



National
Qualifications
2023

2023 Health and Food Technology

Advanced Higher

Finalised Marking Instructions

© Scottish Qualifications Authority 2023

These marking instructions have been prepared by examination teams for use by SQA appointed markers when marking external course assessments.

The information in this document may be reproduced in support of SQA qualifications only on a non-commercial basis. If it is reproduced, SQA must be clearly acknowledged as the source. If it is to be reproduced for any other purpose, written permission must be obtained from permissions@sqa.org.uk.



General marking principles for Advanced Higher Health and Food Technology

Always apply these general principles. Use them in conjunction with the detailed marking instructions, which identify the key features required in candidates' responses.

- (a) Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.
- (b) If a candidate response does not seem to be covered by either the principles or detailed marking instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.
- (c) Candidates may demonstrate their skills, knowledge and understanding at different points in their response. Award marks for relevant and appropriate skills, knowledge and understanding wherever they are demonstrated.
- (d) Award marks only where responses relate to the question asked. If candidates give points of knowledge without specifying the context, award marks unless it is clear that the points do not relate to the context of the question.

For **explain** questions candidates should make a number of points that relate to the cause and effect and/or make the relationship between things clear in the context of the question. They may provide a number of straightforward explanations or a smaller number of developed explanations, or a combination of these.

Up to the total mark allocation for this question:

- award **1 mark** for each accurate relevant point of reason
- award a **further mark** for any accurate relevant point that is developed from the same reason.

Example question – Explain the role of minerals in the diet of the elderly.

Example answer – Iron is required to create haemoglobin, which is essential in the formation of red blood cells. This is important in the elderly as if they are deficient in iron it could cause them to become anaemic. (1 mark for an explanation that makes clear the relationship between the function of iron and the role specifically related to the elderly.) This could result in them losing their independence as they will be too tired to take part in daily activities. (1 additional mark as response is linked to the same nutrient and further explains the function specifically related to the elderly.)

For **discuss** questions candidates should make a number of points that communicate issues, ideas, or information about a given topic or context that will make a case for and/or against. It is not always necessary for candidates to give both sides of the debate in responses.

Up to the total mark allocation for this question:

- award **1 mark** for each accurate point of knowledge that is clearly relevant
- award **1 mark** for any further development of a relevant point, including exemplification or a conclusion where appropriate.

Example question — Discuss how food manufacturers can help consumers reduce food waste.

Example answer – Food manufacturers can help consumers reduce food waste in a number of ways. One way is in relation to food packaging as most pre-packed foods have detailed storage advice. Many manufacturers are highlighting this on the front of packs, for example most fresh produce should be stored in the fridge. This can help consumers reduce waste as the advice is more readily accessible to them and ensures the food is stored in a way that keeps it at optimum quality. (1 mark for accurate relevant point of discussion linked to how the food manufacturer can help the consumer reduce food waste.) In addition to this, manufacturers are now moving away from ‘freeze on day of purchase’ guidance to ‘freeze before the use-by-date’, which means if food isn’t eaten when expected it can be frozen before the use-by-date. This also should help to reduce waste. (1 further mark for development of discussion point.)

For **evaluate** questions candidates should make a number of points that make a judgement and determine the value of something based on the criteria provided in the question. They may provide a number of straightforward points or a smaller number of developed points, or a combination of these.

Up to the total mark allocation for this question:

- award 1 mark for each accurate, relevant evaluative point
- award a further mark for any accurate, relevant development of that point.

Example question – Evaluate the role of product testing, a marketing plan and product launch on the development of a new food product.

Example answer – The manufacturer could conduct a pilot launch, which will be beneficial as they could pilot the new product in a place where it is highly populated with their target market, giving them an indication of how well their product is selling and whether they need to make any adjustments prior to full launch. (1 mark for evaluative comment.) If the pilot launch is successful, the manufacturer may choose to launch the product globally or nationally as they are confident it will sell well. (1 additional mark for developed point linked to the previous point.)

For **analyse** questions candidates should identify/describe/explain relevant parts, and the relationship between the parts and/or the whole. Candidates should be able to draw out and relate any implications and/or analyse data.

Up to the total mark allocation for this question:

- award 1 mark for each accurate, relevant point of analysis
- award a further mark for any accurate, relevant development of that point.

Example question – Analyse the influence of food packaging and labelling on consumer choice.

Example answer – Food packaging that protects a product from breaking or spilling could encourage a consumer to buy that product over other brands’ products. This is because if the consumer has to travel home in the car or by walking they will not want the product to spill or make a mess. (1 mark as the candidate clearly identifies ‘breaking and spilling’ as a relevant point of information on food packaging and was able to clearly analyse the significance of this on consumer food choice.) This however may put some consumers off buying a product as they may want to be environmentally friendly and not choose packaging that cannot be recycled. (1 additional mark for developed point linked to previous point.)

Marking instructions for each question

Question	Expected response	Max mark	Additional guidance
1.	<p>Possible responses could include:</p> <ul style="list-style-type: none"> • food packaging which is easy to recycle is more environmentally friendly this is good as it may encourage consumers who are concerned about the environmental impact of food packaging to purchase the product. (1 mark for relevant evaluative point linked to how packaging can influence food choice). Although, materials which are easy to recycle can be more expensive to purchase meaning manufacturers may pass this cost on to consumers making these products an unaffordable choice for some consumers (1 further mark for developed evaluative point linked to packaging) • having the traffic light system displayed prominently on the front of packaging is beneficial as it can allow consumers to easily compare products based on key pieces of nutritional information so helps them to make healthier food choices. (1 mark for relevant evaluative point linked to how labelling can influence food choice). Though not all manufacturers use the same traffic light system which may cause confusion to consumers when attempting to make a food choice (1 further mark for developed evaluative point linked to labelling) 	10	<p>Candidates should make points which make a judgement or determine the value of something based on how packaging and labelling may influence consumer choice of food.</p> <p>Candidates may provide straightforward points, developed points, or a combination of these.</p> <ul style="list-style-type: none"> • award 1 mark for each accurate, relevant evaluative point • award a further mark for any accurate, relevant development of that point • award a maximum of 8 marks if candidates only refer to one factor. <p style="text-align: right;"><i>(up to a maximum of 10 marks)</i></p>

Question		Expected response	Max mark	Additional guidance
		<ul style="list-style-type: none"> the weight or volume of a product allows consumers to compare value for money between different product this is beneficial to consumers as they can therefore ensure the food they choose to purchase is the most economical choice for them. (1 mark for relevant evaluative point linked to how labelling can influence food choice). It may also help them to prevent food waste by allowing them to purchase the product which matches the quantity of food they require so they are less likely to have excess food leftover. (1 further mark for developed evaluative point linked to labelling) <p>Or any other valid response.</p>		
2.		<p>Possible responses could include:</p> <ul style="list-style-type: none"> colourings can be added to replace the natural colours lost in products during the food manufacturing process, this may be beneficial as they can help food products look more appealing which may encourage more consumers to try the product (1 mark for relevant evaluative point linked to colourings) some consumers, such as children, may be sensitive to artificial colourings so adding them during food manufacture may be unsuitable as they/their parents may avoid purchasing products containing artificial colourings (1 mark for relevant evaluative point linked to colourings). leading to reduced sales/profits for the manufacturer (1 further mark for developed evaluative point linked to colourings). Due to this, some manufacturers may choose to design/re-design their product to avoid the use of artificial colours and use claims such as ‘free from artificial colours’ as a marketing tool to appeal to this target market (1 further mark for relevant developed point linked to the same area) 	10	<p>Candidates should make points which make a judgement or determine the value of something based on ways colourings, flavourings and preservatives can contribute to the food manufacturing process.</p> <p>Candidates may provide straightforward points, developed points, or a combination of these.</p> <ul style="list-style-type: none"> award 1 mark for each accurate, relevant evaluative point award a further mark for any accurate, relevant development of that point award a maximum of 8 marks if candidates only refer to one of the specified additives. <p><i>(up to a maximum of 10 marks)</i></p>

Question			Expected response	Max mark	Additional guidance
			<ul style="list-style-type: none"> flavourings such as sweeteners allow manufacturers to enhance the flavour of their product without the added calories of sugar. This may be beneficial in helping their customers to meet the Scottish Government's current dietary advice of eating less sugar (1 mark for relevant evaluative point linked to flavourings) preservatives can contribute to the food manufacturing process by increasing the shelf life of food products. This is beneficial, as having a longer time to sell/use the product before it becomes unfit to eat/poorer in quality will reduce the chances of it contributing to food waste. (1 mark for relevant evaluative point linked to preservatives) 		

Question	Expected response	Max mark	Additional guidance
3.	<p>Possible responses could include:</p> <ul style="list-style-type: none"> individuals with allergies or intolerances are unable to consume products which include the ingredient they are allergic/intolerant to, for example, those with a dairy allergy/intolerance cannot consume cow's milk products. (An accurate fact about individuals with allergies and intolerances) Manufacturers are meeting the needs of these individuals by producing allergen friendly versions of products for example, non-dairy milk alternatives such as oat milk. (a further fact stating a way in which manufacturers are meeting the need identified) Therefore, increasing food choice for these individuals (An impact on individuals with food allergies and intolerances) (1 mark for relevant point of analysis, which shows a need required by individuals with allergies and intolerance with accurate facts linked to ways manufacturers/retailers are meeting these needs.) Also, manufacturers often fortify these products with nutrients that would be naturally present in the allergen containing product, for example, oat milk fortified with calcium/Vit B12 that would usually be found in cows' milk so ensuring individuals avoid nutritional deficiencies due to their allergy/intolerance (1 further mark for a development of the same point of analysis) 	10	<p>Candidates must demonstrate the ability to identify, describe and explain the ways food manufacturers and retailers are meeting the needs of individuals with food allergies and intolerances and the relationship between this.</p> <ul style="list-style-type: none"> award 1 mark for each accurate, relevant point of analysis which is made up of: <ul style="list-style-type: none"> - an accurate fact about a need of individuals with allergies and intolerances - a further fact which agrees or disagrees with the initial fact and demonstrates a way that food manufacturers/retailers are meeting the specified need - an impact on individuals with food allergies and intolerances award 1 further mark for any accurate, relevant development of that point. <p style="text-align: right;"><i>(up to a maximum of 10 marks)</i></p>

Question	Expected response	Max mark	Additional guidance
	<ul style="list-style-type: none"> • individuals with food allergies and intolerances often pay a premium for allergy friendly versions of products for example, gluten free goods. (An accurate fact linked to the needs of individuals with food allergies or intolerances) However, retailers are now stocking own/budget brand versions which are usually cheaper for the consumer than the leading brand (A further fact which disagrees with the initial fact and demonstrates a way manufacturers/retailers are meeting the need identified) Making choosing allergy friendly alternatives more affordable for individuals with food allergies/intolerances (An impact on individuals with allergies and intolerances) (1 mark for relevant point of analysis, which shows a need required by individuals with allergies and intolerance with accurate facts linked to ways manufacturers/retailers are meeting these needs) • individuals with food allergies may face serious health consequences such as anaphylaxis/not being able to breathe if they consume an ingredient which they are allergic to. (An accurate fact linked to the needs of individuals with food allergies or intolerances) Food manufacturers/retailers are meeting the needs of these individuals by ensuring all ingredients are listed clearly on the ingredients list of their product. (a further relevant fact stating a way in which manufacturers/retailers are meeting the need identified) This helps individuals with an allergy to easily identify food products which are unsafe for them to eat so they can avoid consuming them. (An impact on individuals with allergies and intolerances) (1 mark for relevant point of analysis, which shows a need required by individuals with allergies and intolerances with accurate facts linked to ways manufacturers/retailers are meeting these needs) Similarly, the recent introduction of Natasha’s law also requires manufacturers to highlight any of the 14 major allergens on all pre-packaged foods which will further increase the confidence individuals with allergies and intolerances will have when making food purchases (1 further mark for a development of the same point of analysis) 		

Question	Expected response	Max mark	Additional guidance
	<ul style="list-style-type: none"> some individuals with allergies and intolerances may be concerned about the effects cross contamination of ingredients may have on their health. (An accurate fact linked to the needs of individuals with food allergies or intolerances) Food manufacturers/retailers are responding to this concern by voluntarily adding precautionary labelling such as “may contain” claims on to their products/at point of sale so consumers are aware there is a risk that cross contamination of an allergen may have occurred during the food manufacture process. (A further relevant fact stating a way in which manufacturers/retailers are meeting the need identified) This may help re-assure individuals with allergies and intolerances that they are making safe food choices. (An impact on individuals with allergies and intolerances). (1 mark for relevant point of analysis, which shows a need required by individuals with allergies and intolerance with accurate facts linked to ways manufacturers/retailers are meeting these needs) <p>Or any other valid response.</p>		

Question	Expected response	Max mark	Additional guidance
4.	<p>Possible responses could include:</p> <ul style="list-style-type: none"> • manufacturers can use flour to improve the appearance of baked goods by using the functional property of dextrinisation because the surface starch in the product will turn to dextrin when dry heat is applied during the manufacturing process, making the product turn a golden-brown colour. (1 mark for an explanation which makes clear the relationship between a functional property of carbohydrate and its use in food manufacture) If the product is heated for too long/at too high a temperature the surface starch will turn to carbon causing the product to look black/taste bitter which may be unappealing to consumers so manufacturers should be aware of this (1 further mark for the development of a point about the same functional property) • flour can also be used during food manufacture to achieve the correct consistency of sauces by gelatinisation because when heated in a liquid the starch granules within the flour will begin to swell then eventually burst causing sauces to thicken (1 mark for an explanation which makes clear the relationship between a functional property of carbohydrate and its use in food manufacture) • when sugar is creamed with fat during food manufacture it causes aeration to occur giving food products a lighter texture. This is because air is trapped between the sugar and fat particles during the creaming process. (1 mark for an explanation which makes clear the relationship between a functional property of carbohydrate and its use in food manufacture) Sugar can also be used in food manufacture for its functional property of sweetening as it will improve the overall flavour of food products, preventing them from tasting bland. This is because sugar helps foods taste sweeter. (1 mark for an explanation which makes clear the relationship between a functional property of carbohydrate and its use in 	10	<p>Candidates should make a number of points that relate to the cause and effect and/or make the relationship between things clear in relation to the ways in which the functional properties of carbohydrates can be used in food manufacture.</p> <p>Candidates may provide a number of straightforward explanations, developed points, or a combination of these. Up to the total mark allocation for the question.</p> <ul style="list-style-type: none"> • award 1 mark for each accurate, relevant point of explanation linked to carbohydrates, with the name of each functional property clearly identified • award 1 further mark for any accurate, relevant development of that point • award a maximum of 9 marks if candidates only refer to one type of functional property of carbohydrates. <p style="text-align: right;"><i>(up to a maximum of 10 marks)</i></p>

Question			Expected response	Max mark	Additional guidance
			<p>food manufacture) The caramelisation of sugar can also improve the overall flavour of products. This is because during caramelisation the breakdown of sugar and removal of water when heat is applied during food manufacture creates caramel/toffee aromas and flavours. (1 further mark for the development of a point about a different functional property)</p> <p>Or any other valid response.</p>		

Question	Expected response	Max mark	Additional guidance
5.	<p>Possible responses could include:</p> <ul style="list-style-type: none"> • iron is necessary for the formation of red blood cells/haemoglobin, which could be important for babies and toddlers in the prevention of anaemia since the volume of blood increases in the early years (1 mark for accurate relevant point of discussion linked to iron in diet of babies and toddlers). Sufficient intake of iron is therefore essential after weaning to ensure babies and toddlers do not feel weak and tire easily due to a lack of oxygen being delivered to their organs and muscles (1 further mark for relevant developed point linked to the same micronutrient) • calcium is necessary for the formation of strong bones and teeth, this is beneficial for babies and toddlers as their bone density is still developing, so adequate intake will help prevent conditions such as rickets (1 mark for accurate relevant point of discussion linked to calcium in diet of babies and toddlers). This will also reduce the risk of tooth decay once babies and toddlers move on to a solid food diet (1 further mark for relevant developed point linked to same micronutrient) by strengthening the enamel on their teeth (1 further mark for relevant developed point linked to the same micronutrient) • vitamin C is required for the healing of cuts and wounds, which could be important for babies and toddlers as they will be able to heal effectively if they were to encounter a cut/wound (1 mark for accurate relevant point of discussion linked Vitamin C in diet of babies and toddlers), which they may be at higher risk of due to learning to crawl/walk (1 further mark for relevant developed point linked to the same micronutrient) 	10	<p>Candidates should make a number of points that communicate issues, ideas, or information in relation to the role of micronutrients in the diet of babies and toddlers.</p> <p>Candidates do not need to give both sides of the debate in their responses.</p> <ul style="list-style-type: none"> • award 1 mark for each accurate point of knowledge that is clearly relevant • award a further mark for any development of a relevant point, including exemplification or a conclusion where appropriate • award a maximum of 8 marks if candidates only refer to one micronutrient. <p><i>(up to a maximum of 10 marks)</i></p>

Question	Expected response	Max mark	Additional guidance
	<ul style="list-style-type: none"> • vitamin C is also necessary for strengthening the immune system, which could be beneficial in preventing babies and toddlers becoming ill/catching infections (1 mark for accurate relevant point of discussion linked to a different function of Vitamin C in diet of babies and toddlers), which they may be more susceptible to due to lots of visitors/starting nursery. (1 further mark for relevant developed point linked to the same micronutrient) <p>Or any other valid response.</p>		

[END OF MARKING INSTRUCTIONS]