

GCE



**Chief Examiner's and
Principal Moderator's Report**
**Nutrition and Food
Science**

Summer Series 2022



Foreword

This booklet outlines the performance of candidates in all aspects of this specification for the Summer 2022 series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's microsite on our website at www.ccea.org.uk.

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GCE NUTRITION AND FOOD SCIENCE

Chief Examiner's Report

Overview

Due to the unprecedented circumstances presented by the COVID-19 public health crisis these public examinations will be the first the candidates have undertaken since 2019. Acknowledgement must be made of the teachers' commitment and professionalism for delivering the required aspects of the specification under challenging conditions. Likewise the candidates should be commended for their hard work and commitment to succeed.

Examiners considered the responses in this examination series to show a good range of abilities with some candidates displaying highly competent knowledge and understanding. However, there was a concerning theme evident this year for candidates to start their responses in a very competent manner, but then fail to develop or elaborate adequately to warrant a highly competent mark band. The students should be given ample opportunity to experience answering past paper questions in a closed book and timed environment. As in previous years Assessment Objective 3 was the one that candidates had most difficulty with - "the ability to gather, organise and select information, evaluate acquired knowledge and understanding, and present and justify an argument". It is not enough to repeat all the knowledge and understanding of a topic and fail to address the command word or what the question is asking of the candidate.

Quality of Written Communication is an area where candidates would do well to focus upon. They should select and use a form and style of writing appropriate to the purpose and the complexity of the subject matter; and organise information clearly and coherently, using specialist vocabulary where appropriate.

The specification is now firmly established and candidates should be prepared for questions that are not simply bullet points lifted from the specification. This will allow for greater creativity and provide the candidates the opportunity to demonstrate their range of knowledge and understanding.

Assessment Unit AS 1 Principles of Nutrition

Overview

It was very pleasing to observe that the knowledge and understanding for AS1 was competent. The Quality of Written Communication was generally good and candidates were able to use a range of subject specific terminology. Unfortunately some were relying on their knowledge from GCSE Food and Nutrition and as such were unable to access the top mark bands. Candidates should continue to attempt to address the command words and practise techniques to help them read and respond to the question asked.

As a whole the candidates lacked examination technique due no public examinations being available during the pandemic.

Section A

Q1 (a) This was generally very well answered. Those who didn't achieve full marks in this had very general responses; they didn't make reference to the "average" and many referred to nutrients rather than energy.

- (b)** Overall responses to this question were very pleasing. The majority of candidates performed well in this question with the ability to identify two B vitamins.
- (c)** The responses to this question were disappointing. Candidates who performed well in this were able to differentiate between the three age ranges in the table and were also able to make a distinction between males and females displaying a good ability to analyse. A large proportion of candidates' responses were basic as they only focused on energy and reduction in physical activity levels.
- (d)** This question posed no issues. There were some excellent responses with a good ability to explain the main functions of carbohydrates. Those placed in the basic mark bank were able to identify a function but the skill to explain that function was limited.
- Q2 (a)** Overall responses to this question were good. A small number of candidates were incorrectly suggesting nuts as a novel protein source.
- (b)** This was well answered by the majority of candidates; they handled the topic very confidently. Those candidates who had highly competent responses made good use of subject terminology such as indispensable amino acid and limiting amino acid.
- Q3 (a)** This question generated a very mixed range of responses. All candidates were able to identify the correct micronutrients; disappointingly, a large number of descriptions were just basic.
- (b)** Again this question also produced a wide variety of responses. Some candidates' knowledge and understanding of fluorine was excellent. Other candidates confused excess and deficiency and the resulting effects on health.
- (c) (i)** Some candidates demonstrated excellent understanding of this question and were aware that iron stores are depleted at this stage. On the other hand basic responses focused on the functions of iron, for example, growth or production of red blood cells rather than addressing the scenario presented.
- (ii)** A large number of candidates identified sources not suitable for an infant, for example, chicken rather than in a form appropriate for an infant such as minced chicken. Green leafy vegetables was not accepted, candidates needed to state dark green vegetables as not all green leafy vegetables contain iron.
- (d)** This question posed no issues. Some candidates had excellent knowledge and understanding of the role of vitamin B6.
- Q4 (a)** Responses to this question were generally disappointing. Very few candidates achieved the top mark band for this question. A large proportion of candidates' answers were quite basic in relation to cardiovascular disease with basic subject specific terminology. A large number of candidates focused on weight gain which is not specific to saturated fat.
- (b)** Overall candidates had a good understanding of the effects on health from an excess intake of vitamin A.
- (c)** Responses to this question were good. The majority of candidates performed well and displayed the ability to identify Omega-3 and Omega-6 as two essential fatty acids.

- (d)** A number of candidates focused on the role of essential fatty acids rather than the importance for pregnant woman. However, some knowledge and understanding of this was excellent.

Section B

- Q5** Answers to this varied considerably, from highly competent to basic. A lot of candidates focused on the nutrients that milk provided which was good, but the range of nutrients discussed for the fortified breakfast cereals was basic/limited. Candidates who achieved the top mark band were able to identify the nutrients provided in both the milk and the cereal and also related those nutrients to why a school child would require those particular nutrients.
- Q6** This was a popular question, unfortunately, very few achieved marks in the top mark band. Many candidates presented a discussion of the benefits of soluble and insoluble fibre. A lot of candidates were able to identify the health benefits of having a fibre-rich diet but had limited ability to explain these in relation of adults.
- Q7** This was not a popular choice and the range of responses were very mixed. Some candidates identified more than four factors which was not required. They did not go into enough depth for each factor to achieve a top band. Some misread the question and didn't focus on minerals.
- Q8** This was a popular question; however, many produced very superficial responses. Some candidates did not focus their response on teenagers; instead they listed all the nutrients they could think of, along with the functions of the nutrient rather than focusing on the specific nutritional requirements of a teenager. It is vital that the longer response questions are well planned before commencing to maintain focus and avoid overly descriptive answers.

Assessment Unit AS 2 Diet, Lifestyle and Health

Overview

A very small number of candidates were entered for Unit AS 2 as this unit was eligible for assessment omission under the Exceptional Assessment Arrangements for Summer 2022. The overall standard was generally encouraging. A good number of candidates were able to display specific knowledge and understanding and include relevant terminology in each section. This was encouraging due to the unprecedented circumstances that caused disrupted learning and lost teaching time.

For future examinations candidates should be advised to answer questions in Section A in the spaces provided and not in the separate booklet or under other questions. Where an additional booklet is required, candidates should clearly label the response and make reference to this at the appropriate question. In Section B candidates should answer three questions.

Section A

- Q1 (a)** This question was generally well answered with most candidates correctly stating two symptoms of Type 2 diabetes.
- (b)** Many candidates were able to demonstrate some knowledge and understanding as to why individuals with Type 2 diabetes are advised to limit their fat intake. For a highly competent explanation candidates should include information on fat and insulin.

- (c) The majority of candidates accurately proposed a lifestyle recommendation to prevent Type 2 diabetes. Top marks were awarded to those who fully justified the recommendation for prevention. Unfortunately, some candidates proposed a dietary recommendation and were not awarded marks.
- Q2** (a) This question was poorly answered by some candidates. They did not display specific knowledge and understanding of how meat and alcohol consumption increases the risk of cancer. Candidates should have used the number of marks available to guide them when responding as many answers were too brief.
- (b) This was poorly answered with many candidates not able to accurately outline why breastfeeding is a protective factor in cancer development.
- Q3** (a) This was a well answered question. Most candidates achieved marks in the competent/highly competent bands as they were able to explain three reasons why the body needs energy. Candidates should ensure they clearly choose three different reasons as there was some overlap and repetition.
- (b) The majority of candidates accurately stated two diet-related disorders associated with a positive energy balance.
- Q4** (a) The candidates' knowledge and understanding of the physical activity recommendations for children and young people were generally good. Candidates are advised to include information on the length of time, type of activity (moderate/vigorous) and additional information for the specific stage of the lifecycle, for example, activities for strengthening bone and muscle per week.
- (b) This was a well answered question with many candidates able to explain the benefits of physical activity on the mental health of children. Focus needed to be on the specific stage of the lifecycle.

Section B

- Q5** This was a popular question with many candidates credited for considering a wide range of reasons for overweight or obesity in the population. Some candidates interpreted this question as eating patterns and focused their response on a diet high in saturated fat and salt. Credit was awarded for relevant points.
- Q6** The majority of candidates were able to accurately identify non-modifiable risk factors for cardiovascular disease. Higher mark bands were awarded to candidates who described each risk factor separately and included subject specific vocabulary and terminology.
- Q7** This was the least popular question in Section B and was not answered well. Candidates focused on legibility and design of information as a barrier rather than addressing a wider range of points. Those placed in the higher mark bands explained other barriers such as nutritional claims, health claims, nutritional data and front of pack labelling.
- Q8** There were a broad range of responses to this question, with most candidates displaying their knowledge of AS 2 content and explaining how plant-based eating helps prevent a range of diet-related disorders. Those in the top mark bands were able to draw upon several areas of the specification for AS 2.

Good practice advice for AS1 and AS2 candidates:

- It is important to read the question and follow the command word (definitions of the command words used in AS Nutrition and Food Science can be found in the CCEA Factfile entitled 'Understanding Examination Questions' available on the subject webpage).
- When answering questions, candidates should aim to provide a succinct answer using the space provided as a guide to the length of answer expected.
- When answering data response questions, candidates should select appropriate data from the table to support their response.
- Ensure candidates are familiar with the standard expected by reading the Grade Descriptions on pages 23 and 24 of the specification. Exemplification of Examination Performance (EEP) resources available on the subject microsite will also provide additional guidance.

Practices to be avoided:

- Ignoring the command word/s.
- Repeating the stem of the question.
- Overly lengthy responses for Section A questions.
- Using bullet points to answer questions.
- Lengthy introductions and conclusions.
- Giving background information to the topic rather than answering the question asked.
- Describing data rather than incorporating the data into a response.

Assessment Unit A2 1 Food Security and Sustainability (Option A)

Overview

Responses in this unit demonstrated, in some cases, competent student engagement with the topics. There were some excellent performances in this paper by candidates who were able to demonstrate very good knowledge, understanding and application across the range of questions asked. Despite this, many candidates demonstrated limited knowledge and understanding and were unable to grasp the complexity of issues surrounding food sustainability. Many candidates could have improved their performances with a more detailed response, explaining, discussing or describing in more detail and using specialist vocabulary throughout the paper. Candidates should also ensure to pay close attention to their Quality of Written Communication (QWC) in these extended responses.

Section A

- Q1 (a)** All candidates were able to describe the impact of animal farming on water quality and soil health. This question was generally answered well with the majority of candidates giving either adequate or competent descriptions. Some candidates could have improved their performance by reading the question carefully and focusing their answer only on the impact on water quality and soil health.

- (b)** This question was not well answered. The Quality of Written Communication tended to be adequate with limited use of specialist vocabulary. Candidates lacked a deeper knowledge and understanding of LEAF with mostly basic or vague explanations of the specific role of this organisation.

Section B

- Q2** This was a popular question and it was clear that many candidates had a sound understanding of how consumers could protect the environment by changing their food choices. This question was generally structured appropriately, with candidates using many of the areas indicated in the fact files. Despite this, there was a lack of depth in the discussion of each area and limited use of specialist vocabulary. It was encouraging that some candidates did answer this question with knowledge of the whole specification rather than restricting themselves to one area.
- Q3** This was a popular question in Section B but not always well answered. Many candidates did not focus on the benefits of the Fairtrade Foundation for farmers and workers and instead explained the work of this organisation more generally. Again, there was a lack of deeper knowledge and understanding of the work of Fairtrade and Quality of Written Communication was, in general, adequate to competent.
- Q4** This was a popular choice and answered well in relation to the basic role of both FareShare and The Trussell Trust, with most candidates showing a knowledge and understanding of their role in redistributing surplus food (FareShare) and food banks (The Trussell Trust). Despite this, many candidates could not describe relevant campaigns and additional help offered in order to reduce food poverty.
- Q5** This was the least popular question in Section B and overall it was not answered well. The Quality of Written Communication tended to be adequate with a lack of specific knowledge and understanding of how WRAP UK aims to reduce food waste. Many candidates could basically describe some areas of WRAP UK but failed to develop a discussion, in detail, of how the work of WRAP UK could reduce food waste. There was a lack of in-depth knowledge throughout the responses with some candidates also focusing on food packaging, which was not required for this question.

Assessment Unit A2 1 Food Safety and Quality (Option B)

Overview

The overall standard in this option was down slightly from previous years. Some candidates were producing responses that were too brief to allow access to the highly competent mark band. The A2 assessment units include some synoptic assessment, which encourages candidates to develop their understanding of the subject as a whole and candidates should be prepared to bring together and make connections between areas of knowledge and skills that they have explored throughout the course. For example, in Question 1(b) the highly competent candidates were able to explain a HACCP food system with clear references to salmonella prevention within a food business. On the other hand adequate responses simply explained the HACCP system. Higher order thinking skills were lacking for some with candidates simply writing all they knew on a topic. Responses should be organised clearly and coherently, using subject specific vocabulary and terminology.

Having said that, there were also excellent responses in this option. The candidates were able to access the top band marks because they demonstrated an in-depth knowledge of the specification. They clearly understood and engaged with the subject areas which allowed them to apply their knowledge and understanding accurately to the question. An ability to read the question and a good understanding of the command words is of critical importance to achieve maximum marks.

Section A

- Q1 (a)** This question was approached confidently with many candidates very knowledgeable on the main sources of salmonella. The top candidates were able to concisely describe these sources; those placed within the adequate mark band simply listed sources or focused on a limited range, with chicken and eggs being the sources mostly frequently referred to. It was good to note that candidates were no longer providing excessively long responses for a ten mark question.
- (b)** It was most encouraging to observe that the majority of candidates were aware of the seven stages of the HACCP system. Highly competent candidates explained accurately how each helped prevent salmonella in a food business in a precise manner with excellent subject specific terminology. Those placed in the adequate mark band made little reference to salmonella. Regrettably there were some who had little knowledge or understanding of HACCP and simply discussed food safety and hygiene measures that a food business might follow.

Section B

- Q2** Unfortunately this question was not approached correctly by some candidates due to lack of knowledge of the specification. The question explicitly asked about food quality assurance standards, some confused these with food systems and went on to explain GMP and traceability in-depth. Competent candidates were able explain how food quality assurance standards ensured safe food production and provided appropriate examples to support their answer that were clearly focused on food safety. Some candidates selected Linking Environment and Farming (LEAF) as one of their examples which was not a good choice as they were unable to relate it to food safety in great detail and thus wasted time discussing environmental issues.

- Q3** This question highlighted the importance of reading the question carefully and responding appropriately. Some candidates were replicating the mark scheme from a previous examination paper regarding the role of the Food Standards Agency in relation to food allergies. On the whole the question was popular with candidates who competently or highly competently explained how food allergen labelling ensures food safety. Many provided relevant and current examples, clearly explaining a range of measures which included format, allergen advice, distance selling, pre-packed for direct sale and non-pre-packed food labelling. It was disappointing that not many candidates were able to identify the legislation which ensures food safety for an individual with an allergy.
- Q4** This was another popular question, with many candidates able to competently discuss a good range of examples of work that the Food Standards Agency undertakes. The highly competent candidates were able to discuss recent work of the FSA such as the National Food Crime Unit and current research they have commissioned. Some confused the work of the FSA with DAERA's remit.
- Q5** The final question had two parts to it; explain potential food safety risks of pesticides and describe how they are reduced. It was encouraging that the majority of candidates addressed both command words. Many candidates were able to accurately explain the potential health risks associated with pesticide residues, with highly competent responses explaining the 'cocktail effect' and why some individuals are more vulnerable than others. Adequate to competent candidates were aware in general terms of how risks from pesticides can be reduced, with the highly competent candidates being able to describe in detail how pesticides are controlled in the UK. They were able to demonstrate very good subject specific terminology and highlight relevant regulatory bodies.

Good practice advice for A2 candidates:

- Demonstrating sound knowledge the specification, for example by testing themselves on each content section and learning outcome.
- Preparing to demonstrate all three assessment objectives in question responses. See page 23 of the specification for further details.
- Understanding the expected Quality of Written Communication. See page 23 of the specification for further details.
- Becoming familiar with the demands of the command words.
- Practising the skill of reading the question and selecting relevant information to include in their answer. Planning responses carefully; it will avoid repetition and ensure focus.
- Ensuring topics are understood as well as knowing the facts as this will help candidates discuss and extend their answers.
- Improving the Quality of Written Communication by using specialist vocabulary.
- Avoiding lengthy, general introductions and conclusions.
- Making sure writing is legible and responses are well-organised, clear and coherent.
- Attaching additional sheets securely to the answer booklet with a treasury tag.

Principal Moderator's Report 2022

Assessment Unit A2 2 Research Project

The moderation team recognise that the school year 2021/22 was very challenging and would like to commend both teachers and students for embracing change. The new form of coursework introduced for 2021/22 only facilitated a reduction in the scale of the A22 Research Project without compromising the skills to be assessed. As indicated in the 'Foreword' of the A22 Research Project the 'skills such as analysis and evaluation usually assessed in the Discussion of Results are now incorporated into the Critical Review. Candidates are required to analyse the selected literature, evaluating in their own words the authors' views and provide arguments both in support of and against the opinions of the authors'.

Many centres are to be commended as they seized the opportunity to encourage their students to explore a range of interesting areas from the A2 specification and current **titles** e.g. Burgers verses Bugs, Vitamin D: the latest super nutrient, which allowed the students to demonstrate the above skills. These candidates fully justified their Band 4 marks. Equally, some centres were reliant on traditional titles and failed to recognise the differences between the old and new exemplars and the changes highlighted in the guidance materials. Title/Topic and target group must fall under the remit of the specification, and this should be checked before progressing, several were not suitable e.g., alcohol in teenagers. Some titles required greater focus/narrowed to a specific aim, for example Diet or Lifestyle, **not** both being considered.

The **Introduction** remains a challenge for many students. Whilst the rationale was well documented and relevant statistics given, many students failed to discuss the research problem. In some instances, this was due to inability to provide researched arguments for the study or refine their thinking within the topic. Hence the study lacked direction and led to information gathering. Where questions were the selected form of engagement, as this was not a primary report, many of these questions remained unanswered. Teacher guidance is required in this area. This was a section that was frequently over marked in the Research Project.

The **Literature Review** highlighted the greatest discrepancies in completion and assessment in comparison to the Summer 2022 Exemplar piece. The afore mentioned skills of evaluation and analysis were not always evident. A critique of bias, validity, reliability, comparison and contrasting evidence was lacking in many reports. This was a major required element as stated in the Teacher/Student Guidance. Other desired elements from the Teacher/Student guidance 'evaluate in their own words the authors' views, providing arguments both in support of and against the opinions of authors' were also lacking and leniency of marking was very apparent in this section. However, some very solid guidance by the teacher and highly competent student work was visible in several centres and these are to be commended in their accurate approach to the process and the report outcomes.

Highly competent/competent candidates provided **conclusions** that summarised the main findings from the Literature Review. These were accurate and clearly expressed. Other candidates were unable to be selective and thus were repetitive of Literature Review.

Recommendations for some were very logical, emerging from the student's own work, whilst others were not seen as an extension of the candidate's own work and within their capabilities. The higher band candidates were able to project the study forward and some valid ideas were expressed.

Presentation of the Research Project highlighted that the awarding of 4 marks for written communication was not fully understood by some centres and there were some inaccuracies in this section.

Overall, many students have been well guided through the new coursework process and top candidates have produced reports of a very high standard and evidence of high-level skills was apparent. Most centres have applied standards fairly and consistently. Teachers' annotation varied in many centres. Some clearly demonstrated how the teacher had applied the assessment criteria accurately and arrived at a final mark. For others, annotation mainly reflected the content of the report or identified the sources but did not aid the arrival at the final mark.

Centres can avail of additional support through CCEA in the form of Portfolio Clinics, Agreement Trials, exemplar materials and online support to assist and reassure them in the delivery of the process.

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