GCSE

FOOD PREPARATION AND NUTRITION

8585/W Paper 1
Report on the Examination

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Introduction

This report explores all of the questions that were presented on this year's written examination for GCSE Food Preparation and Nutrition.

Across Section A and Section B of the examination, a range of different question styles assessed students against three assessment objectives:

- AO1: Demonstrate knowledge and understanding of nutrition, food, cooking and preparation.
- AO2: Apply knowledge and understanding of nutrition, food, cooking and preparation.
- AO4: Analyse and evaluate different aspects of nutrition, food, cooking and preparation.

It is important to note that there is no set style of question used to examine students against each assessment objective. It is a requirement to assess different aspects of nutrition, food, cooking and preparation through a range of question styles, including for AO4 and the two high tariff questions. Centres and students should therefore expect to see questions presented in different formats year-on-year. It is also important to note that overlaps between the question paper and non-examination assessment is unavoidable due to assessment production processes. Centres are encouraged to ensure that all of the specification content is covered to ensure that students are well-prepared for sitting the written examination at the end of the GCSE course. This can be achieved by mapping the specification across schemes of learning.

This year's question paper was well-differentiated and appropriately demanding, eliciting a wide range of responses from students of all ability levels. The demand of the question paper was in line with previous examinations and performance was as expected. The number of marks allocated to questions was similar to what has been seen in previous years, and plentiful space was provided for each question. Most questions were well-attempted; however, gaps in knowledge and understanding were identified with questions linked to food science. Centres are encouraged to reflect on the teaching of this area of the specification moving forward, particularly the chemical and functional properties of food. In addition, a small number of students chose to only complete Section A despite the accessible nature of questions within Section B. Regular exam practice within lessons should help to build confidence with answering questions. Students should also be encouraged to look through the whole question paper so that as many questions as possible can be attempted.

Section A

As seen previously, Section A presented students with 20 multiple choice questions, which covered a wide-range of topics from the specification. The majority of students attempted all questions, and the style of questions enabled students to achieve marks for this section. Responses from students showed that appropriate distractors were selected for all of the questions. Good practice was noted when students were seen to have annotated the questions, with this demonstrating that they had spent the required amount of time working out the correct response from the options provided for each question.

Some students did not answer the multiple choice questions clearly, which impacted the number of marks they could be awarded. Centres are therefore advised to ensure students are fully aware of the correct way to identify chosen responses. Students' attention should be drawn to the guidance given at the start of Section A to help with this. It is important to note that if multiple responses are given by a student for a question – purposely or accidentally – and it is not obvious which response

they are choosing; a mark will not be awarded. Students should ensure that **one** response is clearly marked for each multiple choice question. Students should be advised against leaving any multiple choice questions blank as this immediately reduces the number of marks that can be achieved. Regular practice of multiple choice questions is actively encouraged, and setting questions to complete for starter activities and/or homework tasks has proven to be a good teaching and learning strategy.

Question 1.1

This was a poorly answered question with around one quarter of students answering that cooked meat should be prepared on a yellow chopping board. Whilst centres may not use the full array of different coloured chopping boards when completing practical activities, the specification stipulates that students must know and understand that raw and cooked foods should be separated, with use of separate utensils. The low response highlights a need to teach this more explicitly.

Question 1.2

This question was successfully answered, with 80% of students correctly identifying that baking is a dry cooking method.

Question 1.3

This was a well-answered question, with the majority of students correctly identifying that citrus fruits are a good source of vitamin C.

Question 1.4

Approaching two thirds of students answered this question correctly, recognising that fluoride is needed by the body to strengthen bones and teeth. This highlights the importance of students being aware of all of the micronutrients that are linked to bone health.

Question 1.5

This was the most successfully answered multiple choice question, with the majority of students identifying cardiovascular disease as the condition that high blood pressure is linked to.

Question 1.6

Over two-thirds of students correctly identified 75 °C as the minimum core temperature that chicken should be reheated to, demonstrating good knowledge and understanding of appropriate temperature control measures.

Question 1.7

Around three-quarters of students recognised that scrambled eggs will set when heated due to coagulation.

Question 1.8

Approaching four in five students were able to identify the correct conditions for yeast fermentation from the range of options given, with food, moisture, time and warmth being the correct response.

Question 1.9

Approximately half of students selected potato as the correct answer for this question, which tested students on their high-level understanding of enzymic browning. The question discriminated well between lower and higher attaining students.

Question 1.10

Approaching three in five students recognised that listeria can be caused by soft cheese. Given the low-risk nature of the other foods presented, this highlights that there is scope to explore food poisoning bacteria and relevant food sources in more detail.

Question 1.11

Over three-quarters of students recognised that ambient storage is most suitable for canned soup. Students who answered this question incorrectly are less likely to have understood ‘ambient’ as a key word linked to food storage. Ambient storage is a term that is included in the specification and should therefore be explicitly taught to students when considering foods that are stored in a cupboard and/or at room temperature.

Question 1.12

This was a challenging question to answer, with less than two in five students able to identify that a maximum of 35% of our recommended daily energy should come from fat. Centres should ensure that students are able to recognise the percentage of recommended energy sources from nutrients, as stipulated in the specification.

Question 1.13

This was another challenging question to answer, linked to energy. Approaching two in five students were able to identify that basal metabolic rate (BMR) is the amount of energy the body needs to stay alive.

Question 1.14

This was a well-answered question with students demonstrating a good understanding of conduction as a method of heat transfer.

Question 1.15

Just under half of students identified that high risk foods are defined as ready-to-eat and usually high in protein and high in moisture.

Question 1.16

Approximately three-quarters of students correctly identified that folding is the mechanical raising agent used when making rough puff pastry. This suggests that many centres have taught the process of making rough puff pastry.

Question 1.17

This was a well answered question with approximately 80% of students able to identify that a diet lacking in dietary fibre can cause constipation.

Question 1.18

Approaching half of students were able to identify that the function of vitamin K in the body is to make blood clot.

Question 1.19

Seven in ten students were able to identify that Fairtrade is best described as a foundation to support producers in developing countries.

Question 1.20

This was a challenging question to answer to conclude Section A, with just over one quarter of students able to identify that bread is a polysaccharide. This suggests that the structure of carbohydrates could be taught in further detail by centres.

Section B

In Section B, students were required to write responses to a range of questions that carried between two and 12 marks. This section of the question paper was accessible to all students, with each question composing of three or four sub-parts, most of which were linked by clear themes. Students' responses varied in terms of length, detail and the level of knowledge and understanding demonstrated; however, it was pleasing to see fewer questions left unanswered. Accessibility was partly aided by 6-mark questions being more evenly distributed throughout the question paper. The 8- and 12-mark questions also elicited detailed responses from students, and many made use of additional pages to add further detail to their responses. Overall, questions were clearly worded to elicit responses that were in line with the mark scheme.

Question 2.1

This was a widely accessible and successfully answered question to open Section B. More than two in five students achieved full marks, and almost a third achieved three out of the possible four marks. The focus of the question was on a topical area – veganism and vegetarianism – and common themes in responses focused on animal welfare, health benefits and environmental impact. Some students provided one-word responses, which at times were too vague to credit. Centres are advised to encourage students to be specific in all responses to help maximise the number of marks that they are able to secure. This can be achieved by encouraging students to write in full sentences, avoiding one-word responses so that knowledge and understanding can be clearly conveyed.

Question 2.2

This question was well-attempted with few blank responses. Over one third of students provided responses that placed them in the top mark band, although only one in ten students achieved full marks. In general, students were able to identify ingredients that needed to be changed from the list provided to make the beef lasagne suitable for someone following a vegan diet. Students placed in the top mark band were able to explain suitable plant-based alternatives, naming specific ingredients; for example, rather than stating 'vegan milk', oat/soya/coconut milk was suggested.

Few students recognised that lasagne sheets may be unsuitable for vegans due to the potential presence of egg, which allowed for the question to be well-differentiated. Brand names were accepted within responses to credit students' knowledge and understanding of plant-based products, particularly meat alternatives, that are available to buy.

Question 2.3

The majority of students received three or more marks out of a possible six marks for this question, with a range of responses given to explain how the sensory qualities of the vegetable stir fry could be improved. Students appeared to be familiar with making suggestions to improve the sensory qualities of a dish, which suggests this has been practiced as part of practical activities.

One in five students achieved full marks, with clear suggestions outlined and explained, often with specific examples provided. Where students achieved fewer marks, it was often due to repeated or vague answers, including repeated reference to adding more vegetables. Students also found it more challenging to explain how the texture of the stir fry could be improved.

When reviewing improvements and modifications that can be made to dishes, centres are encouraged to advise students to provide specific examples. For example, rather than stating 'add more herbs and spices', students should be encouraged to name specific herbs and spices that could be used so that this becomes common practice. This will also aid students' responses to Sections B and E of NEA Task 2.

Question 2.4

This question was challenging for some students, with nearly one in five receiving zero marks. However, nearly 50% of students achieved one or two marks, and almost one third of students scored three or four marks. Most students correctly identified that equal portion sizes are an important control condition for sensory testing, with this being the most commonly seen response.

Other popular responses referred to samples being served at the same temperature and use of water and/or crackers to cleanse the palate between samples.

Where students scored fewer or no marks, it was typically due to confusion about controlled conditions for sensory testing, with students appearing to link to how a dish could be made exactly the same each time. For example, many students wrote about samples needing to be the same in terms of ingredients used, cooking methods, equipment, presentation, etc. Some students also wrote about food safety and personal hygiene factors that should be considered when preparing, cooking and serving food.

Centres are encouraged to teach and recap controlled conditions for sensory testing when students are completing sensory testing for NEA Task 1 and NEA Task 2 so that knowledge and understanding becomes embedded.

Question 3.1

Despite food processing and production topics being positioned towards the end of the specification, it was pleasing to see that the majority of students attempted this question. The tabulated structure of the question, along with the range of responses outlined in the indicative content on the mark scheme, made it more accessible despite the six mark value, and providing stages as part of the question enabled students to apply knowledge and understanding from other areas of the specification; for example, the majority of students were able to identify that salt is added to improve the flavour of cheese. That said, confusion between what happens at each stage of the cheese-making process was evident.

A small number of students (approximately 5%) achieved full marks, highlighting explicit and thorough teaching of the cheese-making process by a small proportion of centres.

Question 3.2

Question 3.2 presented a greater level of challenge to students and responses were differentiated; however, many students were able to discern that the addition of mould in cheese production can enhance the flavour of cheese. Three-quarters of students achieved at least one mark for this question. A good proportion of students also referred to other sensory properties, such as texture, colour and aroma. Few students named specific examples of cheeses that are produced using moulds, which suggests there is scope to incorporate a wider range of different cheeses into practical activities.

Question 3.3

The majority of students attempted this question, with many needing to use additional material to complete their response. Students were able to make links between items on the food diary and nutrients provided, and some further developed their points by discussing nutrient functions. Many students were also able to correctly identify diet-related health conditions that can occur from the over-consumption of nutrients, with coronary heart disease, obesity, high blood pressure and tooth decay amongst those most frequently mentioned. In addition, many students made suitable suggestions for how the food diary could be improved; however, many suggestions were superficial and unjustified, limiting the number of marks that could be awarded. An imbalance between analysis and evaluation was also frequently seen.

Overall, few students (less than 10%) gained marks in the 9-12 mark band, and the greatest proportion of students (approaching 50%) were placed in the 1-4 mark band. Positively, less than 5% of students who answered the question scored 0 marks. In general, there was scope throughout responses to make closer links to healthy eating guidelines and the dietary needs of adults, both of which are stated in the question. Students would have benefited from referring back to the question to link their knowledge and understanding to the given context more closely.

When preparing students to answer AO4 questions, centres are advised to encourage students to read questions carefully to ensure that all elements are responded to, with clear points communicated for both analysis and evaluation. This can be achieved by annotating students' work to show where analysis and evaluation points have been credited. It was pleasing to see that some centres are already actioning this, with some students annotating their work with 'a' and 'e' to show where analysis and evaluation points had been made. Centres are encouraged to build in regular practice of different AO4 questions, and, as part of this, students should be encouraged to utilise mark schemes to assist them with planning thorough responses.

Question 4.1

This was a well-answered question by most students. Approximately 60% of students achieved two or full marks having given a clear definition of the term 'seasonal food' and at least one example. Popular examples of seasonal foods included strawberries harvested in summer and pumpkins harvested in autumn. Some students found it difficult to provide two examples, whilst others named seasonal foods without stating the season/month they are harvested in, thus impacting the number of marks that could be awarded.

The list of seasonal foods provided on the mark scheme could not be exhaustive; however, examiners were encouraged to research responses to clarify seasons, where necessary.

A small number of students misinterpreted the question and wrote about seasonal celebrations, such as Christmas and Easter. A minority also referenced the seasoning of food to add flavour. These responses were not credited.

Question 4.2

Over one third of students were able to identify three clear advantages of buying seasonal foods, and approximately half of students achieved one or two marks for this question. Overall, this was a well-answered question with knowledge and understanding of seasonal foods demonstrated.

Question 4.3

As seen with Question 3.3, few students accessed the top mark band for this question. This was mainly due to an imbalance between analysis and evaluation. However, the question was generally well-attempted, with students applying knowledge and understanding of reducing food and packaging waste and/or the impact it can have on the environment. As well as covering the topic in GCSE Food Preparation and Nutrition, it is likely that responses were aided by coverage of the question topic in the media and on the news, as well as in other subject areas. Students were also able to write about actions that may be taken at home, for example using or freezing leftovers, using recycling bins, etc. for the analysis part of the question.

Question 5.1

Students found this question challenging, with approximately four in ten failing to attempt it or scoring zero marks. Less than 10% of students achieved full marks. Within responses, it was evident that some students were confusing gluten formation with gelatinisation, whilst others regarded gluten as a raising agent. Where marks were achieved, students recognised the role of gluten in providing elasticity and plasticity to bread dough. Many students also identified how the kneading process assists the development of gluten. As bread-making is likely to be a feature of practical activities within all schools, centres are encouraged to teach practical skills, such as kneading, alongside theory to embed knowledge and understanding. This will enable clearer application of food science theory to examination questions.

Question 5.2

This was a well-answered question, with approximately 80% of students achieving three or more marks. This demonstrates that students were likely able to apply knowledge and understanding from bread-making practical activities completed in school.

Some students restricted the number of marks they could be awarded by repeating reasons for the problems presented. Centres should encourage students to read questions carefully to enable them to identify where ‘Do not repeat your answers’ is stipulated.

Question 5.3

This was another challenging food science question for students, which approximately half of students failed to score any marks for. A number of students attempted the question without displaying any knowledge and understanding of the process of emulsification, with some simply rewriting the method provided as part of the question. This suggests that emulsification is a lesser covered area of the specification within many centres.

Students scoring full marks provided comprehensive responses to the question, some of which were deserving of more than four marks. These responses tended to identify lecithin as an emulsifier and make reference to the hydrophilic and hydrophobic ends.

The ability to use diagrams aided how some students communicated their knowledge and understanding of emulsification to help them secure marks; however, in general, few accurate diagrams were seen.

Question 6.1

This was an accessible question with students required to correctly identify two ingredients displaying a use-by date from the list provided, making the format similar to a multiple choice question. The question was well-answered, with 70% of students achieving full marks. Most students who did not achieve full marks managed to achieve one mark. Where students identified ‘red pepper’, ‘chilli powder’ and/or ‘tortilla wrap’ from the list, confusion between use-by and best before dates was apparent. A small number of students left this question blank, which was disappointing given how accessible it was with the list of ingredients provided.

Question 6.2

Over three-quarters of students achieved at least one mark for this question; however, just over 5% of students achieved full marks. This was surprising as personal hygiene is a topic that students should be very familiar with given the practical activities they will have completed as part of the GCSE course. Confusion between personal hygiene and other food safety considerations that should be made when preparing food was apparent, with some students referencing cleanliness of work surfaces and equipment, along with food storage and cooking principles. These points were not credited in line with indicative content on the mark scheme. Furthermore, many students provided vague responses, such as 'wash hands' and 'wear an apron'. Students should be encouraged to provide detailed and thorough responses to demonstrate clear knowledge and understanding. For example, 'hands should be washed with warm water and antibacterial soap to remove bacteria' and 'clean aprons should be worn to prevent cross-contamination'.

Centres are encouraged to review the indicative content on the mark scheme for this question to inform future teaching of personal hygiene.

Question 6.2

Half of students achieved one or two marks for this question. In general, it was well-attempted, and the majority of students referenced how the conditions of warmth and time lead to the rapid growth of bacteria. Many students correctly referenced temperatures for the danger zone and refrigeration, which was pleasing to see. A number of students also correctly identified food poisoning bacteria, with the most commonly named being salmonella. Just over one quarter of students achieved three or full marks, and these responses showed a greater level of knowledge and understanding, with closer links made to the context given.

Overall, the topic for Question 6 enabled the end of the written examination to be accessible to students. It is important to note that the written examination for GCSE Food Preparation and Nutrition does not increase with difficulty as students' progress through the paper.

Concluding Comments

Centres and students should be praised for the outcomes achieved for this written examination. Outcomes are comparable with those that were seen in the 2019 examination series. Centres are reminded that there is a CPD webinar available in the autumn term with further analysis of the paper and teaching and learning strategies to support the delivery of the specification.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results Statistics page of the AQA Website.