the dietary target to increase intake of fruit and vegetables so will be popular in a healthy eating range.
2. Fruit content may be perceived by the consumer as healthy so may increase sales.
3. Position on the list may indicate a good proportion of fruit so may increase sales.

Sultanas

1. Helps meet the dietary target to increase intake of fruit and vegetables so will be popular in a healthy eating range.
2. Fruit content may be perceived by the consumer as healthy so may increase sales.
3. Position on the list may indicate a good proportion of fruit so may increase sales.

Sunflower oil

1. Low on the list of ingredients indicating a low fat content so may be popular in a healthy eating range.
2. Unsaturated fat which is less harmful to health so would be a good choice for a healthy eating range.

Honey

1. Low on the list of ingredients indicating a lower sugar content so may be popular in a healthy eating range.
2. May be perceived by the consumer as a natural/healthy sweetener so may increase sales.

Flaked almonds

1. Not suitable for consumers with a nut allergy so may decrease sales.

No artificial additives

1. May be chosen by the consumer who wishes to avoid additives so may increase sales.

Question 2 (continued)

Biscuit B

White flour

1. May be perceived as 'unhealthy' by consumers so may not be suitable to be included in the range.
2. Flour helps to contribute to the dietary target of increase intake of total complex carbohydrate so will be suitable to be included in the range.
3. Contains some NSP which will help prevent constipation/bowel disorders/bowel cancer so will be suitable to be included in the range.
4. High in NSP which may give a feeling of fullness so consumer may be less likely to snack on high fat/sugar foods.

Wholemeal flour

1. High in NSP which will help prevent constipation/bowel disorders/bowel cancer so will be suitable to be included in the range.
2. Wholemeal may be perceived by the consumer as healthy, so increasing sales.
3. Flour/wholemeal flour helps to contribute to the dietary target of increase intake of total complex carbohydrate so will be suitable to be included in the range.
4. Total carbohydrate content is high which may make the biscuits very dry so may be unacceptable to consumers.
5. High in NSP which may give a feeling of fullness so consumer may be less likely to snack on high fat/sugar foods.

Butter

1. High on the list of ingredients indicating a high fat content so may not be suitable for inclusion in a healthy eating range.
2. Butter is high in animal fat so may not be suitable for inclusion in a healthy eating range.
3. May increase cholesterol so consumers may avoid this product causing sales to decrease.
4. Butter may be perceived by consumers as 'unhealthy' so may not be suitable for the inclusion in a healthy eating range.

Glucose Syrup

1. Glucose may be perceived by consumers as being 'healthy' so biscuits would be suitable for inclusion in the healthy eating range.
2. May be perceived by the consumer as a natural/healthy sweetener so may increase sales.
3. Is in the middle of the list of ingredients so may have to be reduced if biscuits are to be included in a healthy eating range.

Hydrogenated vegetable oil

1. Low on the list of ingredients indicating a low fat content so may be popular in a healthy eating range.
2. May contain trans fatty acids so would not be suitable for a healthy eating range.
3. Vegetable oil may be perceived by consumers as being 'healthy' so may increase sales.
4. Total fat content is high so may not be suitable for inclusion in a healthy eating range.

Desiccated coconut

1. Will cause reaction in people allergic to nuts so may not be a good choice to be included in the range.
2. Will increase the total fat content of the biscuits so may not be a good choice to be included in a healthy eating range.
3. Position on the list indicates a small proportion of this ingredient so may not increase fat content significantly and may be suitable for a healthy eating range.

Question 2 (continued)

Hazelnut oil

1. May be perceived by some consumers as a healthy/natural form of oil so may increase sales.
2. Will cause reaction in people allergic to nuts so may not be a good choice to be included in the range.
3. Will increase the total fat content of the biscuits so may not be a good choice to be included in a healthy eating range.
4. Position on the list indicates a small proportion of this ingredient so may not increase fat content significantly and may be suitable for a healthy eating range.

Biscuit C

Granary flour

1. High in NSP which will help prevent constipation/bowel disorders/bowel cancer so will be suitable to be included in the range.
2. Granary flour may be perceived by the consumer as healthy, so increasing sales.
3. Flour/granary flour helps to contribute to the dietary target of increase intake of total complex carbohydrate so will be suitable to be included in the range.
4. High in NSP which may give a feeling of fullness so consumer may be less likely to snack on high fat/sugar foods.

Margarine

1. High on the list of ingredients indicating a high fat content so may not be suitable for inclusion in a healthy eating range.
2. Margarine is high in fat so may not be suitable for inclusion in a healthy eating range.
3. Margarine is high in fat which may contribute to obesity/heart disease may not be suitable for inclusion in a healthy eating range.
4. Margarine may be perceived by consumers as 'unhealthy' so may not be suitable for inclusion in a healthy eating range.

Sugar

1. Contributes to tooth decay so may not be suitable for inclusion in a healthy eating range.
2. May be perceived by consumers as 'unhealthy' so may not be suitable for inclusion in a healthy eating range.
3. Sugar may contribute to obesity so may not be suitable for inclusion in a healthy eating range.
4. Position in list indicates a high proportion of sugar so consumers may be deterred from buying the biscuits resulting in a loss of sales.

Golden syrup

1. Contributes to tooth decay so may not be suitable for inclusion in a healthy eating range.
2. May be perceived by consumers as 'unhealthy' so may not be suitable for inclusion in a healthy eating range.
3. May contribute to obesity so may not be suitable for inclusion in a healthy eating range.
4. Total sugar content is high so may not be suitable for a healthy eating range.

Egg

1. May increase the total fat content and deter consumers from buying the biscuits resulting in a loss of sales.
2. Position on the list indicates a small proportion of this ingredient so may not increase fat content significantly and consumers will not be deterred from buying the biscuits.
3. May be perceived by consumers as a healthy/natural ingredient, so increasing sales.

Question 2 (continued)

Salt

1. May be perceived by consumers as 'unhealthy' so may not be suitable for inclusion in a healthy eating range.
2. Position on the list indicates a small proportion of this ingredient so may be suitable for a healthy eating range.

Emulsifier E322

1. Consumers who opt for healthy eating ranges may prefer food without additives so this may lead to poor sales.
2. May be perceived as 'unhealthy/artificial' by consumers so may not be suitable for inclusion in a healthy eating range.

- (b) Identify **four** sensory tests the manufacturer could carry out on the biscuits.
Explain the information the manufacturer would gain from **two** of the tests.

Core skill: Recall & use of knowledge	Mark allocation: 4 marks
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4 x ½ mark for correct identification of tests

2 x 1 mark for correct explanations

Preference/Rating Test

1. Collect information/opinions about the specific attributes of a product.
2. Identify specific strengths/weaknesses in a product.
3. Allows changes to be made to specific attributes based on the results.

Ranking/scoring/grading test

1. Use to find out how much someone likes or dislikes a product.
2. To make judgements about the product in relation to one characteristic, for example, palatability, flavour, texture, colour etc.

Discrimination/difference tests

1. To find out if tasters can tell the difference between the manufacturer's product and that of a competitor.
2. To find out if the tasters can tell the difference between an existing product and a new recipe.
3. To find out if tasters can tell the difference if the proportions of ingredients are changed eg if salt levels are reduced.

Paired comparison test

1. These tests help manufacturers test adaptations to their products.
2. To find out if tasters can tell the difference if the proportions of ingredients are changed eg if salt levels are reduced.

Triangle test

1. To find out if consumers can identify the product on test from two other similar products.
2. To find out how similar/different the product on test is from the other two identical products.

Taste threshold test

1. To find out how low a concentration of an ingredient can be before the product becomes unacceptable to consumers eg reducing sugar in biscuits.

Question 2 (continued)

(c) Give **four** reasons why the manufacturer would choose to package the biscuits in an air-tight plastic container.

Core skill: Recall & use of knowledge

Mark allocation: 4 marks

4 x 1 mark for correct reasons

1. To protect and keep the biscuits in good condition during transport/storage (throughout the distribution chain).
2. So that the biscuits are easily recognised.
3. So that the biscuits can be easily opened/re-closed.
4. So that the biscuits are a convenient size/weight to facilitate shipping/display/sale.
5. Preserve the original quality of the biscuits.
6. To protect the contents from physical damage/contamination/pollution/atmospheric conditions eg dampness.
7. To prevent/show up tampering with the product.
8. To provide legal and useful information on the use of the biscuits.
9. To keep biscuits in a hygienic condition.
10. To extend shelf life.
11. To attract the consumer by allowing the biscuits to be easily displayed.
12. To allow the biscuits to be advertised.

Question 3

(a) A busy student shares a small kitchen with flatmates. She wishes to buy a microwave which she will use to cook single portion ready-made meals. Study the information about microwaves and choose the best microwave for the student to buy.

Core skill: Drawing conclusions	Mark allocation: 4 marks
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1 mark for correct choice 3 x 1 mark for correct explanation related to needs of student

Correct choice: Microwave C

Available in white, stainless steel and black

1. Good range of colours which may fit in with other appliances in student's kitchen.
2. Good choice of colours which may fit in with student's kitchen colour schemes.

26cms x 45cms x 32cms

1. Small size will suit the student as she has a small kitchen.
2. Small size will be suitable as she wishes to use it to cook single-portion meals.

Microwave category E

1. Best category for reheating single-portion meals as this is what she intends to use it for.
2. Good as this will give her a good result when she cooks the single-portion meals.
3. Will cook faster so will suit the student as she is busy.

6 power settings

1. Good as it will give enough power levels for her needs.
2. Good as it will have a power level suitable to cook the single-portion meals.

Touch controls

1. Good as the student will be able to set the controls accurately.
2. Good as the controls will be easy for the student to use.
3. Will be easy to see/read so student can be accurate in the cooking time set.

1000 watt grill

1. May be useful if the student wishes to use this facility for browning her microwave meals.
2. Good as it may save the student buying a toaster/health grill.
3. Good as it may save the student heating the whole grill in the cooker.
4. Good as it will cook food quickly so save student time.

100 – 200°C fan assisted oven

1. May be useful to the student if the ready meals can be oven cooked.
2. Good as it may save the student buying a toaster/health grill.
3. Good as it will save the student the expense of heating the oven in the cooker.

Metal oven interior – for better conduction of microwaves

1. Good for the student as she will be using the microwave a lot.
2. Will mean that the food is cooked faster so saving the student time.
3. Will ensure maximum efficiency of the microwave so saving the student time and money.

Question 3 (continued)

- (b) The busy student wishes to buy a healthy pasta dish for herself.
Choose **one** of the pasta dishes and evaluate its suitability for the student.

Core skill: Evaluation

Mark allocation: 4 marks

4 x 1 mark for each evaluation point

Pasta Dish A

Weight 300g

1. 300g is a reasonable portion size, so would be suitable for the student.
2. A suitable size so the student would be less likely to waste any.
3. Would fill the student up so she would not have to buy further items.

Serves one

1. Would be a suitable size so the student would be less likely to waste food.

Oven cook for 25 minutes at 200°C

1. Suitable as student only has to remove the packaging and she has little time for preparation.
2. Student could do other things while the meal was cooking as she is busy.
3. No preparation needed which would suit the student as she has limited cooking skills.
4. She has limited cooking skills, so this would be an easy method for her to choose.
5. May not be suitable as she may not have enough time to wait because she is busy.

Not suitable for home freezing

1. Student would have to shop regularly so this dish may be unsuitable as she is busy.
2. This dish would have a limited shelf life which may not suit the student if she is busy.

Food facts per pack:

23g fat

1. High in fat which would be unsuitable for the student as she wants to buy a healthy pasta dish.
2. High in fat but the student may need this as she is busy.
3. May not be suitable as she may have sedentary lifestyle.

1.9g salt

1. High in salt which would be unsuitable for the student as she wants to buy a healthy pasta dish.

1973kJ

1. High in energy but the student may need this as she is busy.
2. High in energy so the student may gain weight if she eats this dish too often.

Pasta Dish B

Weight 500g

1. 500g is a large portion size, so may be too much for the student to eat.
2. A large portion size so would fill the student up and she would not have to buy further items.
3. As the portion size is large the student may waste some of the food.
4. May be suitable as the student could store leftovers for the following day.
5. The student may be on a limited budget and may waste money buying a portion size she does not need.

Serves one

1. Would be a good size so the student would be less likely to waste food.
2. Would fill the student up so she would not have to buy further items.

Question 3 (continued)

Microwave at full power for 4 minutes, stir and reheat for a further 2 minutes. Leave to stand for 1 minute before serving

1. Suitable as the student only has to remove the packaging and she has little time for preparation.
2. No preparation needed which would suit the student as she has limited cooking skills.
3. Suitable as cooking time is only 7 minutes and the student has little time.
4. She has limited cooking skills, so this would be an easy method to choose.

Suitable for home freezing

1. Student could buy this in advance and store it for when she has no time to shop.
2. This may suit the student as she is busy and could plan her shopping trips in advance.

Food facts per pack:

6g fat

1. Low in fat which would be suitable for the student as she wants to buy a healthy pasta dish.
2. Low in fat so may not provide enough energy for the student as she is busy.

0.8g salt

1. Low in salt which would be suitable for the student as she wants to buy a healthy pasta dish.

1582kJ

1. High in energy but the student may need this as she is busy.
2. High in energy so the student may gain weight if she eats this dish too often.

(c) Apart from food, identify **four** conditions necessary for the growth of bacteria.

Core skill: Recall & use of knowledge	Mark allocation: 2 marks
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4 x ½ mark for correct identification of conditions necessary for growth of bacteria

1. (Correct) temperature/warmth.
2. Time.
3. Moist.
4. (Neutral) pH (conditions).
5. Oxygen.

(d) Explain **two** points of the Trade Descriptions Act

Core skill: Recall & use of knowledge	Mark allocation: 2 marks
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2 x 1 mark for correct reasons

1. Criminal offence to falsely describe goods/services being sold.
2. Protects consumers from traders who deliberately or accidentally mislead.
3. Illegal to knowingly mislead about goods/services being provided.
4. Goods, which have been reduced, must have been on sale at the higher price for at least 28 days in the last 6 months.

Question 4

(a) State **two** reasons why a manufacturer would carry out market research when developing a new product.

Core skill: Recall & use of knowledge | **Mark allocation:** 2 marks

2 x 1 mark for correct reasons

1. Helps manufacturer establish if there is a need for the product/gap in the market.
2. Helps manufacturer establish market trends/what the consumer wants to buy.
3. Helps manufacturer establish where the consumers will buy the product.
4. Helps manufacturer establish the type of people who will buy the product/customer characteristics.
5. Helps manufacturer decide on the final price for a product.
6. Helps manufacturer establish how they are going to promote and advertise a product.
7. Enables manufacturer to gain public response as to how successful a product is going to be.
8. Helps manufacturer gain consumer response to a product.
9. Allows manufacturer to monitor and evaluate a product's performance in the market place.

(b) Other than market research, identify and explain why a manufacturer would use **two** of the missing stages in product development.

Core skill: Recall & use of knowledge | **Mark allocation:** 3 marks

2 x ½ mark for correct identification of stages

2 x 1 mark for correct explanations

Stage A Concept Generation

1. Coming up with ideas/looking for a gap in the market.
2. Development of ideas from market analysis.
3. Refers to the first stage in the development process for a new food product.

Stage C Prototype production

1. Examples of possible products are developed and tested (against the specification).
2. Some products may be eliminated if they don't meet the requirements of the specification.
3. The most suitable product is taken forward to the next step.

Stage F First production run

1. Usually a small-scale production run aimed at a small section of the country to test whether the product will sell well.
2. Results of this are monitored/evaluated and any modifications are put in place.
3. Market research can be used to develop/screen/refine alternative versions of a product before a national launch.

Question 4 (continued)

- (c) A product development team is working on the following brief;
'Develop a salad dressing to be packaged in a sachet.'
Choose the most suitable salad dressing for the manufacturer to use.

Core skill: Drawing conclusions **Mark allocation:** 4 marks

1 mark for correct choice
3 x 1 mark for correct explanation related to the case study

Correct choice: Dressing C

Ease of use – 9/best

1. 9/best rating for ease of use, so it will be easy to get out of the sachet.
2. 9/best rating for ease of use, so all the dressing would come out of the sachet/would get the right amount of dressing for the salad.
3. 9/best rating for ease of use, so the dressing is less likely to spill.

Appearance – 5.5/satisfactory/average

1. 5.5/satisfactory/average rating would make the dressing appealing/attractive (to the consumer).
2. 5.5/satisfactory/average rating would be acceptable as the dressing is not the main component of the dish.

Thickness – 8/best

1. 8/best rating so dressing should not be too thin and run off the salad.
2. 8/best thickness so the product should sell well/make a profit.
3. 8/best thickness so it will be less messy to eat.

Flavour – 8.5/best =

1. 8.5/best equal rating for flavour so the product will be more enjoyable/the consumer will make repeat purchases.

Colour – 8.5/second best

1. 8.5 second best equal rating for colour so the product will be attractive/encourage the consumer to buy the product.
2. 8.5/second best equal rating for colour will make the salad bowl more appealing.

Question 4 (continued)

(d) Explain how **each** of the following factors could influence a consumer's choice of food:

1. food additives
2. functional foods
3. myco-proteins.

Core skill: Recall & use of knowledge

Mark allocation: 3 marks

3 x 1 mark for correct explanations

Food additives

1. Some additives can cause side effects such as hyperactivity in children, so people with young children may avoid products containing additives.
2. Some additives can cause allergies so some people may wish to avoid products containing additives.
3. Some additives irritate sufferers of asthma and eczema so people suffering from these conditions may avoid foods containing additives.
4. Nutrients may be added to give the food qualities it did not have before so people may buy these foods to increase their/their children's nutrient intake.
5. Many new lower fat products would not be available without the use of additives and people who are trying to lose weight may opt for these products.
6. Flavourings and colourings replace what has been lost in the processing eg green colour in peas and people may prefer the foods containing additives because the colour is more like what they expect.
7. Consumers may avoid foods containing additives as they may be perceived as unhealthy.

Functional foods

1. Functional foods are generally considered foods or beverages that provide health benefits in addition to their basic nutrients and so may be chosen by people who are health conscious.
2. The incorporation into spreads/drinks/yoghurts of mono or polyunsaturated fatty acids, which advertise that they lower blood cholesterol levels, may be chosen by people concerned about heart disease/cholesterol levels.
3. Bifidobacteria/good bacteria in yoghurts may help fight a wide range of harmful and food-poisoning bacteria, so may be chosen by people concerned about their health.
4. A new range of herb and vitamin-enhanced drinks claims to help overcome problems ranging from PMS to lack of energy so may be chosen by people concerned about certain conditions.
5. In many cases, functional foods are more expensive so may be avoided by people on a limited budget.

Myco-proteins

1. Available in pieces, minced or in slices so offers the consumer a wide variety of uses.
2. Sold as steaks, burgers, sausages so offers the consumer increased flexibility.
3. Sold in slices to be used in sandwiches/as a substitute to cold meats to increase flexibility for the consumer.
4. Used in ready meals so vegetarian consumers can still eat convenience meals.
5. Low in saturated fat and cholesterol so offers the consumers a healthier alternative to meat.
6. More tender than meat so has greater palatability for young children/convalescents/elderly.
7. Shorter cooking time than meat so enables consumers to make meals quicker.
8. Free from artificial additives so suitable for consumers who wish to eat 'natural'/organic foods or have allergies to additives.
9. Cost comparable to meat so makes it an economical choice for consumers.
10. Egg protein is used in its composition so will not be suitable for Vegans so they will avoid this product.
11. Wide range of commercial products available to consumer, so gives greater choice/greater variety in the diet/can be used in a variety of recipes.
12. Provides an alternative source of protein for vegetarians.

Question 5

(a) A manufacturer wishes to alter the oven baked convenience dish shown below to better meet the dietary targets.

Identify **three** different Scottish dietary targets and adapt the recipe to help meet the targets identified.

Core skill: Recall & use of knowledge

Mark allocation: 6 marks

3 x 1 mark for correct identification of target

3 x 1 mark for correct adaptation

Dietary target – Fruit and vegetables

1. Increase intake of fruit and vegetables.
2. Increase intake of fruit and vegetables to 5 portions per day.
3. Intake of fruit and vegetables to double.
4. Intake of fruit and vegetables to increase to 400g per day.

Change

1. Add other vegetables to the dish (any other suitable vegetable would be acceptable).
2. Increase proportion of tomatoes in the dish.

Dietary target – Bread

1. Increase bread intake (mainly using wholemeal).
2. Increase bread intake by 45%.

Change

1. Add (wholemeal) breadcrumbs as a topping to the dish.
2. Incorporate breadcrumbs in the sauce.

Dietary target – Breakfast cereals

1. Increase intake of breakfast cereals.
2. Intake of breakfast cereals to double.
3. Intake of breakfast cereals to double to 34g per day.

Change

1. Add crushed breakfast cereal as a topping to the dish.

Dietary target – Fats

1. Reduce intake of fat.
2. Reduce total fat intake.
3. Intake of total fat to be reduced to no more than 35% of food energy.
4. Reduce intake of saturated fat.
5. Average intake of saturated fat to be reduced to no more than 11% of food energy.

Change

1. Change butter to low fat alternative.
2. Change milk to skimmed or semi-skimmed milk.

Question 5 (continued)

Dietary target – Salt

1. Intake of salt to be reduced.
2. Intake of salt to reduce from 163mmol/day to 100mmol/day/no more than 6g/day.

Change

1. Remove salt from dish.
2. Replace salt with herbs/low salt (for flavouring).
3. Reduce proportion of salt in dish.

Dietary target – Sugar

1. Adult intake of (NME) sugar not to increase.
2. Intake of (NME) sugar in children to reduce (by half).
3. Intake of (NME) sugar in children to reduce to less than 10% of energy.

Change

1. Remove sugar from dish.
2. Replace sugar with sweetener for flavouring.
3. Reduce proportion of sugar in dish.

Dietary target – Total complex carbohydrates

1. Increase intake of total complex carbohydrates/fruit and vegetables/bread/breakfast cereals/rice/pasta/potatoes.
2. Increase intake of TCC foods by 25%.

Change

1. Use potatoes/bread/breakfast cereals as topping for dish.
2. Incorporate breadcrumbs in the sauce.
3. Include pasta in the sauce.
4. Include a serving of rice with the dish.
5. Add other vegetables to the dish (any other suitable vegetable would be acceptable).
6. Increase proportion of tomatoes in the dish.
7. Use wholemeal flour instead of white flour.

Dietary target – Fish

1. Eat more fish, especially oily fish.
2. Intake of white fish to be maintained.
3. Intake of oily fish to double from (44g/week to 88g/week).

Change

1. Change haddock to an oily fish (any suitable oily fish would be acceptable).
2. Increase the proportion of fish in the dish.

Question 5 (continued)

(b) A manufacturer wishes to develop a drink to be served at breakfast time.

The target market are consumers who:

1. are health conscious
2. have little time for breakfast
3. enjoy variety in their diet
4. enjoy quality products
5. shop weekly

Choose the most suitable drink for the manufacturer to develop.

Core skill: Drawing conclusions

Mark allocation: 4 marks

1 mark for correct choice

3 x 1 mark for reasons linked to needs of manufacturer/consumer

Correct choice: Drink B

Main ingredients

1. Fat free yoghurt/fresh fruit/bran cereal will appeal to the target group who are health conscious.
2. Fat free yoghurt will contribute to the dietary target, reduce fat intake and appeal to the target group who are health conscious.
3. Fresh fruit will contribute to the dietary target to increase intake of fruit and vegetables and appeal to the target group who are health conscious.
4. Bran cereal will contribute to the dietary target increase TCC/increase breakfast cereals and appeal to the target group who are health conscious.

Varieties available – good/second best

1. Good/second best range of varieties which is important to the target group who enjoy variety in their diet.

Pack sizes available

200ml

1. All the drink could be consumed with less likelihood of waste.
2. Wide neck would allow the drink to be consumed quickly/easily, important as the target group have little time for breakfast.
3. Plastic bottle would be light to carry so the drink could be consumed ‘on the hoof’/at work, important as the target group have little time for breakfast.

500ml

1. Would be enough for any of the target group who has a larger appetite.
2. Re-sealable cap would save waste if the target group did not consume the drink all at once.
3. Plastic bottle would be light for the target group to carry from shop/to work.

Storage instructions – refrigerate for up to 10 days. Use within 3 days of opening

1. The target group shop once a week and this drink can be stored for 10 days.
2. The target group would be able to buy enough for the week as it can be stored for 10 days.
3. Any leftover drink could be consumed the next day as it can be kept for up to 3 days.

Aesthetic appeal – 4 stars/best rating

1. 4stars/the best rating and the target group enjoy quality products.
2. 4 stars/best rating the target group may enjoy this and buy it again.
3. 4 stars/best rating could ensure high sales/profit for the manufacturer.

Question 5 (continued)

(c) Explain a **different** benefit to the consumer of buying each of the following:

1. cook-chill foods
2. vacuum packaged foods

Core skill: Recall & use of knowledge

Mark allocation: 2 marks

2 x 1 mark correct explanations

Cook-chill foods

1. A wide variety of products is available to the consumer.
2. Consumers who opt for 'healthy eating' products see chilled foods as 'fresh', less likely to contain additives and preservatives/better taste and quality.
3. The increase in ownership of microwave ovens has resulted in the development of cook/chill foods, particularly ready meals, which are often in single portions, specifically intended for use with microwaves.
4. There have been changes in social trends, such as less time, more money to spend and increased foreign travel so the convenience aspect of chilled food is important for consumers.
5. Increased shelf life of the ingredients used – this, therefore, allows a greater variety of convenience products to be produced and offered to consumers eg pies, pizza, sandwiches.
6. There is no loss of nutrients in the preparation of cook-chill products as the food is usually cooked first and then chilled to just above freezing – this is done very quickly, therefore, the Vitamin C content, for example, of a dish would be retained.
7. Chilling is not as expensive as freezing food, therefore, this lower cost can be passed onto the consumer.

Vacuum packaged foods

1. Foods maintain their freshness and flavour 3-5 times longer than with conventional storage methods, because they don't come into contact with oxygen.
2. Foods maintain their texture and appearance, because micro-organisms such as bacteria mould and yeast cannot grow in a vacuum.
3. Freezer burn is eliminated, because foods no longer become dehydrated from contact with cold, dry air.
4. Moist foods won't dry out, because there's no air to absorb the moisture from the food.
5. Dry, solid foods, such as brown sugar, won't become hard, because they don't come in contact with air and, therefore, can't absorb moisture from the air.
6. Foods that are high in fats and oils won't become rancid, because there's no oxygen coming in contact with the fats, which causes the rancid taste and smell.
7. Insect infestation is eliminated, because insects require oxygen to survive and hatch.
8. Food bills are reduced because food lasts longer (so less spoiled food will need to be thrown away), and because food can be purchased in lower-priced bulk quantities and re-packaged at home into smaller portions.

**Intermediate 2 Level Home Economics
Analysis of Question Paper for the Year 2007**

Context:

✓

Health and Food Technology

Lifestyle and Consumer Technology

Fashion and Textile Technology

Analysis of question content and question choice

Question	Content (Brief outline)	Choice element		Mark
1a	Functions and food sources of protein, sodium and Vitamin A		No	6
b	Healthy snack for a primary child		No	3
c	Identify and explain 2 factors other than diet which contribute to coronary heart disease		No	3
2a	Evaluation of 'healthy eating' biscuits	Yes		4
b	Identification of 4 sensory tests and explanation of 2		No	4
c	4 reasons for packaging biscuits in air tight container		No	4
3a	Choice of microwave for a student		No	4
b	Evaluation of pasta dish for student	Yes		4
c	Identification of 4 conditions (apart from food) necessary for the growth of bacteria		No	2
d	2 points of the Trades Descriptions Act 1968		No	2
4a	Reasons why manufacturers carry out market research when developing new products		No	2
b	Identification and explanation of 2 product development stages	Yes		3
c	Choice of salad dressing		No	4
d	Factors influencing consumers choice of food			3
5a	Identification of dietary targets and changes to ingredients		No	6
b	Choice of breakfast drink		No	4
c	Benefit to consumer of cook-chill and vacuum packed foods			2

Intermediate 2 Level Home Economics Analysis of Question Paper for the Year 2007					Context	Health & Food Technology Lifestyle & Consumer Technology Fashion & Textile Technology		
Questions 1 – 5								
Component Unit					Skill Assessment			
Question	Management of Practical Activities	Product Development	Consumer Studies	Choice	Recall & Use of Knowledge	Draw Conclusions	Evaluate	Totals
1a	6				6			
b	3			0		3		12
c	3				3			
2a	4			4			4	
b		4			4			12
c			4		4			
3a			4			4		
b			4	4			4	12
c	2				2			
d			2		2			
4a		2			2			
b		3		3	3			12
c			4			4		
d			3		3			
5a	6				6			
b		4				4		12
c		2			2			
Totals	24	15	21	11	37	15	8	60
Target range	15-25 marks	15-25 marks	15-25 marks	10-12 marks	30-37 marks	15-20 marks	8-10 marks	60 marks

[END OF MARKING INSTRUCTIONS]