

2022 Health and Food Technology National 5 Finalised Marking Instructions

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General marking principles for National 5 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) If a specific candidate response does not seem to be covered by either the principles or specific marking instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.
- (d) For marks to be awarded, responses must relate to the question asked. Where candidates give points of knowledge without specifying the context these should be awarded marks unless it is clear that they do not relate to the context of the question.
- (e) There are four types of question used in this question paper. Each assesses a particular skill, namely

A: state/give/name/identify

B: describe

C: explain

D: evaluate.

For each question type, the following generic marking instructions provide an overview of the marking principles and an example of their application for each type.

A Questions that ask candidates to state/give/name/identify

Candidates should list a number of relevant items or facts. These should relate to the context of the question and do not need to be in any particular order, up to the total mark allocation.

Up to the total mark allocation for this question:

• award 1 mark for each relevant point of knowledge.

For example

Question — State one function of sodium.

Answer — Maintenance of fluid balance. (1 mark for correct fact)

B Questions that ask candidates to describe

Candidates should define or give an account of points relating to the question. They do not need to be in any particular order. Candidates 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 point of knowledge linked to the context of the question.

For example

Question — Describe one way the cake could be stored to keep it in good condition. Answer — Store in an airtight container/wrap in foil/cling film. (1 mark for correct description of method of storage)

C Questions that ask candidates to explain

Candidates should make the relationship between points clear, for example by giving accurate relevant points, showing connections between these and the context of the question. Candidates 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.

For example

Question — Explain two ways in which the man could use the information on food labels to help him make healthier food choices.

Answer — He could check to see how much fat/sugar/salt/fruit/vegetables is in the product so he can choose/avoid these. (1 mark for accurate relevant point linked to the context of the question)

D Questions that ask candidates to evaluate

Candidates should make a number of evaluative comments which make a judgment based on the information provided, related to the context of the question. Candidates may provide a number of straightforward observations or a smaller number of developed observations, or a combination of these.

Up to the mark allocation for this question:

- award 1 mark for each relevant evaluative comment linked to the context of the question.
- award a second mark for any evaluative comment that is developed, as in the following example

For example

Question — Taking account of the Dietary Reference Values (DRVs) for males aged 50 comment on the suitability of his day's meals.

Answer — The 50+ year old man's intake of sodium is too high, which is not good as this will make his high blood pressure worse. (1 mark for comment) This will increase his risk of a stroke. (A further mark for development)

Marking instructions for each question

Question	Expected response(s)	Max mark	Additional guidance
1. (a)	Protein growth repair maintenance of body cells and tissues secondary source of energy. Fat energy provide warmth/heat source of fat soluble vitamins. Vitamin B release energy from food. Iron makes haemoglobin/creates red blood cells prevents anaemia. Or any other valid response.	4	Candidates should list a number of relevant items or facts. These should relate to the context of the question and do not need to be in any particular order. Candidates should name two nutrients found in meat. Candidates should then give one function in the diet of each nutrient specified. • Award 1 mark for each correct response. • Award a maximum of 2 marks for correctly identified nutrients. • Award a maximum of 2 marks for correct function linked to each of the identified nutrients. (up to a maximum of 4 marks)
(b)	 Possible candidate responses could include: reducing fat intake will mean arteries will not get blocked leading to potential coronary heart disease a diet low in saturated fat will help to keep arteries unblocked preventing high blood pressure changing a diet from high saturated fat to low saturated fat may mean likelihood of heart disease will be reduced/cholesterol levels will be reduced. Or any other valid response. 	2	Candidates should make a number of points that make the issue plain or clear, by showing connections between reducing fat intake and benefits to health. Candidates should explain two benefits to health of reducing fat intake in our diet. Award 1 mark for each relevant explanation of a benefit to health of reducing fat intake in our diet. (up to a maximum of 2 marks)

Q	uestion	Expected response(s)	Max mark	Additional guidance
	(c)	 Possible candidate responses could include: Food is consumer may believe food is tastier foods may be fresher for the consumer as they are available/grown locally so getting them as soon as they are picked less air miles so reassures environmentally friendly consumer/less air pollution caused to get them to the plate. Or any other valid response. 	2	Candidates should give two reasons. These should relate to the context of the question, by showing why a consumer may choose to buy seasonal foods. • Award a maximum of 1 mark for each accurate reason. (up to a maximum of 2 marks)
	(d)	Possible candidate responses could include: to carry out a routine check to investigate a complaint from the public to ensure that all foods are not harmful to ensure all foods are sold in metric weights/measurements to ensure weighing/measuring equipment is accurate to ensure pre-packed foods are correctly weighed/labelled with the weight. Or any other valid response.	2	Candidates should state two reasons for Trading Standards inspecting food premises. • Award a maximum of 1 mark for each correct response. (up to a maximum of 2 marks)

C	Questio	n Expected response(s)	Max mark	Additional guidance
2.	(a)	Energy The 16-year-old male skier • has more energy than he needs which is bad because he is not training so the extra energy will be converted to fat (1 mark) leading to obesity. (additional mark for developed answer) Protein The 16-year-old male skier • has more protein than he needs which is good as he may still be growing • has more protein than he needs which is good as it helps to repair damaged tissue as a result of skiing • has more protein than he needs which is bad as it could be converted to energy/stored as fat (1 mark) and lead to obesity/CHD. (additional mark for developed answer)	6	Candidates should make a number of evaluative comments which make a judgement based on the information provided. Candidates may provide a number of straightforward evaluations or a smaller number of developed evaluations, or a combination of these. Candidates should make comments on the suitability of aspects of the day's meals related to the individual in the case study. Award marks for each response that: • shows a clear understanding of the intake of the specified nutrient • includes an appropriate judgement on the suitability of this intake for the 16-year-old boy • comments on the impact of this intake on the health of the 16-year-old boy.
				(up to a maximum of 6 marks)
				 Award 1 mark for each relevant evaluation. Award a further mark for any evaluation that is developed. Award a maximum of 4 marks for accurate evaluative comments relating to four different aspects of the day's meals related to the individual in the case study. Award a maximum of 2 marks for developed evaluations linked to an identified aspect of the day's meals.

Question	Expected response(s)	Max mark	Additional guidance
	Vitamin B		For example, candidates could provide either:
	 The 16-year-old male skier has more vitamin B than is needed which is good as he needs it to release energy from carbohydrate to allow him to be active when training has more vitamin B than is needed which is good as it will help maintain muscle tone whilst he is training. 		 evaluative comments each linked to four different aspects of the 16-year-old boy's meals (maximum of 4 marks) OR three developed evaluative comments linked to three different aspects of the 16-year-old boy's
	Calcium The 16-year-old male skier		meals (maximum 2 marks per developed answer)
	 has less calcium than he needs which is bad because he is still growing and needs calcium for strong bones and teeth 		two evaluative comments each linked to two different aspects of the 16 year old boy's mools.
	 has less calcium than he needs which is bad because it is important to develop bones properly (1 mark) to avoid osteoporosis in later life (additional mark for developed answer) 		different aspects of the 16-year-old boy's meals (maximum 1 mark per answer) plus two developed evaluative comments linked to two further aspects of the 16-year-old boy's meals. (maximum 2 marks per developed answer)
	 has less calcium than he needs which is bad as he has a broken arm and may need extra calcium to repair it. 		(up to a maximum of 6 marks)
	Sodium		
	The 16-year-old male skier		
	 has less sodium than he needs which is bad because it could lead to muscle cramps after exercise. 		
	Fibre		
	The 16-year-old male skier		
	 has less fibre than he needs which would be bad as it could lead to constipation (1 mark) which may lead to diverticular disease/bowel cancer in later life (additional mark for developed answer) 		
	 has less fibre than he needs which is bad (as fibre is needed to fill us up) so could lead to weight gain/obesity if he snacks on high sugary foods. 		
	Or any other valid response.		

Question	Expected response(s)	Max mark	Additional guidance
(b)	 Possible candidate responses could include: Budget money available to the boy may influence his choice as money may be limited and he can't afford the same as his friends. Advertising TV/radio/magazines/internet/free offers/money off coupons/free samples may influence his choice as he may want to get a deal to enjoy with his friends. Peer pressure influences from peer group may determine where/what type of food is purchased/eaten therefore he may not always choose a healthy option. Or any other valid response. 	2	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between the way given and the influence on food choice. Candidates should explain two ways in which the boy's friends could influence his choice of food. • Award 1 mark for each relevant explanation of an influence of his choice of food. (up to a maximum of 2 marks)

Question	Expected response(s)	Max mark	Additional guidance
(c)	Possible candidate responses could include: Washing hands wash hands thoroughly with soap and hot water before handling food, especially after touching raw food/the bin/pets going to the toilet to ensure harmful bacteria does not spread to the food.	2	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between food preparation and the food safety. Candidates should explain how you would ensure good food safety whilst preparing food.
	 Storing and preparing meat store raw meat/poultry away from raw/uncooked so that the spread of harmful bacteria/cross contamination is prevented use different equipment to prepare raw meat and cooked meats/salads to prevent cross contamination of harmful bacteria and so cause food poisoning. 		Award 1 mark for each relevant explanation of good food safety whilst preparing food. (up to a maximum of 2 marks)
	 Cooking cooking food thoroughly at the correct temperature will ensure any harmful bacteria are killed and food poisoning is prevented. 		
	 Washing fruit and vegetables wash fruit and vegetables before you eat them to prevent bacteria from soil/skins spreading to other food causing cross contamination/food poisoning. 		
	 Use by dates check 'use by' dates on perishable food because if it has expired, it might contain high levels harmful bacteria that could cause food poisoning. 		
	Or any other valid response.		

Question	Expected response(s)	Max mark	Additional guidance
3. (a)	Possible candidate responses could include: Stage — concept generation this is the stage when the company will develop ideas for a cook chill product to fill a gap in the market this is the thinking stage/thinking up new ideas for a cook chill product to meet consumer demand/amend a current product. Stage — concept screening all ideas for the cook chill product are considered some are kept and some are disregarded so the best ones are taken forward. Stage — prototype production the prototype/example/sample cook chill product is developed to find any faults so it can be amended prior to processing the prototype/example/sample cook chill product is measured against the specification so any changes can be made if needed the prototype/example/sample cook chill product is tested for appeal and so may be further modified/rejected. Stage — product testing a range of cook chill products are tested by market/various ages/tasting panels so opinions can be obtained product/sensory testing of the cook chill product allows for refining/improvements/modifications of the recipe as a result of consumer opinion. Stage — first production run the new cook chill product will be produced in bulk in a factory and can be assessed to find out if it works so further changes can be made quality assurance will be carried out to ensure the cook chill product is an acceptable standard for sale so changes can be made before it goes to full production.	4	Candidates should identify two stages in the product development process and explain their role in the development of a cook chill product. Award 1 mark for each correct response. • Award a maximum of 2 marks for correctly identified steps in the product development process. • Award a maximum of 2 further marks for valid explanations relating to each of the identified steps. (up to a maximum of 4 marks)

Question	Expected response(s)	Max mark	Additional guidance
	 Stage — marketing plan the marketing team meet to decide about the pricing of the cook chill product, so it is suitable for the target market an advertising/marketing plan is created to help launch the new cook chill product so that consumers will possibly purchase it an advertising/marketing plan is created to help launch the new cook chill product so that consumers will be informed of it. Stage — launch food exhibitions/store launch/press release may be selected as the most suitable method to launch the cook chill product, so it reaches the target market 		
	 range of promotional techniques may be used to promote the sale of the cook chill product, so that consumers are encouraged to purchase it. 		
	Or any other valid response.		

Question	Expected response(s)	Max mark	Additional guidance
(b)	 Possible candidate responses could include: some can be recycled which is good because the manufacturer will be helping the environment can cook in the packaging which is good as less dishes at the end for the consumer length of time to decompose is bad because it is damaging our environment (1 mark) and having a harmful impact on wildlife (additional mark for developed answer) can only be used for some foods which is bad as it means the consumer will have to find other dishes in which to cook the foods. and remove the food from the packaging before cooking. Or any other valid response. 	4	Candidates should make a number of evaluative comments which make a judgement based on the information provided, related to the use of plastic packaging for the cook chill product. Award marks for each response that: • shows a clear understanding of a feature of plastic packaging • includes an appropriate judgement on the suitability of this feature for the manufacturer • comments on the impact of this feature for a working person. • Award 1 mark for each accurate evaluative comment. • Award a further mark for any evaluation that is developed. (up to a maximum of 4 marks)

Question	Expected response(s)	Max mark	Additional guidance
(c)	 Possible candidate responses could include: Storage food should be covered or sealed to prevent cross contamination which can lead to food poisoning fridge storage rules should be followed for example, meat on the bottom shelf to prevent dripping juices causing cross contamination leading to food poisoning. Delivery if high risk food not transported in a chilled compartment/bag then bacteria will be able to multiply which could cause food poisoning product packaging from raw meat/chicken may break or leak fluids causing cross contamination to cooked foods/salads which may lead to food poisoning frozen food may defrost causing bacteria become active and multiply and so cause food poisoning. Or any other valid response. 	2	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between the factor and the risk of food poisoning. Candidates should give one explanation linked to storage of food. Candidates should give one explanation linked to delivery of food. • Award 1 mark for each relevant explanation of the factor which could lead to food poisoning. (up to a maximum of 2 marks)

Question	Expected response(s)	Max mark	Additional guidance
4. (a)	Possible candidate responses could include: Change add one (or more) suitable vegetables to the dish increase quantity of onion in the dish. Explanation which will help to meet the dietary goal to ensure average intake of a variety of fruit and vegetables reaches at least 5 portions per person per day/> 400g per day. Change change cream to low fat alternative replace cream with milk change butter to low fat alternative omit butter from sauce change beef mince to lean beef mince decrease quantity of red meat in the dish. Explanation which will help to meet the dietary goal to ensure average intake of total fat reduces to no more than 35% food energy which will help to meet the dietary goal to ensure average intake in saturated fat to reduce to no more than 11% food energy which will help to meet the dietary goal to ensure average intake in saturated fat to reduce to no more than 11% food energy which will help to meet the dietary goal to ensure average intake of trans fatty acids to remain below 1% food energy. Change change beef mince to Lean beef mince decrease quantity of red meat in the dish.	6	Candidates should define or give an account of changes which could be made to the ingredients. Candidates should show connections between changes made and current dietary advice. • Award a maximum of 3 marks for relevant changes to ingredients and Award a maximum of three marks for explanations linked to different pieces of current dietary advice. (up to a maximum of 6 marks)

Question	Expected response(s)	Max mark	Additional guidance
	 Explanation which will help to meet the dietary goal to ensure average intake of red and processed meat to be pegged at around 70g per person per day which will help to meet the dietary goal to ensure average intake of the highest consumers of red and processed meat (90g per person per day) not to increase. 		
	 Change increase potatoes in the dish add one (or more) vegetable to the dish (any suitable vegetable would be acceptable) add breadcrumbs as a topping. 		
	 Explanation which will help to meet the dietary goal to ensure total carbohydrate to be maintained at an average population intake of approximately 50% of total dietary energy with no more than 5% total energy from free sugars. 		
	 Change add one (or more) suitable vegetables to the dish increase quantity of onion in the dish substitute white flour with wholemeal flour. 		
	 Explanation will help to meet the dietary goal to increase average consumption of fibre for adults (16+) to 30g/day. Dietary fibre intakes for children to increase in line with recommendations. 		
	Or any other valid response.		

Question	Expected response(s)	Max mark	Additional guidance
(b)	Possible candidate responses could include: Name of product consumer know exactly what the food is so they can take account of likes and dislikes. Manufacturer's name and address may be needed in case of complaint so the consumer knows who to contact. Weight or volume helps the consumer to work out value for money and compare products to get the best deal. Storage instructions tells the consumer how and where to store food so ensuring it is safe to eat tells the consumer how and where to store food so ensuring it is at its best so preventing food poisoning cooking or preparation instructions (for example, heating up ready meals) to ensure foods are correctly prepared and cooked by the consumer to prevent food poisoning. List of ingredients may be allergic to the foods so know when to avoid and purchase something different. Date marking let consumer know when the product should be eaten by to reduce risk of food poisoning. Or any other valid response.	4	Candidates should identify two points of information which by law should be on a food label. Candidates should make the relationship between things clear, for example by showing connections between the information on the food label and the importance to the consumer. • Award 1 mark for each correctly identified point of information. (up to a maximum of 2 marks) • Award a maximum of 1 mark for each accurate explanation. (up to a maximum of 2 marks) (up to a maximum of 4 marks)

C	(uestion	Expected response(s)	Max mark	Additional guidance
5.	(a)	 Possible candidate responses could include: Increasing the proportion of flour in a sauce flour will thicken the sauce so increasing the proportion will make the sauce thicker/more viscous. Increase the proportion of fat in a pastry fats have a shortening effect therefore increasing the proportion in pastry may lead to a more crumbly/easily broken texture fats add flavour and colour to pastry and so increasing the proportion may lead to a richer flavour/darker colour increasing fat content of pastry may lead to greasier texture therefore making it unpleasant to eat. Decrease the proportion of sugar in a cake sugar will sweeten the cake so decreasing the proportion may give the cake less flavour sugar colours the cake by caramelising the top so reducing the proportion will result in a paler colour after baking sugar traps air when creamed with fat so reducing the proportion will prevent cake from rising. Or any other valid response. 	3	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between the explanations given and the context of the question. Candidates should give one explanation of the effect of increasing the proportion of flour in a sauce. Candidates should give one explanation of the effect of increasing the proportion of fat in pastry. Candidates should give one explanation of the effect of decreasing the proportion of sugar in a cake. • Award 1 mark for each relevant explanation of the effect on the product. (up to a maximum of 3 marks)

Question	Expected response(s)	Max mark	Additional guidance
(b)	 Possible candidate responses could include: MAP packaging is good as it is water resistant so gas cannot escape. (1 mark) Improves storage of food and prevents drying out. (Additional mark for developed answer) natural gases are used in MAP which is good as appeals to customers who are environmentally aware the correct storage instructions have to be followed after opening to prevent food wastage which is bad as consumer must remember to follow these instructions to prevent food from spoiling MAP can involve excess packaging which is bad as may be an environmental cause for consumers. Or any other valid response. 	3	Candidates should make a number of evaluative comments which make a judgement based on the information provided, related Modified atmosphere packaging for the consumer. Award marks for each response that: • shows a clear understanding of a feature of MAP packaging • includes an appropriate judgement on the suitability of this feature for the consumer • comments on the impact of this feature for a working person/environment. • Award 1 mark for each accurate evaluative comment. • Award a further mark for any evaluation that is developed. (up to a maximum of 4 marks)

Question	Expected response(s)	Max mark	Additional guidance
(c)	 Possible candidate responses could include: Anaemia a diet low in iron — will fail to produce enough healthy red blood cells/haemoglobin which will reduce the flow of oxygen resulting in anaemia excess levels of fibre — high in phytic acid which can hinder iron absorption, so less haemoglobin produced/so increases the chances of developing anaemia lack of Vitamin C — vitamin C aids the body's absorption of iron so less red blood cells produced so increasing the chances of developing anaemia a diet high in Fruit and Vegetables — may lead to the consumption of a lot of dietary fibre, which may hinder iron absorption and lead to anaemia. Osteoporosis a diet low in salt. — a high salt intake will cause calcium loss from bones therefore leading to osteoporosis low intake of Vitamin D — vitamin D helps the absorption of calcium to help reach peak bone mass therefore low intake will result in lower calcium levels leading to possible development of osteoporosis low intake of fat — a high intake of fat may lead to poor calcium absorption and therefore increase the risk of osteoporosis low intake of foods containing phosphorus — calcium and phosphorus are needed together to make calcium phosphate which gives bones their strength therefore a low intake will increase the risk of osteoporosis. Or any other valid response. 	4	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between the factor given and the dietary disease. Candidates should explain two dietary factors which may contribute towards anaemia. Candidates should explain two dietary factors which may contribute towards osteoporosis. Maximum 1 mark for each relevant explanation of dietary factors which could lead to the conditions listed. (up to a maximum of 4 marks)

(Question	Expected response(s)	Max mark	Additional guidance
6.	(a)	 Possible candidate responses could include: Explanation allows manufacturers to find out customers likes and dislikes of a product so they can make changes/changes can be made allows the manufacturer to identify strengths/weaknesses of product to allow for refining to take place allows the manufacturer to modify/improve products to suit the market. Or any other valid response. 	2	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between the explanations given and the context of the question. • Award 1 mark for each correct response. (up to a maximum of 2 marks)
	(b)	Possible candidate responses could include: give advice about the nutrient content of foods give advice on dietary issues help people eat healthily by providing information on healthy eating monitor use of food additives. Or any other valid response.	2	Candidates should list a number of relevant items or facts. These must relate to responsibilities of Food Standards Scotland. Candidates should give two responsibilities of Food Standards Scotland. • Award a maximum of 1 mark for each accurate reason. (up to a maximum of 2 marks)
	(c)	Possible candidate responses could include: reduce the amount of salt in the making of foods consumers can use salt alternatives/LoSalt/natural flavourings to flavour consumers can use herbs/spices consumers can make use of traffic light labelling to help identify foods which are low/medium/high in sodium. Or any other valid response.	2	Candidates should state two ways consumers can reduce salt intake. • Award a maximum of 1 mark for each correct response. (up to a maximum of 2 marks)

Question	Expected response(s)	Max mark	Additional guidance
(d)	 Possible candidate responses could include: rehydrate after exercise so prevents dehydration control body temperature/helps to cool body down by sweating so prevents dehydration lubricates joints to avoid rubbing together so preventing damage/painful/swollen joints water helps to flush out toxins and other waste products from the body so helps to prevent other issues such as constipation. Or any other valid response. 	2	Candidates should make a number of points that make the issue plain or clear, for example by showing connections between water intake and the effect on the body. Candidates should explain why water is important in the diet. • Award 1 mark for each relevant explanation of a benefit of water in the diet. (up to a maximum of 2 marks)
(e)	Possible candidate responses could include: Advantages some consumers believe organic foods may taste better than non-organic foods. some consumers believe that organic foods may be more nutritious than non-organic some consumers believe that they are safer to eat. Disadvantages tend to be more expensive appearance may be less attractive may not keep as long due to lack of pesticides or preservatives. Or any other valid response.	2	Candidates should list a number of relevant items or facts. These must relate to consumer use of organic foods. Candidates should give one advantage of eating organic foods. Candidates should give one disadvantage of eating organic foods. • Award a maximum of 1 mark for each accurate statement. (up to a maximum of 2 marks)

[END OF MARKING INSTRUCTIONS]